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State of the City Food System Report

Tamale



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1.	Document Profile detail.....	1
2.	Abstract	4
3.	Tamale – An introduction and background	5
3.1.	Introduction to the City	5
3.1.1.	Evolution of Tamale.....	6
3.2.	City’s Governance Structure (embedded within national structures).....	14
3.2.1.	Contemporary city governance structures	20
3.3.	Overarching report on economy of the City	24
3.4.	City Infrastructure report	32
3.4.1.	Water	32
3.4.2.	Sanitation.....	35
3.4.3.	Electricity.....	38
3.4.4.	Road network	40
3.5.	Food and nutrition security.....	42
3.5.1.	Food and nutrition security situational overview in Tamale.....	42
3.5.2.	State of nutrition transition and nutritional deficiencies	43
3.5.3.	Vulnerable groups	43
3.6.	Culture of the City and relationship with its food system	44
4.	AfriFOODlinks City baseline information	45
4.1.	Food systems stakeholders	45
4.2.	Policy and regulatory environment.....	45
4.2.1.	Food related governance (policies, processes, structures, capacities) and Sharing City Food System.....	46
4.3.	Food Production environment.....	46
4.4.	Urban food environment.....	47
4.4.1.	Food diversity and staple foods	47
4.4.2.	Food safety	48
4.4.3.	Food systems infrastructure.....	49
4.4.4.	City and regional scale development challenges and current responses	51
5.	Conclusion	52
6.	References	52



1. Document Profile detail



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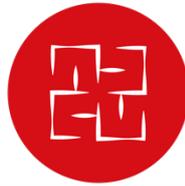
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LINCS Value Framework



	<p>Learning</p> <p>The project stresses the value of experiential learning and that multiple ways of knowing are welcomed, deemed of equal value, and can be connected to enhance understanding. "NEA ONNIM NO SUA A, OHU" - "He who does not know can know from learning"</p>	<p>Inclusivity</p> <p>and deliberate engagement and empowerment of communities will enhance their agency and participation in decision-making for a people-centred and informed research, policy and practice. "FUNTUNFUNEFU-DENKYEMFUNEFU" - "Unity in diversity"</p>	<p>Novelty</p> <p>represents the embracing of the new or unexpected, which necessarily requires diverse expertise, skills and perspectives. It includes the dismantling of inappropriate systems in favour of traditional or indigenous practices. "UAC NKANEA" - "UAC lights" symbolises technological advancement.</p>	<p>Collaboration</p> <p>To successfully ensure transdisciplinary work, societal actors must be continuously engaged to co-define the research objectives and questions, and to continuously contribute to meaning-making with the researcher as the research progresses. "BOA ME NA ME MMOA WO" - "HELP ME AND LET ME HELP YOU".</p>	<p>Sustainability</p> <p>is articulated both as the overarching global imperative to ensure economic, environmental and social wellbeing, and as the ethos that every project intervention must aim to become self-sustaining. "SANKOFA" - The backwards turning bird symbolises returning while looking forward</p>
<p>How does this deliverable contribute to each of the values?</p>	<p>This has involved a deep learning process connecting food systems understanding to urbana systems understandings</p>	<p>The report entailed less engagement and a surface review but consultations with diverse stakeholders will now take place</p>	<p>This is one of the first reviews to connect urbana systems and food systems knowledge and to assess the food system of a city as embedded in both the urban, the policy and the infrastructural contexts</p>	<p>This work involved convening different food systems knowledge specialists. More collaborative work will commence with this report service as the site of conversation</p>	<p>This report serves a key sustainability position. The wealth (per a broad definition) of society is embedded how society functions and that is embedded in context and the environment. The intersections between these sphere also needs mediation and governance. This report seeks to understand this process as a primary entry point to ongoing food system engagement.</p>
<p>How did you practice this value in this deliverable?</p>	<p>Through the initial brief and active engagement through the development of the report.</p>	<p>This process built the foundation for more inclusive conversations with diverse actors who impact the food system across the city</p>	<p>This report is novel and pushed researchers to engage diverse systems at the urban scale – food, urban, governance, health, policy, politics, etc.</p>	<p>This report was collaborative in terms of how it brought researchers together. However, it is a key tool upon which collaborative processes are now built</p>	<p>This report sought to offer greater understanding about the intersections of the three spheres and how these are mediated through the sphere, who governs these processes and how these enable or constrain outcomes.</p>

2. Abstract

This report profiles the city of Tamale, Northern Ghana, with regards to the character and dynamics of the city's food systems. It takes a holistic approach to detail the historical development of the city and specific growth factors, governance and governance output such as infrastructure and service delivery and how these intersect with the city's food system. We argue that the founding of the city and related governance practices laid a foundation for low and unequal access to urban infrastructure and services such as roads, water, electricity and sanitation. The prevailing decentralised governance has not been effective in significantly improving the city's infrastructure and service provision, partly due to resource constraints and central government dominance in the local governance spaces. Juxtaposing the infrastructure and service challenges with the city's food system, a picture emerges whereby the food system functions in a precarious situation in terms of lack of appropriate infrastructure in food retail spaces, lack of appropriate infrastructure (including energy) for storage and retail of fresh foods and lack of decent and safe means of transport to convey fresh meat from the abattoir to the various meat retail sites. An all-hands-on-deck approach involving key stakeholders in the city's governance and food system is needed to engineer a path through the unfolding food system transformation to ensure a robust and stable food system and food environment for the citizens of the city. The local government authorities ought to consider that the city's food system is intrinsically linked with the other urban systems and, therefore, comprehensive and dialogical multi-stakeholder governance approaches are needed to guide the successful transformation of the city's food system.

3. Tamale – An introduction and background

This section profiles Tamale with a focus on the evolution of the city, growth dynamics, challenges and governance outcomes. The aim is to provide background to the historical development of Tamale, and how such history reinforces contemporary challenges associated with governing the city whether for urban infrastructure delivery or managing the city's food system.

3.1. Introduction to the City

Tamale is the capital city of Northern Region of Ghana, and the most urbanised urban centre in the entire northern Ghana. Established in 1907 as the administrative and service centre of the then Northern Territories under colonial rule, Tamale has grown from an insignificant settlement in the socio-economically depressed Northern Territories to become the fourth largest urban centre in Ghana and, during the 2010 census, was the second fastest growing city in Ghana after Kumasi (Ghana Statistical Service, 2013). Tamale recorded a very high growth during the 2021 census such that the Tamale Metropolitan Assembly was the fastest growing metropolis among the six Metropolitan Assemblies in Ghana, growing at 6.2% per annum to the next fastest-growing metropolis at 1.1%. According to the 2021 national census, the population of Tamale now stands at 716,455¹ (Ghana Statistical Service, 2021) (Fig. 1). The spatial growth of the city has been phenomenal over the last three decades. The city's annual spatial growth has averaged 30 ha per annum between 1984 and 1999 (Braithmoh & Vlek, 2004), 55 ha per annum between 1989 and 2005 (Fuseini, 2014) and 100 ha per annum between 2001 and 2014 (Fuseini & Kemp, 2016) (Fig. 2). The rapid growth of Tamale presents planning and governance challenges, and this partly explains the split of the greater Tamale Metropolitan Area (TMA) into two local government authorities: Tamale Metropolitan Assembly (TaMA) and Sagnarigu Municipal Assembly (SMA) according to Ghana's local governance law², in a bid to bring governance closer to the people (Mohammed, 2015). The city's local economy has also grown and diversified, escalating its importance beyond northern Ghana to internationally. The city's economy is however dominated by the informal sector with the sector employing over 80% of the economically active population in the metropolis (Fuseini, 2016).

Segregationist colonial planning practice laid the foundations for the settlement to grow with spatial disparities in development and access to basic infrastructure and services. When the city was founded, colonial officials ensured that areas inhabited by expatriates or Europeans were well planned and serviced while indigenous settlements received very little investment in terms of urban services. These spatial disparities continue to the present day even when the city has witnessed tremendous growth and improvement in urban infrastructure and services. Many of the indigenous³ settlements remain disadvantaged, and any attempts to improve the physical conditions of those neighbourhoods often rather result in creating more vulnerability in terms of forced evictions and demolishing of homes. The city's complex governance structures that have evolved at the intersection of traditional chieftaincy and modern bureaucratic systems have not succeeded in correcting some of the most visible forms of socio-economic and spatial disparities in the city, while urbanisation and urban problems grow in intensity. Programmatic, collaborative as well as pragmatic governance responses and interventions are needed to steer the city towards inclusive and sustainable urban development.

¹ Combined population of the Tamale Metropolitan Assembly and the Sagnarigu Municipal Assembly.

² According to Ghana's Local Governance Law (Act 936 of 2016), there are three categories of local government entities in Ghana: A District Assembly, which has a minimum population threshold of 75,000; a Municipal Assembly, which has a minimum population threshold of 95,000; and a Metropolitan Assembly (Metropolis), which has a minimum population threshold of 250,000. Based on these population thresholds, the two local

government units in Tamale should both be made Metropolitan Assemblies because according to the 2021 census report, the TaMA and SMA both have in excess of 300,000 people.

³ Indigenous as used here aligns with a Ghanaian usage (even in the Ghanaian Constitution) to refer to characteristics of people who are native to a place. But indigenous differs slightly from "native" because the former connotes people who have ancestry connection to a place and have claim over land through ancestral lineage.

Just as in any city, food provides a unique lens through which Tamale could be understood (Steel, 2008). There has been an upward trend of food system research in Tamale with growing evidence that allows for visualisation and interrogation of the character of the city through the interconnections between food and other urban systems. These complex interconnected relationships illuminate the experiences of the citizens of the city in terms of access to infrastructure and services, poverty and food security status and the governance processes and practices that underpin these lived realities.

3.1.1. Evolution of Tamale

Tamale was of colonial creation in 1907. It is important to provide further context to the emergence of Tamale as a settlement of importance. Prior to the advent of European control in the vast savanna lands, the area had been influenced by two trade routes as part of the trans-Saharan trade. The first, north-western route, emanated from Mande traders from present-day Mali. This trade route impacted the growth of settlements in the northern savanna areas including Bondoukou (present day Cote D'Ivoire), Kafaba, Mpaha, and Buipe. Due to increasing activities of Europeans along the Atlantic seaboard which affected the north-western trade route, a north-east trade route emerged centred on Hausa traders. This trade route influenced the growth of settlements such as Bawku, Gambaga, Yendi, Salaga and Sansanne Mango (now Mango in present day Togo) (Fig. 1). It is contended that the attractiveness of the north-east trade route might have been the reason that the Dagbamba drifted eastwards to establish their traditional capital at Yendi (Brukum, 1997). Important commodities traded included cola, cattle, gold and also slaves.

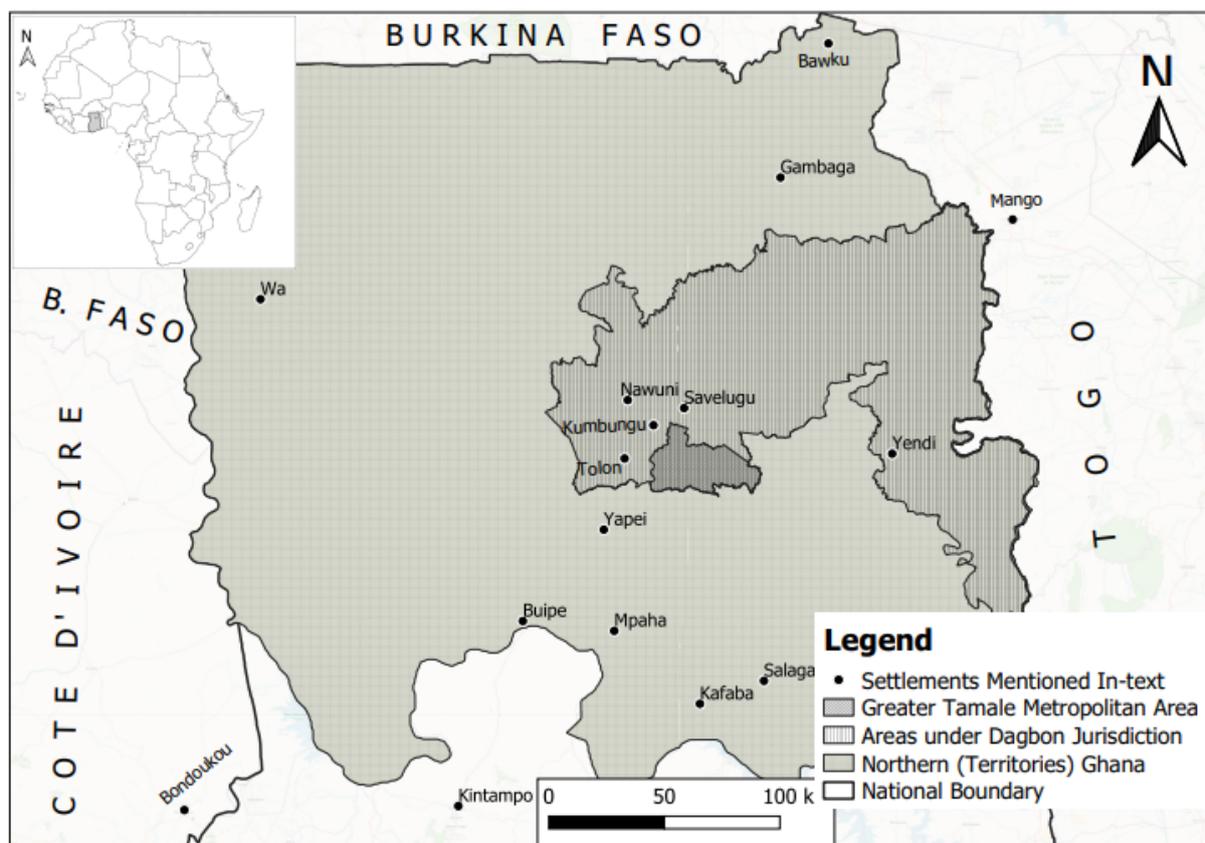


Figure 1: Map of Northern Ghana Showing Tamale Metropolitan Area and Dagbon

Source: Authors

When the three European powers—British, French, German—struggled for control over the area, the Dagbon Kingdom which contains Tamale, mounted a strong resistance and was thus unaffected by earlier colonial occupation. Dagbamba legend has it that the Yaa-Naa (King of Dagbon) vowed that a white man

would not settle in his Kingdom, which was why the British had to locate their administrative capital for the Northern Territories in faraway Gambaga. Even in the decisive battle at Adibo⁴ on 4 December 1896 which the Germans won convincingly and captured Yendi, Brukum (1997, p. 41) reports that the Yaa-Naa still encouraged his armies to fight by saying that 'Siliminna yi-la kom-ni na, o nyela zahim'⁵ (the white man is from water, he is a fish), implying that they should capture the white man like fish. German thus gained control over Yendi, the capital of Dagbon Kingdom, in 1896, and the subsequent Anglo-German boundary treaty of 1899 divided Dagbon between German controlled Eastern Dagbon (centred on Yendi) and British controlled Western Dagbon which included towns such as Kumbungu, Tolon, Savelugu and present-day Tamale. This formed the basis for formal incorporation of Dagbon into the British Northern Territories (Protectorate) by 1902, paving the way for Tamale to emerge as colonial administrative capital.

Earlier, the British had divided the vast northern savanna lands into three provinces. These were the Black Volta, headquartered at Wa; the White Volta, headquartered at Gambaga; and Kintampo, which had Kintampo as its headquarters (Fig 1). For a brief period, Kintampo also doubled as the capital of the entire Northern Territories until it lost that status to Gambaga in 1898. The latter then lost its status, formerly, to Tamale as new capital of the Northern Territories in 1908 (Brukum, 1997).

Tamale was favoured over Gambaga for the capital because of its central location which afforded quicker communication between the south and the north. Tamale was also deemed to be better watered than Savelugu (also a successor candidate to Gambaga). But above all, the proximity of Tamale to the White Volta River system at Yapei was very attractive to the colonial ambition of developing a river port to transport whatever commodities there might be of interest from the north to the south (Dickson, 1968; Fuseini et al., 2017). In essence, an agglomeration of few villages formed the foundation for the establishment of what became a new administrative and service centre of the then Northern Territories, Tamale. In 1907, the settlement had a total population of about 1,435 people.

Pre-independence, the growth of Tamale was suppressed by colonial economic, investment and infrastructural provision policies. It is widely accepted that the colonial administration deliberately starved the Northern Territories of economic, social and infrastructural development in line with colonial administration's intent to keep the north as labour reserve for the mines, construction of railways and cocoa farms in the south (N.J.K Brukum, 1998; Nana James Kwaku Brukum, 1997; Dickson, 1968; Plange, 1979; Sutton, 1989; Thomas, 1974; Wiemers, 2017). Statements by senior colonial officials provide ample illustration of this. For instance, in 1899 a colonial Governor, Frederick Hodgson, remarked that:

as the trade value of the Northern Territories are not favourable as to their future, and lead me to the opinion that they possess no mineral wealth, it is destitute of timbers, and does not produce either rubber or kola nuts or indeed any product of trade value, I would not at present spend on the Northern territories a single penny more than is absolutely necessary. (Brukum, 1997, p. 184).

Other views were that the Northern Territories constituted a drag on the rest of the colony, suggesting that committing investments to develop it had the risk of slowing down development across the colony. Lord Selbourne, a colonial official, articulates this viewpoint quite clearly:

if the Northern Territories are simply tacked on to the Gold Coast, good bye to all chances of development. No Government will ever go near them and not a sixpence will be devoted to their development except by the direct orders of the Secretary of State. (Brukum, 1997)

Even when high ranking colonial officials like Lewis Harcourt (Secretary of State for the Colonies) and Gordon Guggisburg (a progressive Gold Coast Governor) showed interest in developing the Northern Territories, nothing concrete was done. For example, when in 1912 Secretary Harcourt instructed Governor Hugh Clifford to give special attention to the development of the Northern Territories, the

⁴ Though they lost the battle, this day is remembered in Dagbon with pride and sense of accomplishment, and the name of the commander of that battle, Kamon-naa Ziblim, is seen as an ultimate embodiment of heroism

Governor acknowledged that developing the transport sector could open up the development of the Northern Territories but that could not happen because many developed districts in the south did not have adequate means of transport. Therefore, there was no justification for large expenditure to develop the transport sector of the Northern Territories. Similarly, Guggisburg famously declared:

the career of the North as the Cinderella of the Gold Coast is nearing its end; as Cinderella she has done good and unobstructive work. Her reward for that and the gallantry of her soldiers is in sight. ... I am doubtful if the agricultural poverty of the [Northern Territories] was a reason for the desire to postpone the railway. Rather was it due to the policy which has openly obtained. ... of starving the Northern territories of the means of development: that time is now past. (Brukum, 1997, p. 187).

However, when Beal, a Principal Veterinary Officer, observed that there was great potential for developing the cattle industry in the North better than some areas in Argentina, India and South Africa, and recommended promoting this to unlock the economic potential of the Northern Territories, Governor Guggisburg rejected the recommendation on grounds that he was unimpressed by the report (Brukum, 1997).

The result of the colonial neglect was that the Northern Territories and its most important settlement, Tamale, was starved of economic and social development including provision of relevant infrastructure. In the early days of its emergence, Tamale only grew modestly due to immigration of civil servants from the south and traders from the south and other parts of West Africa (Eades, 1994). In order to suppress the growth of Tamale, the colonial authorities closed down the cattle transit through Tamale, crippled the emerging cotton industry and enticed the youth to travel down south to work in the mines and on cocoa farms (Dickson, 1968; Fuseini et al., 2017). For example, when studies or the success of demonstration farms showed that successful cotton industry could be developed in the Northern Tamale, the colonial government in partnership with the British Cotton Growers Association (BCGA) started commercial cotton production and processing in Tamale. Initial results proved that the industry would be a success⁶. However, the colonial authorities soon realised that the cotton industry was competing for labour with the mines and cocoa farms down south. At the instance of the Governor (apparently the Governor could not convince the leadership of the BCGA to back off the cotton industry development in the north), the BCGA received a letter from the Office of the Prime Minister expressing the Governor's "having considered the unprofitability of cotton growing being developed on a large scale in the North" and instructing the BCGA to discontinue the "unprofitable" cotton business in order to free up labour for the mines and the "... more lucrative agricultural industries, such as the production of cocoa and palm oil" (Brukum, 1997, p. 192).

Having highlighted the role of colonialism in the slow growth of Tamale, we must also recognise, as advised by (Soeters, 2012), that "It was, indeed, colonialism itself that gave Tamale its significance, even if it did so reluctantly." That no prince was designated and stationed in the area as chief like many other settlements across Dagbon before the arrival of the British amply validates this assertion. Relative to the demographic and economic growth in the entire Northern Territories, Tamale did grow during colonialism. As mentioned in the introduction, Tamale witnessed 'significant' growth between 1920s and 1930s on account of improvement in transportation, increased commerce in the Northern Territories and in the town, and resettlement of ex-service men that returned from the First World War. This meant that Tamale grew faster (over 300%) than the three largest settlements in the Gold Coast which included Accra, Kumasi and Takoradi (See Fig. 2). The 1932 settlement structure of Tamale is evident in Figure 3.

⁶ For example, in 1909 the BCGA exported one bale of cotton from Tamale. But by 1916, about 56 bales were exported. The Association invested to increase the production and export of cotton from Tamale by erecting a processing plant fitted with a ginnery and press.

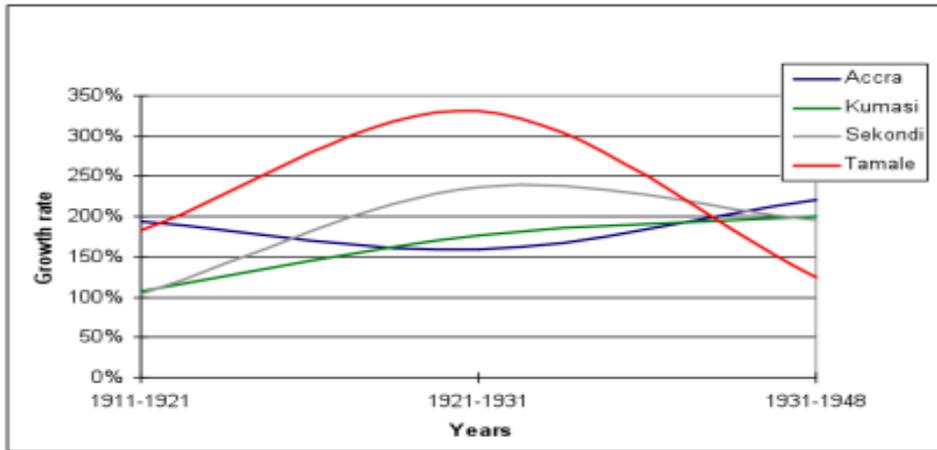


Figure 2: Comparative growth rates of Gold Coast cities, 1911-1948
Source: Soeters (2012)

A close examination of Figure 3 offers insight into the colonial legacy, specifically the racially oriented ordering of certain essential services, such as the hospital, but also complex social structures of Tamale where different dwelling plans are evident reflecting different social structures, the compound structures to the west, rear the Mosque, and north, north east, the more organic structures to the south, specifically in the vicinity of the Dagomba Chief House, and the more planned structures further South, as well as larger plots, segregated by key infrastructures to the north west, and civic structures to the east.

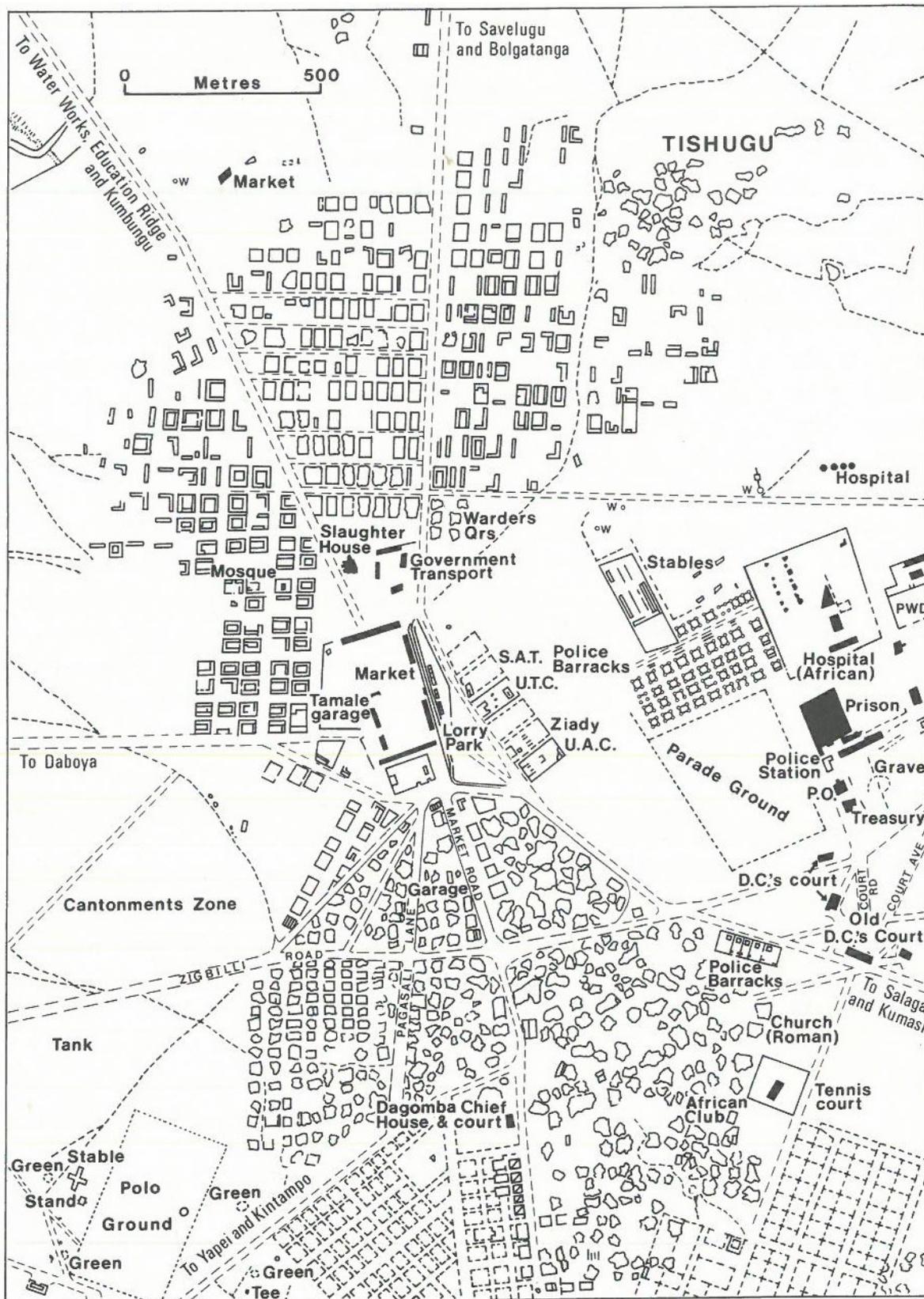


Figure 3: Map of Tamale in 1932

Source: Eades (1994)

Tamale has since grown to become the fourth largest urban centre in Ghana and, during the 2010 census, was the second fastest growing city in Ghana after Kumasi (**Ghana Statistical Service, 2013**). According to the 2021 national census, the population of Tamale now stands at 716,455⁷ (Ghana Statistical Service, 2021) (Fig. 4). The population of Tamale between 2021 and 2021 is particularly revealing given the growth trends in the other metropolitan assemblies in Ghana. Of the six metropolitan assemblies including, Accra, Kumasi, Tema, Sekondi-Takoradi, Tamale and Cape Coast, the TaMA emerged as the fastest growing metropolis. For example, while the Accra and Kumasi Metropolitan Assemblies recorded a decline in their population of 35.6% and 39.1% respectively, the Tamale Metropolitan Assembly recorded an increase in its population of 67.9% between 2021 and 2021. These growth dynamics translated to the TaMA's intercensal annual growth rate of 6.2% compared to the AMA and KMA's intercensal annual growth rates of - 3.2% and - 3.6% respectively. The second fastest growing Metropolitan Assembly was Cape Coast which grew by 11.8% between 2010 and 2021 with an intercensal annual growth rate of 1.1%.

The city's growth is also manifested in its phenomenal spatial growth over the last three decades. The city's annual spatial growth has averaged 30 ha between 1984 and 1999 (**Braimoh & Vlek, 2004**), 55 ha between 1989 and 2005 (**Fuseini, 2014**) and 100 ha between 2001 and 2014) (Fig. 5).

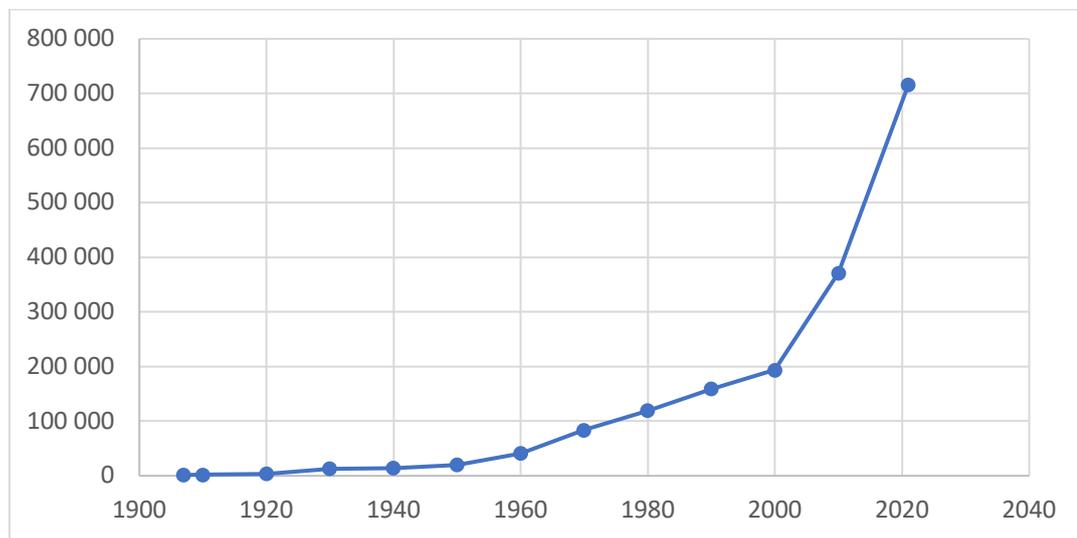


Figure 4: Population of Tamale, 1907-2021

Source: Ghana Statistical Service (various census report); DESA (2018); Eades (1994); Fuseini et al. (2017)

⁷ This is a combined figure for the Tamale Metropolitan Assembly (374,744) and the Sagnarigu Municipal Assembly (341,711). It is important to note that between 2010 and 2021, the Sagnarigu Municipal Assembly grew by 130.7% with an intercensal annual growth rate of 11.9%.

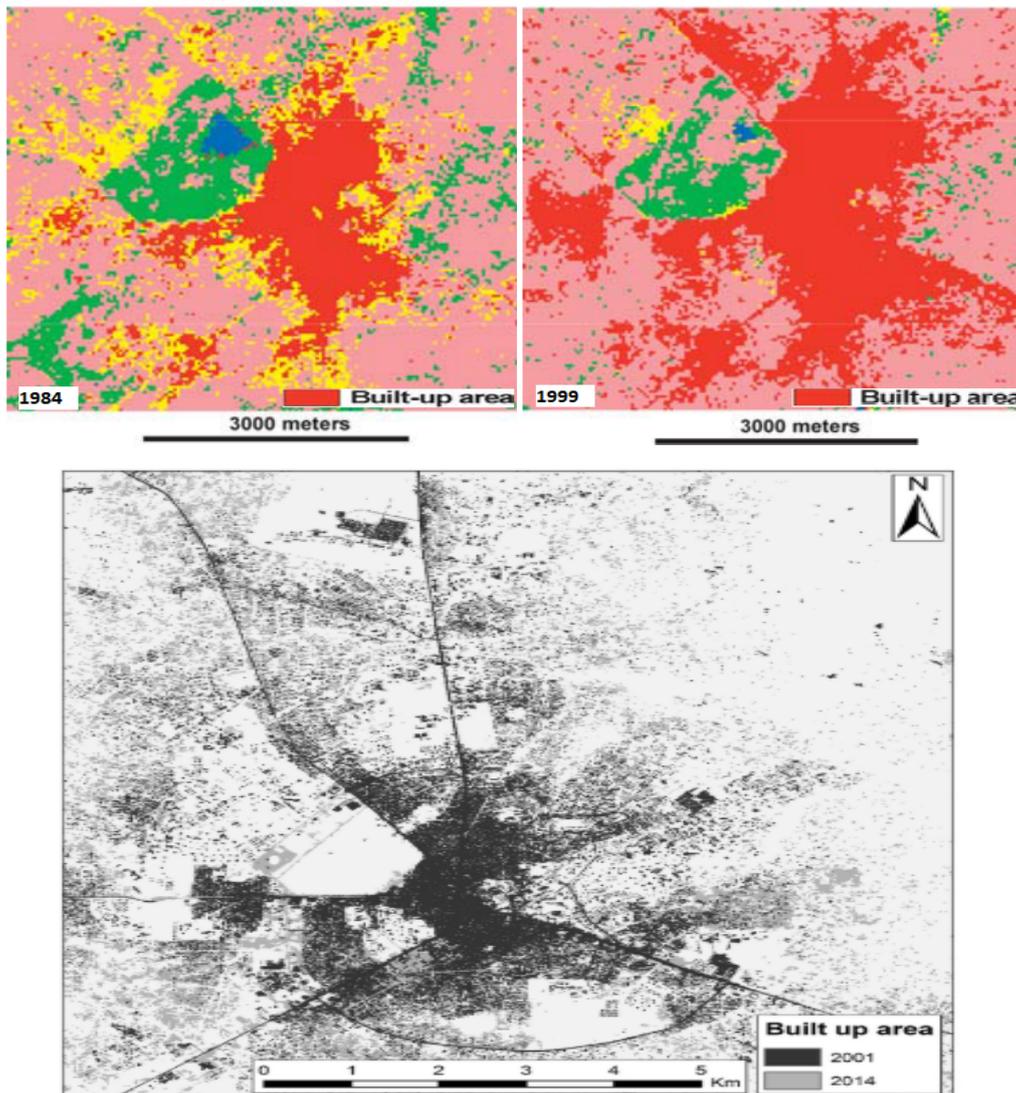


Figure 5: Spatial

Source: Braimoh and Vlek (2004); Fuseini and Kemp (2016)

The rapid growth of Tamale started during post-independence Ghana and reflected in the general urban growth across Ghana as colonial controls over movement were removed. On attainment of independence, Nkrumah's government sought to promote socio-economic development pathways that would ensure holistic national development by correcting colonial spatial development and investment imbalances between the north and south especially. Based on state-led import substitution industrialisation, a number of investments and projects were implemented in Tamale and these facilitated the growth of the city. Some of these programmes and projects included infrastructural development (roads, housing, airport), establishment of employment centres, investment in agriculture including establishment of farm mechanisation centres to provide farm inputs, extension services and establishment of agro-processing industries (Adarkwa, 2012; Fuseini et al., 2017; Fuseini & Kemp, 2015; Songsore, 2009; Yeboah et al., 2013). The result was that, during the first decade of independent Ghana (1960-1970), the population of Tamale grew annually at 7.3% compared to Accra and Kumasi's 5% and 4.4% (Fuseini et al., 2017). By 1969, the spatial extent of Tamale had expanded significantly as shown in Fig. 6 compared to the size of the city in 1932 (Fig. 3)

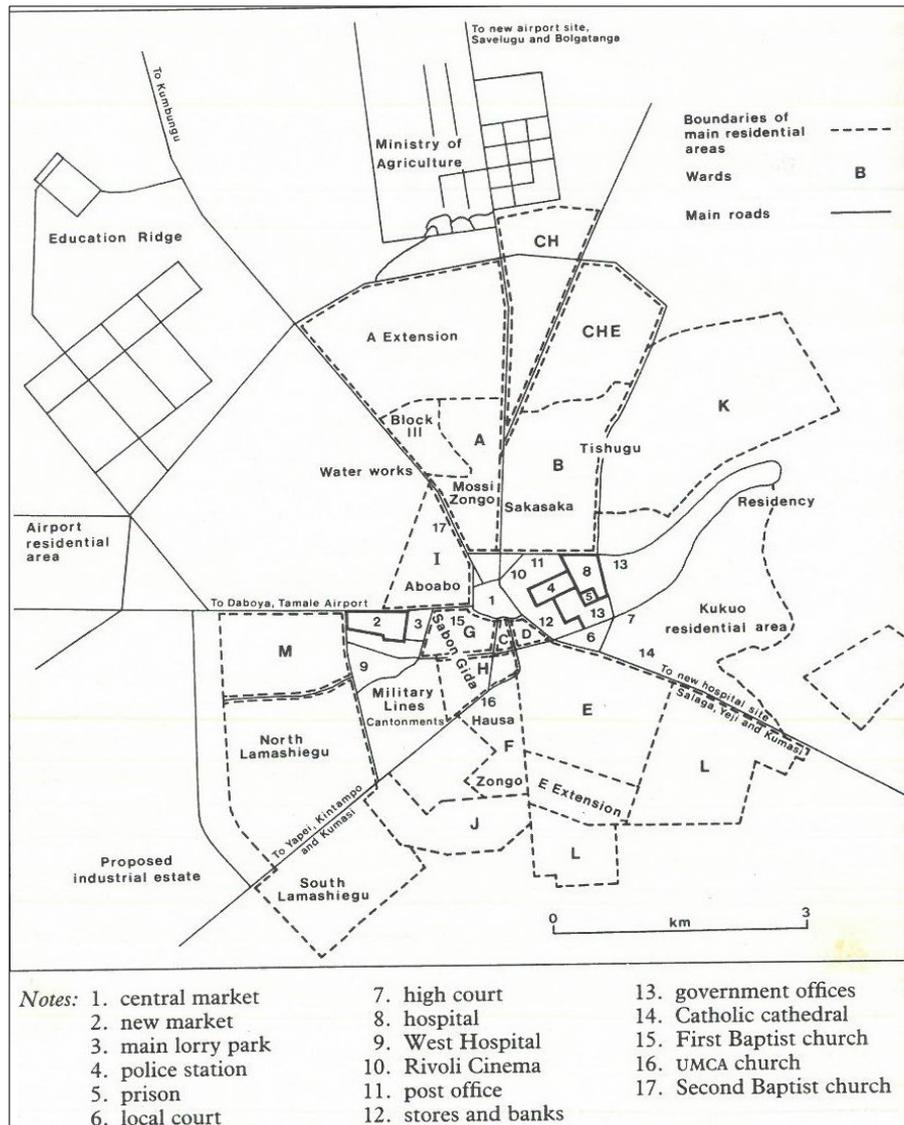


Figure 6: Map of Tamale in 1969

Source: Eades (1994)

The growth of Tamale continued into the second and third decades of post-independence Ghana. A notable rapid growth of the city occurred in the 1970s following increased investment in the agricultural industry particularly rice production in Northern Ghana and concomitant establishment of rice mills in Tamale. The military government in power in Ghana in the 1970s pursued nationalist economic development policies based on achieving self-sufficiency which was operationalised as ‘Operation Feed Yourself’ (OFY) and ‘Operation Feed Your Industries’ (OFI). The policy sought to achieve food sufficiency as well as producing raw materials for the largely agro-based industries. The implementation of this policy orientation did what the colonial administration, and perhaps, Nkrumah’s government could not do: massive investment outlay for large scale production of rice in Northern Ghana. Being the most important city in Northern Ghana, Tamale benefited a lot from the implementation of the OFY and OFI through employment creation in agriculture and service sectors. So that even when there was general slowing in urban growth in Ghana in the late 1970s and early 1980s (due to a combination of drought and bushfires across West Africa), Tamale recorded impressive growth during the period (Fuseini et al., 2017; Songsore, 2009). The city’s growth intensified from the 1990s following the liberalisation of the Ghanaian economy as part of the implementation of the Structural Adjustment Programmes (SAPs) which coincided or resulted in infrastructure development in roads (bridging of the White Volta at Yapei and Buipe to reroute the Tamale-Kumasi road away from the ferry crossing at Yeji), extension of the national electricity grid to Tamale, establishment of many parastatal institutions and departments, implementation of the present

decentralised governance system among many others. It is worth noting that the effects of the liberalisation of the Ghanaian economy on the growth of Tamale centred on the development of core infrastructure, construction, service sectors and the development of bureaucratic institutions and systems. The city would have grown much faster had the unintended consequences of liberalisation not occurred. The liberalisation negatively affected the once vibrant agriculture sector which spurred the growth of Tamale from the 1970s. The liberalisation was accompanied by removal of input subsidies for smallholder farmers as well as the liberalisation of rice and cotton imports, and these led to the collapse of the once vibrant agro-industries that served as levers for the growth of Tamale (UNDP, 2018)⁸. Even when there were intermittent increases in public spending in the agricultural sector, the traditional cash crop, cocoa, was favoured, so that the agricultural sector never regained its position as the main lever that spurred the growth of Tamale.

The rapid growth of Tamale presents planning and governance challenges, and this partly explains the split of the greater Tamale Metropolitan Area (TMA) into two local government authorities: Tamale Metropolitan Assembly (TaMA) and Sagnarigu Municipal Assembly (SMA) according to Ghana's local governance law⁹. Owing to the historical deprivation, the city of Tamale is still confronted with significant governance and planning challenges including uncontrolled/poorly managed spatial growth

However, it is refreshing to note that in recent times Tamale is gaining attention of researchers and development practitioners¹⁰; a very good development than the 'neglect' of the city, in scientific and historical inquiry in the geopolitical, social and economic history of Ghana or Northern Ghana, about which (Soeters, 2012) have had course to lament. Such rising interest is useful to stimulating knowledge production and evidence-based decision making that potentially could impact positively on development outcomes in the city. The following sections provide further characterisation of Tamale in terms of governance, economic, infrastructural and food and nutrition security dynamics of the city.

3.2. City's Governance Structure (embedded within national structures)

The foundations for governing Tamale were laid about 1907 when the settlement was designated as capital for the Northern Territories. By the elevated status, provisions had to be made for the delivery of basic infrastructure to enable the settlement to function as an administrative capital. By 1911, permanent structures started springing up in Tamale and the colonial authorities started 'planning' the city by laying out a segregationist planning scheme (see Figure 3). Broadly speaking, the planning of the settlement reflected prevailing colonial planning by which indigenous areas were devoid of grid planning and were also poorly provisioned in terms of basic services in contrast to areas inhabited by colonial or European populations (Adarkwa, 2012b; Yakubu, 2021) See Fig. 7 for a comparison between colonial officers and indigenous people's areas of habitation.

⁸ Northern Ghana Human Development Report 2018

⁹ The Tamale Metropolitan Assembly was established by legislative instrument (LI 2068) which elevated the then Municipal Assembly into a Metropolitan status 2004, while the Sagnarigu Municipal Assembly was established by a legislative instrument (2272) in 2018.

¹⁰ There has been increased volume of research focusing on different aspects of the socio-economic fabric of the city. While many of these are student project types of research, others are bigger projects commissioned and executed by consortia of international and local partners. Some of these include the UrbanFoodPlus (African-German partnership research project), Swedish-African Urban Agriculture Project, and continuous research presence in Tamale of RUAF.



Figure 7: A comparison of European (A) and indigenous (B) people's settlement in Tamale

Source: Soeters (2012)

The colonial administration set out to manage the newly established administrative capital through segregationist planning and the use of traditional governance structures embedded in chieftaincy. The initial plan was to build expatriate quarters to accommodate the European officials as well as other Africans from the south. For siting European quarters, instructions were given to settle in areas that had good natural environmental conditions such as devoid of bushes, swamps, had good water but these should not be near native settlements (MacGaffey, 2006). The spatial organisation of the settlement was based on 'ward' system by which different racial, ethnic and other social groups settled in distinct wards/neighbourhoods. See Figs. 8 and 9 for the layouts of Tamale showing the Wards in Tamale in 1932 and in 1969. In Fig. 8, Wards C and D were the heartland of the native Dagbamba extending to the northern parts of Ward E. Ward E also had a good proportion of its inhabitants being southerners while Wards A, G, H and I were inhabited largely by settler ethnic groups including Moshie (A), Yorubas (G and I) and southerners (H). Ward B also had large Moshie presence but it was also a site for junior administrative officers of African origin, mostly from southern Ghana. The Hausas were settled at Ward F. Even though the intention was to keep these different groups separate, such spatial organisation was difficult to enforce which meant that many areas had heterogenous rather than homogenous character. This occasionally presented governance challenges in terms of determining jurisdictional control and holding people accountable. For example, Soeters (2012, p. 114) recounts a colonial official's frustration as follows:

... [the] trouble originated with certain Hausas who lived in the Hausa Zongo going to live in the Moshie Zongo ... If the Sarikin Zongo (Hausa Chief) called them for work ... they replied they

were not under him but under the Moshi Chief because they lived in the latter's Zongo. If the latter called them for labour they replied they were Hausa and not Moshis.

It is plausible to imagine the above challenge playing out because majority of the settlers at the two wards (Hausa and Moshi Zongos) were ex-service men who perhaps formed relationships during their sojourn fighting together in the First World War. Some of them also decided to settle in Tamale because they did not want to return to live under certain chiefs for whom they harboured grudge for their role in getting them recruited into the colonial military. Therefore, it is reasonable proposition that some of these ex-service men might not want to be controlled by chiefs, not even in Tamale.

However, the separation of the British colonial officers' residential area was enforced. The green block in the eastern part of Fig. 8, located on a ridge, was the settlement for important colonial officials including the District Commissioner (DC) and the Colonial Commissioner for the Northern Territories (CCNTs). Part of enforcing separation of these areas involved creating a buffer dubbed 'protection area' to cordon off any potential encroachments. As can be seen in Fig. 6, public institutions such as local market space, courts, police headquarters, hospitals and post office were used to ensure that native areas were kept at bay from the colonial officials' residential areas. The requirement to site European settlements away from native areas meant that the native villages that were brought together to constitute Tamale saw no or very little improvement in terms of sanitation and other modern services and amenities. Yet, the labour to construct these European settlements was sourced free of charge from the native population through their chiefs¹¹.

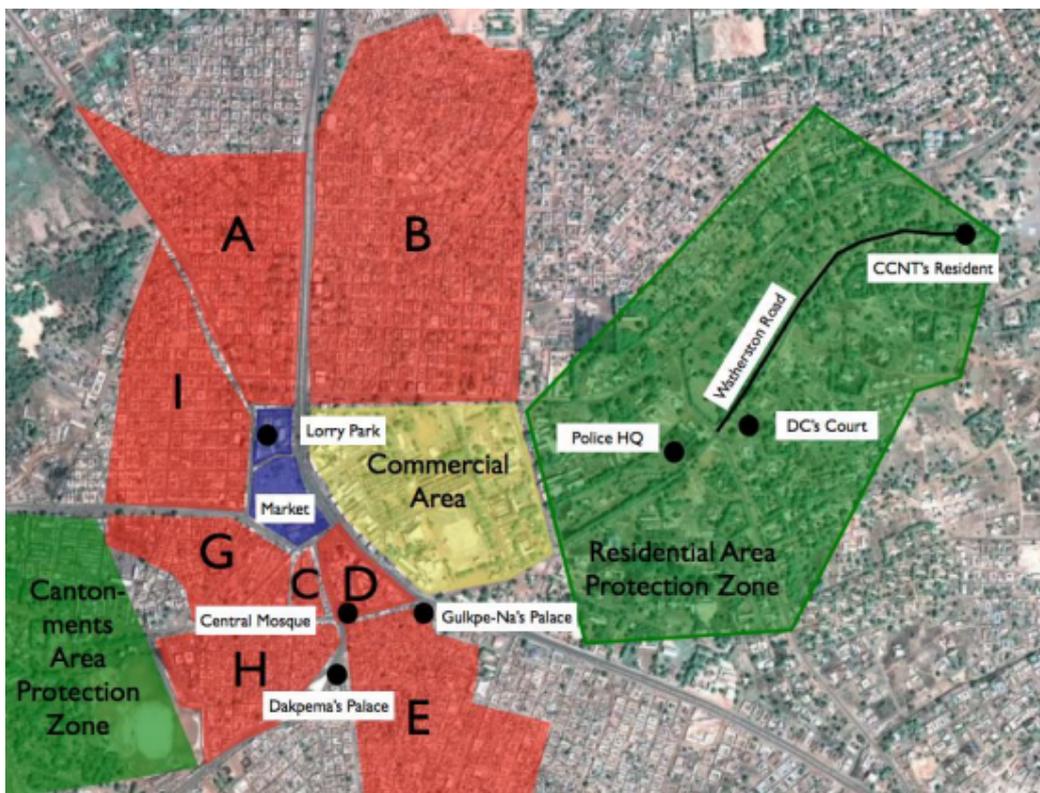


Figure 8: Map of Tamale showing wards in 1932

Source: Soeters (2012)

The segregation between the natives and European settlements was so real that a chief in one of the numerous villages around Tamale (less than 2 km from the city centre) once remarked that “The British were down there in Tamale, but up here in Chefurugu [Choggu] we were farmers, so we paid no attention to them” (MacGaffey, 2006).

¹¹ The colonial officers convinced the chief to mobilise their subjects to provide labour for the construction in return for presents. The chiefs were further convinced to mobilise the labour by being made aware of the advantages associated with having white men settling in their midst, and that they (white men) would work to uphold the chiefs' authority over their subjects.

The colonial officials governed Tamale through the chiefs. This was in keeping with the indirect rule system where there existed centralised chiefdoms like in Dagbon but the institution of ‘chieftaincy’ was created for acephalous groups in order to implement the indirect rule under Native Authorities. But it was also because there was very limited budgetary allocation for the management of the Northern Territories. At this stage, the management of Tamale (at least as regard the native population) fell on two traditional leaders; the Choggu-Naa (a chief) and the Dakpema (a tindana).

In Dagbon customs, a chief has real executive and administrative powers but a tindana only has religious functions, primary of which is to pacify the gods for the wellbeing of the land and its people. Tindamba (plural for tindana) are traditional leaders who led the indigenous groups that were conquered by the Dagbamba when the latter arrived in the area. ‘Tindana’ is literally translated in the Dagbanli language as the ‘custodian of the land’. They are believed to possess certain powers and knowledge that enable them to speak with the gods of the land. It is believed that many of the tindamba were killed while a few of them were left to take charge of important shrines. The tindana in Tamale (Bug-Lana) was one of those that were allowed to continue to manage their shrines for the good of the land, now controlled by the Dagbamba conquerors. Therefore, no prince was assigned the responsibility of leading the few villages around present day Tamale other than the Bug-Lana. When Tamale emerged and started growing, the Bug-Lana then appointed the Dakpema (leader or custodian of the market) to be managing the Tamale market which effectively was equivalent to the day-to-day management of the settlement because at that time ‘urban’ life revolved around the market. This was why the Dakpema and the Choggu-Naa were made to manage the affairs of Tamale, so that the latter could handle those chiefly responsibilities.

Given the growing importance of Tamale, Yendi¹² now had interest in the governance of the settlement and the colonial officials saw an opportunity in this to gain more legitimacy and control over the chiefs, because by working with the Yaa-Naa¹³, it became easy to win the submission of the chiefs. The Yaa-Naa thus designated a court official with the title Gulkpe-Naa (the area in and around Tamale was and is still known as Gulkpegu) who was responsible for the affairs of Tamale when matters of the Kingdom were discussed at the King’s palace. It is said in Dagbon legend that the colonial authorities first tried to convince the Yaa-Naa to relocate the capital of the Dagbon Kingdom to Tamale but when they did not succeed, they requested that the court official responsible for Tamale, the Gulkpe-Naa, be made to relocate to Tamale. This option was deemed acceptable to the Yaa-Naa except that there was a hurdle to be cleared (somewhat superstitious), which was that the Gulkpe-Naa could not enter Tamale for more than three times in a single year. If that was the case, it meant that he could not live in Tamale. A middle ground was found to locate the Gulkpe-Naa at Zagyuri, about 9 km from the city centre, which at the time was seen as not part of Tamale. The Dakpema at the time saw the relocation of the Gulkpe-Naa close to Tamale as a subtle ploy to install him as chief of Tamale, thereby usurping his powers as happened to many tindamba (plural of tindana) when the Dagbamba invaded and conquered the area. Therefore, he objected to the move and wrote a protest letter to the District Commissioner. In the protest letter, he stated that the Yaa-Naa had never interfered in the affairs of Gulkpegu, neither has any prince ever ruled the area. Being in favour of the relocation, the District Commissioner took serious exception to the Dakpema’s protest and the latter had to apologise to ease tensions. In April 1932, the District Commissioner announced the arrival of the Gulkpe-Naa and indicated that he was taking over the reign of government from the Dakpema. That move created a serious controversy that persists to this day, and which sometimes leads to governance related confrontation between the two traditional authorities especially in matters of land administration (Soeters, 2012).

The above agreement laid the foundation for a strong, complicated and sometimes overlapping traditional governance structures in the running of the city. Added to the complexity of the traditional governance structures in Tamale is the active role of religious leaders in the governance of the city. This triad of authority/influence coupled with colonial and now modern/western styled bureaucratic decentralised governance system is what leads Soeters (2012, p. 38) to observe that “Tamale possesses an institutional anatomy characterised by multiplicity”. But this multiplicity of governance structures in Tamale helped to

The growing commerce and trade made Tamale attractive to the seat of the Dagbon Kingdom and the latter now showed interest in the governance of the settlement in order that the growing town may contribute to the political and economic importance of the Kingdom.

¹³ In a centralized traditional governance system of Dagbon, the Yaa-Naa wields enormous power and authority as all paramount chiefs in the Kingdom take their authority from him. Therefore, building relationship with him or his office would undoubtedly secure for the colonial officials a lot of leverage over many of the paramount and divisional chiefs.

secure the interest of the indigenous population against certain decisions by colonial authorities. A classic example of this is manifested in the role played by two imams to thwart the colonial authorities' planned move to evict residents of Ward D and to resettle them at Ward J under the pretext of resettlement regeneration. But the truth was that the area had been rezoned to be allocated for commercial purpose. This was in the 1940s. A protracted back and forth ensued between residents of Ward D and the colonial authorities when the latter gave notice of eviction from Ward D. Sensing that both the Gulkpe-Naa and the Dakpema had been compromised in the process (because under the native authority, the two would get a share of money that would accrue from the reallocation of the commercial plots), an imam of the Central Mosque (located at Ward D) took it upon himself to organise protests against the eviction. He sent a strongly worded protest letter to the District Commissioner as follows:

We the undersigned elders residing on [at] Ward "D" in Tamale, Northern Territories, humbly and respectfully beg to forward this our grievances to you, for your kind consideration. Last Monday we were called by your worship [lordship] and you informed us that most of our houses in Ward "D" would soon be demolished; and our plots would be given to aliens to build stores. We beg to state that most of our houses on that Ward were built by our forefathers, before the white man came. He came as a friend but not as a conqueror. He came to build and not to destroy. These buildings are sacred and too dear to be demolished. If our plots would be used by Government to build Post Office, Treasury, Hospital, or School, which would be beneficial to our country [it] would be welcomed. But as it is, government is driving us away from our forefatherS' [forefathers'] soil and giving it to aliens to build stores. This is unpleasant to us. And we hope that the district commissioner would reconsider it. (Yakubu, 2021)

This action succeeded in stalling the evictions but the imam was reportedly bribed with a plot right behind the mosque and he went silent (Yakubu, 2021). Another imam emerged from the same mosque to lead the continued resistance to the planned evictions, and also succeeded in stalling the process until the colonial authorities abandoned the plan in about 1954 (Yakubu, 2021). Nevertheless, some credit should be given to the colonial authorities because one of the reasons for abandoning the planned relocation was that they did not want to 'create another slum' at the outskirts of Tamale (Yakubu, 2021). The chief engineer had advised against the relocation on grounds that it would be extremely difficult to extend water supply to the proposed relocation site at Ward J. This is in stark contrast to what happens in post-independence Ghana where governments often implement forced evictions without much thought about the impact on the lives and livelihoods of the affected persons. That colonial planning policy has created slums in Tamale is incontrovertible (see Figs 9 & 10), and the ramifications are still felt any time settlement improvement programmes are planned and executed. The UN-Habitat (2009) had noted that the majority of residents in Tamale live in slum-like conditions because they lack sufficient water supply, lack good sanitation facilities especially in-house toilet facilities and the road network is poorly developed within neighbourhoods. Forced evictions and demolitions are commonplace whenever these underserved settlements or neighbourhoods are earmarked for road development, for example (Yakubu, 2018).



Figure 9: Slum-like conditions at Ward D in Tamale



Figure 10: Slum-like conditions at Ward F in Tamale

3.2.1. Contemporary city governance structures

The promulgation of the present local government system in Ghana in 1988 led to restructuring local government entities in Ghana. Present local governance operates in a four-tier system involving the Metropolitan, Municipal and District Assemblies (MMDAs) at the base of the structure, the Regional Coordinating Councils (RCCs) (equivalence of provincial), the Ministry of Local Government and Rural Development (MLGRD) and National Development Planning Commission (NDPC) at the apex. By this structure, MMDAs prepare their development plans (Medium Term Development Plans) in close collaboration with the RCCs who in turn pass the MTDPs to the MLGRD and finally to the NDPC (Fig. 11). The expectation is that by working through this chain of structures, harmonious and contextually relevant development would be achieved across the country. Because the structure is fashioned on local governance, everything seems to revolve around the MMDAs. The other bodies higher on the four-tier decentralised governance structure are mandated to coordinate the development programmes and projects of the MMDAs to align these with broader national development imperatives. However, as it is, if the relationship between the local governments and the NDPC is not managed well, the latter's alignment or harmonisation role can be used as a lever to remote control the decisions of local governments thereby defeating the intent of bottom-up decision making (Akudugu, 2018; Fuseini, 2020).

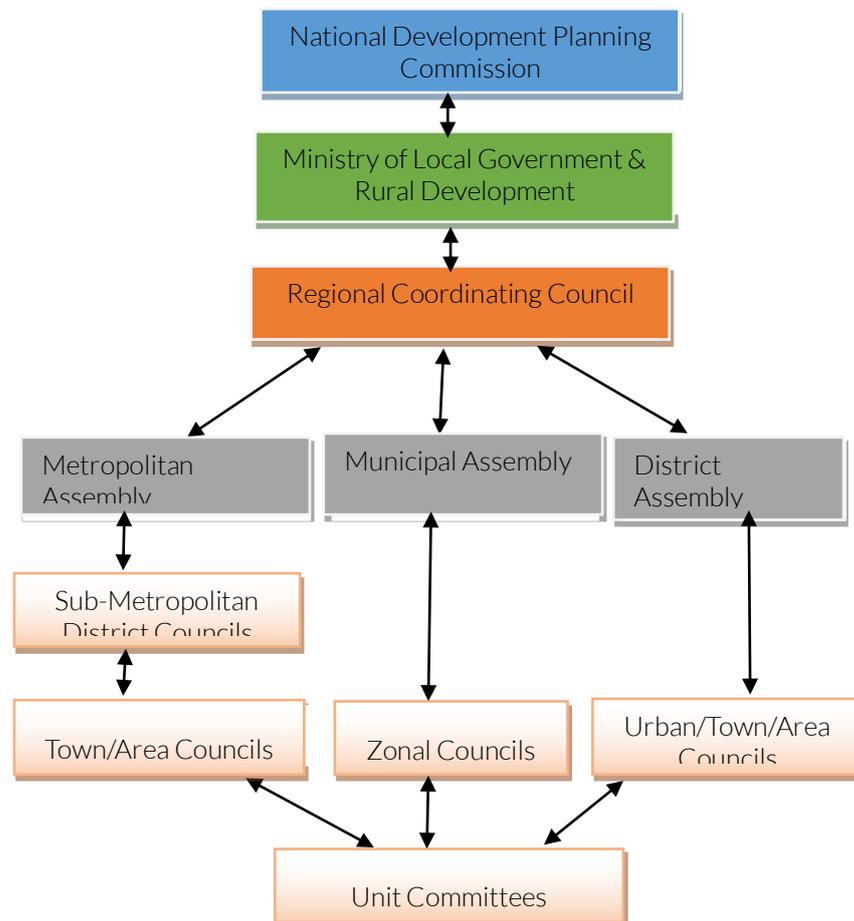


Figure 11: Structure of Ghana's local governance system

Adapted from Sackey (2012)

The MMDAs are established by law and are given the authority to be responsible for the overall development of areas under their jurisdiction (**Local Governance Act, 2016**). Due to its growth, increased governance complexities and demand for improved urban services, Tamale was split into two local governance entities in 2012: the Tamale Metropolitan Assembly (TaMA) established under Legislative Instrument (L.I) 2068 of 2012, and the Sagnarigu Municipal Assembly, established under LI 2066 of 2012, which was later upgraded to Municipal status in 2018 by a legislative instrument, 2272.. The administrative structure of the MMDAs is made up of many decentralised departments among which include planning, health, finance, community development, works, agriculture, and disaster prevention.¹⁴ But the lack of legal mandate to operationalise some relevant departments in municipal and district assemblies may be an anti-thesis to local development. For example, a municipal assembly is not allowed to have waste management department given that generation of waste is rather universal. In this regard, waste management is in the hands of households. Similarly, that a district assembly is not allowed to have roads and transport departments is beyond imagination. It means that provision of road networks is not a priority for the district assembly, leaving Department of Feeder Roads and Ghana Highways Authority to fill the gap with the provision of trunk roads connecting the major towns in the district.

The MMDAs are composed of elected and appointed members. The elected members are elected through non-partisan popular vote at the electoral level (the lowest unit in the local government structures in Ghana). The appointed members are made of 30% of all the members of the Assemblies appointed by the president of the country including the Mayor for Metropolitan Assemblies, Municipal Chief Executive for Municipal Assembly, and District Chief Executive for a District Assembly. The president's appointment is done in consultation with community leaders and chiefs and the nominee for the position of mayor, municipal or district chief executive has to be approved by two-thirds of the elected members of the assembly. All heads of decentralised departments are also members of the assembly.

The local government is set out to function in a collaborative manner, involving many stakeholders including communities represented by the elected members called Assemblymen and Assemblywomen, community-based organisations, civil society organisations, non-governmental organisation (local and international) as well as international development partners. Fig. 12 illustrates the collaborative nature of stakeholder engagement within the MMDAs in Ghana. Traditional leaders are also actors in the local government set up in Tamale. Their main role lies in planning and land administration. It is in matters of land that chiefs in Tamale are very influential to the extent that their lead role in planning can be a problem for effective land use planning (**Akaateba et al., 2021; Fuseini, 2021**). Aside planning, the traditional leadership also remains influential in general administrative and legal affairs in the city such that the local government entities and even corporate entities see them as key stakeholders when they want to get things done in Tamale. The growth of Tamale has meant that the city has expanded into other local government jurisdictions as well as other chieftains with paramountcies equivalent to Gulkpegu. Some of these include Sagnarigu, Bamvim, Tolon, Kumbungu, Nanton. It means that chiefs from these paramountcies have a role in the governance of Tamale, directly or indirectly.

¹⁴ The number of decentralised department varies depending on whether the local government entity is a metropolitan, municipal or a district assembly. Metropolitan assemblies have the full complements of relevant decentralised departments but this is graded so that the municipal assembly has fewer departments than the metropolitan assembly and the district assembly also has fewer departments than the municipal assembly. For example, a municipal assembly does not have waste management, legal, and budget and rating departments while these are present in a metropolitan assembly. On the other hand, a district assembly lacks the aforementioned three departments in addition to transport and roads departments (five departments in total).

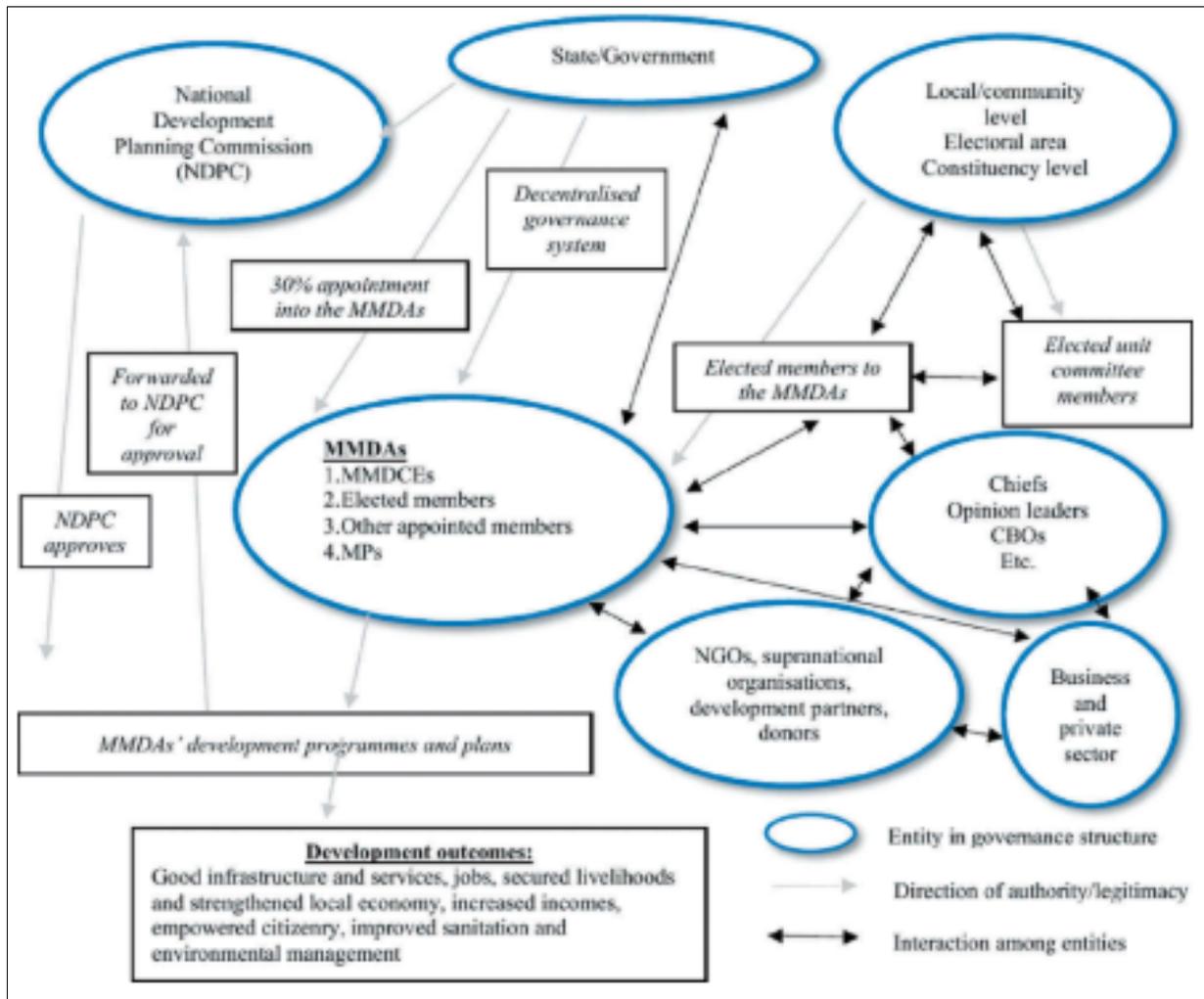


Figure 12: Collaborative decision making within MMDAs in Ghana

Source: Fuseini (2020).

Religious leaders—Imams and the Catholic Church in particular—are very important stakeholders in the governance of Tamale. The population of Tamale is largely Muslim (over 80% according to the last census in 2010), and given that Islam permeates all aspect of life, followers tend to revere and respect the voices of the Imam. Therefore, bringing Imams into city level decision making can be a strategic approach to achieving good results. Unlike Islam and Muslims in Tamale, Christianity and Catholicism are minority social groupings. However, the Catholic Church has been instrumental in the governance of Tamale by managing a whole educational unit with a good network of schools, operating libraries, supporting community and youth development through Catholic Relief Services (CRS). Before government of Ghana implemented its school feeding programme as part of Ghana's social protection programme, the Catholic Church had run school feeding programme in both the schools they manage and government or public schools. In short, it is easier to mobilise in Tamale through religious and chieftaincy institutions than through modern bureaucratic institutions. It may not be the case that people have more confidence in the chieftaincy and religious institutions to deliver better urban governance outcomes, rather it is more of reverence and/or deference for which chieftaincy and religious institutions hold sway on the people. These institutions add another layer of complexity to the already complex relationship between the Gulkke-Naa, the Dakpema and bureaucratic governance structures.

Due to the complex governance structures in Tamale, the two local government entities in the city sometimes struggle to manage the affairs of the city due to jurisdictional overlaps or complexities as well as

institutional shopping¹⁵ behaviour of residents of the city (Nchanji & Bellwood-Howard, 2018). But part of the problem is that the modern decentralised governance system practiced in Ghana and Tamale is weak relative to traditional and religious leadership. Therefore, the chiefly role in the governance of Tamale is disproportionately higher and this sometimes creates problems especially in city planning and land administration (Akaateba et al., 2021; Fuseini et al., 2017). For example, over 80% of land in Ghana is controlled by chiefs under various tenurial arrangements. Land tenure in Dagbon and Tamale is supposed to be customary. In reality, however, this is not the case, and because chiefs are so powerful, they initiate land use planning using unqualified surveyors. This often results in chaotic land use form, multiple sales of land, substandard spatial development, poor service provision and delivery, among others.

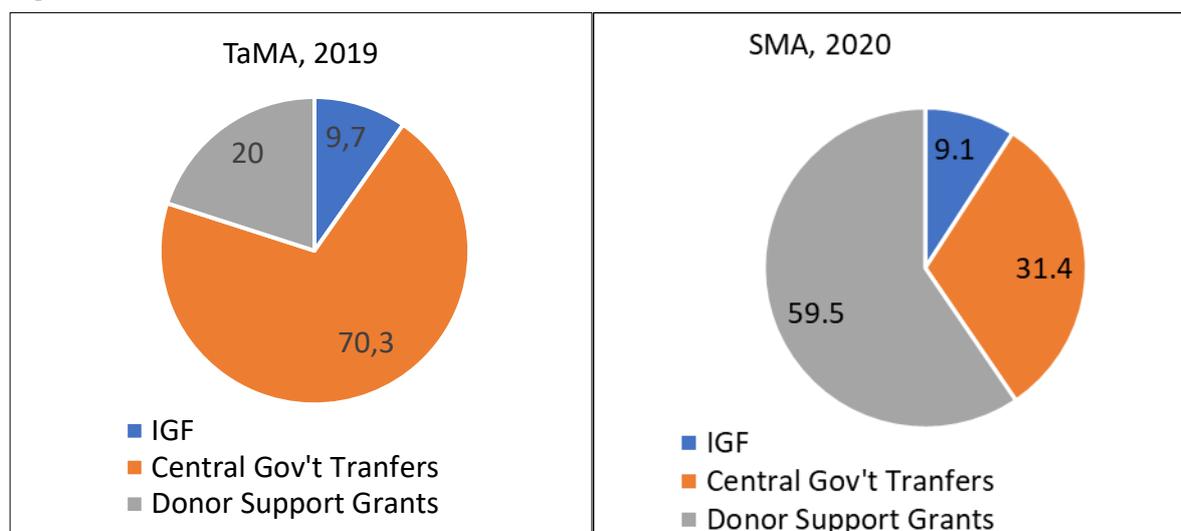
There is also a human resource challenge to city governance in Tamale. Many local government departments lack the sufficient numbers of staff with requisite skills to manage their departments efficiently. The planning department is one critical department that is woefully under-staffed. For instance, as of 2014, the Northern Region only had nine qualified physical planners to cater to the needs of 26 MMDAs including Tamale (Fuseini & Kemp, 2015). Similarly, the Building Inspectorate Unit (BIU) of the TaMA was both poorly staffed and ill-equipped logistically to carry out its statutory role effectively. The implication has been that physical development in the city unfolds unregulated.

Perhaps, the most serious governance challenge in Tamale is lack of financial capacity to implement relevant development programmes. Both the TaMA and SMA have low internally generated funds portfolios. This means an over reliance on central government transfers or on donor funding. But revenue from these sources is neither regular and nor reliable. The central government's transfer is the main source of funding for local government entities in Ghana. By law, the central government has to transfer 7.5% (the District Assemblies Common Fund, DACF) of total national revenue to the 261 Metropolitan, Municipal and District Assemblies (MMDAs). However, while payment to the Assemblies is often delayed, there are times that the Assemblies are directed to apply huge proportions of the transfers from the DACF to central government programmes. For example, during the 2017 disbursement of the DACF, the Assemblies were directed to spend 80% of their share of the DACF allocation on central government national flagship programmes including Nation Builders' Corps (NABCO) which seeks to provide temporary employment to unemployed graduates, Ghana School Feeding Programme, and Planting for Food and Jobs (Fuseini, 2020). This leaves the Assemblies only 20% of their statutory revenue to implement their own development programmes and projects. In its annual progress report to the National Development Planning Commission (NDPC), the Sagnarigu Municipal Assembly (SMA) laments low progress during the reporting period in these words: "A release of DACF is often characterized by delays and with many unexpected deductions, which delays the timely execution of projects. Also, the flow of donor funds is unpredictable which affects the smooth implementation of the Annual Action Plan" (Sagnarigu Municipal Assembly, 2021).

The MMDAs in Ghana are mandated by law to generate their own financial resources to complement the central government transfers. They are given a very long list of instruments to mobilise these internally generated funds (IGF) including rates, fees, licensing, investment and rent from landed properties, royalties, fines, etc. Unfortunately, the IGF component of total revenue in the two local government entities in Tamale has hovered below 10% over the years (Fuseini, 2020). Figure 13 shows the relative proportions of revenue sources for the Tamale Metropolitan Assembly and the Sagnarigu Municipal Assembly. Similarly, the proportion of IGF in the total revenue mix of the Sagnarigu Municipal Assembly in 2020 was negligible (see Fig. 13).

15 Institutional shopping connotes the tendency for clients or people to swing between two or more institutions in search of favourable resolution to their problems.

Figure 13: Sources of revenue for the TaMA, 2019 and SMA, 2020.



Source: (Tamale Metropolitan Assembly, 2019) and (Sagnarigu Municipal Assembly, 2021)

As a result of low financial capacity in the two local government entities, infrastructure and service provision remain a challenge in Tamale. For example, in UNICEF-CDD-Ghana's 2017 Ghana District League Table, the TaMA placed 159th out of 216 MMDAs in Ghana whilst the SMA placed 177th (UNICEF-CDD-Ghana, 2017). While both assemblies made impressive improvement in the 2019 edition of the League Table (TaMA came 4th out of the 216 MMDAs), the SMA still placed 108th (UNICEF-CDD Ghana, 2019), provision and access to critical urban infrastructure and services remain a challenge. Access to key urban infrastructure and services is discussed in detail under 'City infrastructure report' below, following the presentation on the economy of Tamale.

3.3. Overarching report on economy of the City

The foundation for demographic and economic growth in Tamale was laid in the 1920s (Soeters, 2012). The author attributed this to the improvement in connectivity between the south and the north following the construction of what he calls 'The Great North Road' and the introduction of motorised transport in the 1920s. The opening of the road improved north-south mobility and trade, and when the returnee migrants from the cocoa farms in the south and the ex-service men discharged after the First World War decided to settle in Tamale, it changed the economic outlook of Tamale away from peasant economic character. Soeters (2012) is of the view that there was a generally negative relationship between migrant population in the wider Northern Territories, but on the other hand, the relationship between the two was positive for Tamale. The returnee cocoa farm migrants and the ex-service had money and thus ventured into other forms of employment most notably transportation (Soeters, 2012). This ushered in the process of individualism and accumulation of wealth with a knock-on effect being the rise of lucrative trading and commerce in Tamale, a sector dominated by foreigners including Yoruba's from Nigeria and Syrians (Eades, 1994; Soeters, 2012). For instance, over 36% of the Yoruba population resident in the Northern Territories in 1931 was found in Tamale (Table 1). Indication of this pivotal demographic and economic growth in Tamale reflected in the number of leaseholds held by settlers in Tamale (Fig. 13).

District	Number	Percentage
Kusasi	162	19.3
Zurungu	?	?
Navrongo	14	1.7
Lawra-Tumu	10	1.2
Wa	?	?
Western Gonja	0	0.0
Western Dagomba	85	10.1
Tamale	305	36.3
Eastern Dagomba	70	8.3
Eastern Gonja	93	11.1
Krachi	101	12.0
Total	840	100.0

Table 1: Distribution of Yoruba population in the Northern Territories, 1931

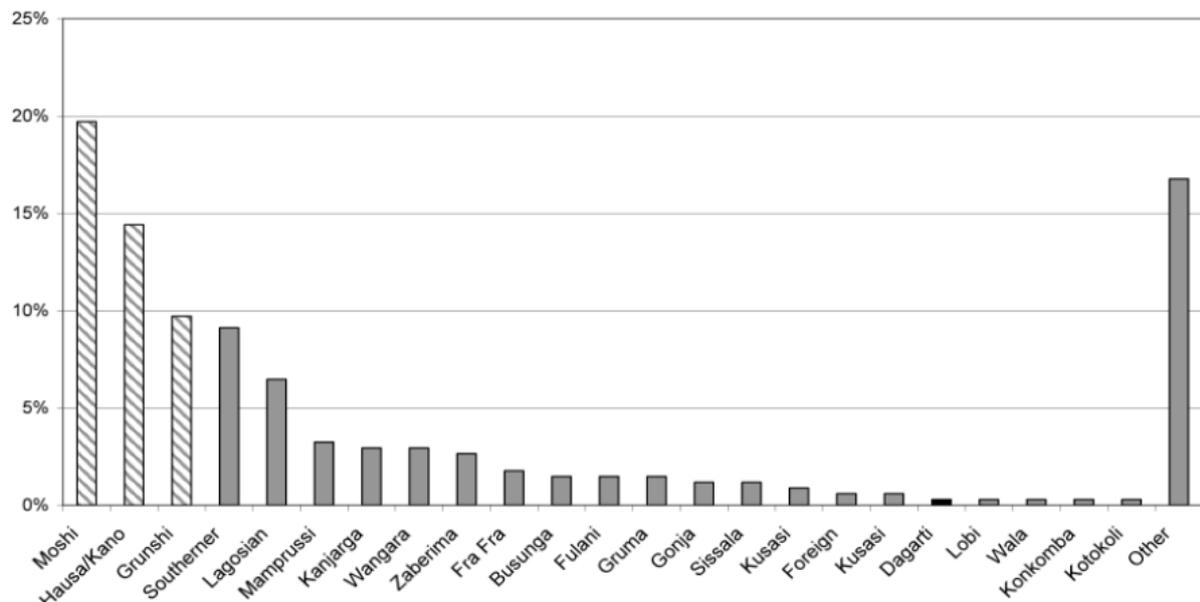


Figure 13: Ethnic breakdown of non-Dagbamba leaseholders in Tamale, 1935-1944

Source: Soeters (2012)

By comparing the ethnic breakdown of northern men recruited into the military for the 1914-18¹⁶ period (Fig. 14) with ethnic breakdown of leaseholdership in (Figure 13), it becomes clear that the settling in Tamale by the ex-service men played a key role in the demographic and economic change in Tamale. In particular, Moshie Zongo (Ward A) and Hausa Zongo (Ward F), emerged after 1918 as a settlement for mostly the Moshie ex-service men (Eades, 1994), and this group has played an important role in the transport sector of Tamale (Soeters, 2012). Two reasons explained the settling in Tamale by the ex-service men. First, these were trained in Tamale before being sent out. They became accustomed to the town and thus preferred to settle there rather than go back to their villages. The second reason is based on the forced recruitment by which some of the ex-service men got enlisted. It is said that majority of the recruits

¹⁶ About 90% of the Gold Coast troops sent to the First World War originated from the Northern Territories.

came from the many acephalous groups who, for purposes of mobilising forced labour, had chiefs chosen and imposed on them by the colonial authorities. These chiefs in turn facilitated the forced recruitment into the Gold Coast military. This created frosty relationships in some cases, and that made some of the ex-service men opting to not go back to their villages to live with the chiefs (Soeters, 2012).

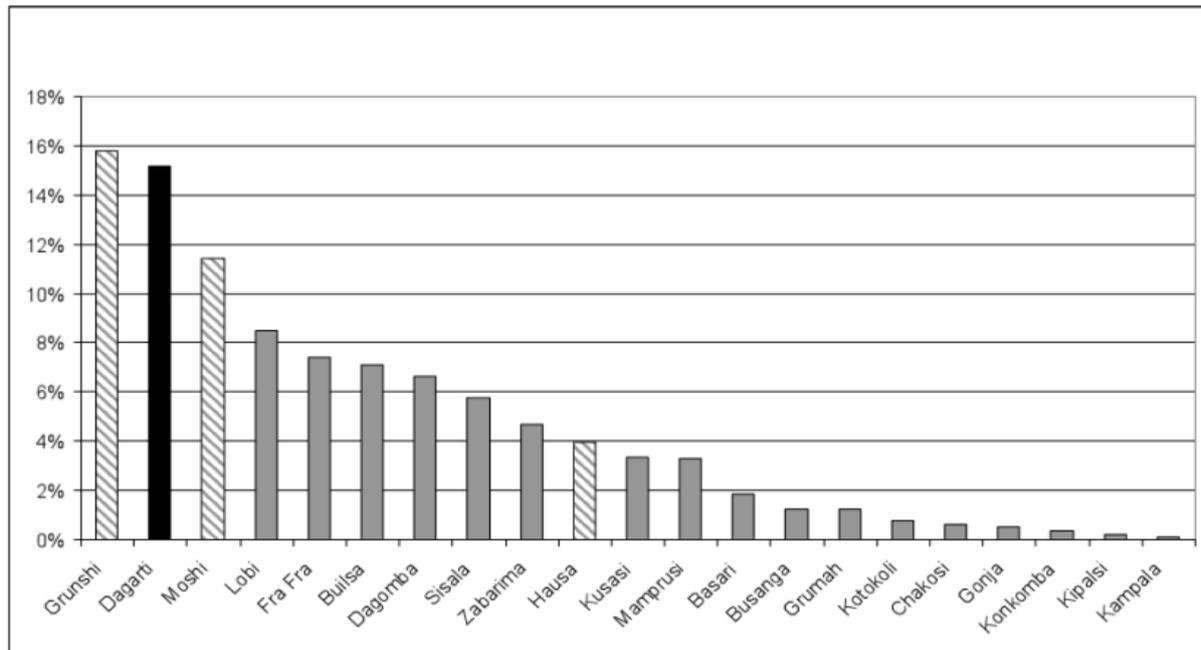


Figure 14: Ethnic breakdown of northern men recruited into the military, 1914-18 (% of total)

Source: Soeters (2012)

In the 1920s and 1930s, commercial activities increased significantly in Tamale so much that four foreign-owned stores were open, a thriving livestock trade, brisk cola trade and a general increase in trade between the north and south due to the improved transport sector following the construction of Kumasi-Tamale highway as well as the ferry at Yeji which ferried vehicles, goods and people across the Whilte Volta. For example, lorries and trailers crossing Yeji had increased from 8,940 in 1928 to 15,685 in 1929, an increase of about 43% (Eades, 1994). In terms of traded commodities, the number of barrels of flour that crossed Yeji to Northern Territories increased from less than 25 in 1925 to over 200 in 1931 (Soeters, 2012). Similar growth rates were recorded in commodities going the other way including maize, groundnuts and fowls. Given its status as administrative and mobilising/distribution centre, the increased economic activities fed into the growth of Tamale. The population of Tamale had trebled between 1921 and 1931, with about 2,500 of the 12,941 people living in the city identified as traders. This was significant because that number compared favourably with the proportion identified as farmers (3,028). The increasing demographic growth and economic activities in Tamale would soon pose governance challenges as was captured in the Annual Report of the Northern Territories (1929-1930) (Eades, 1994, p. 31):

Tamale continues to increase in population. Buildings are going up everywhere, and it is becoming a difficult matter for the authorities to cope with the number of applications for building plots. A great many of these people are traders in a small way. ... The market is becoming so large as to be almost congested on 'big market' days [on the day of Tamale market, held every six days]. Extra accommodation in the way of stalls has been erected.

The economy of Tamale has evolved from the centre of trade and service in Northern Ghana, connecting the North with the South. Presently, the city's economy has a far more diverse character than it was during the colonial era, and its economic relevance now transcends the borders of Ghana. For example, Tamale attracts about 67% of registered foreign direct investment (FDI) projects in Northern Region (Yakubu, 2021). Although this represents just about 2% of the total FDI in Ghana, the city still shows its status as the focal point for economic and social activities in Northern Ghana. The vibrancy of the economy of Tamale

can also be appreciated when viewed from the perspective employment and productivity. For instance in 2014, in the former Northern Savanna Ecological Zone (NSEZ), which comprised of five administrative regions (now ten regions) with combined districts of 111, Tamale had the highest contribution to national GDP and the highest per-worker contribution to income within the NSEZ area (UNDP, 2018) (Fig. 15).

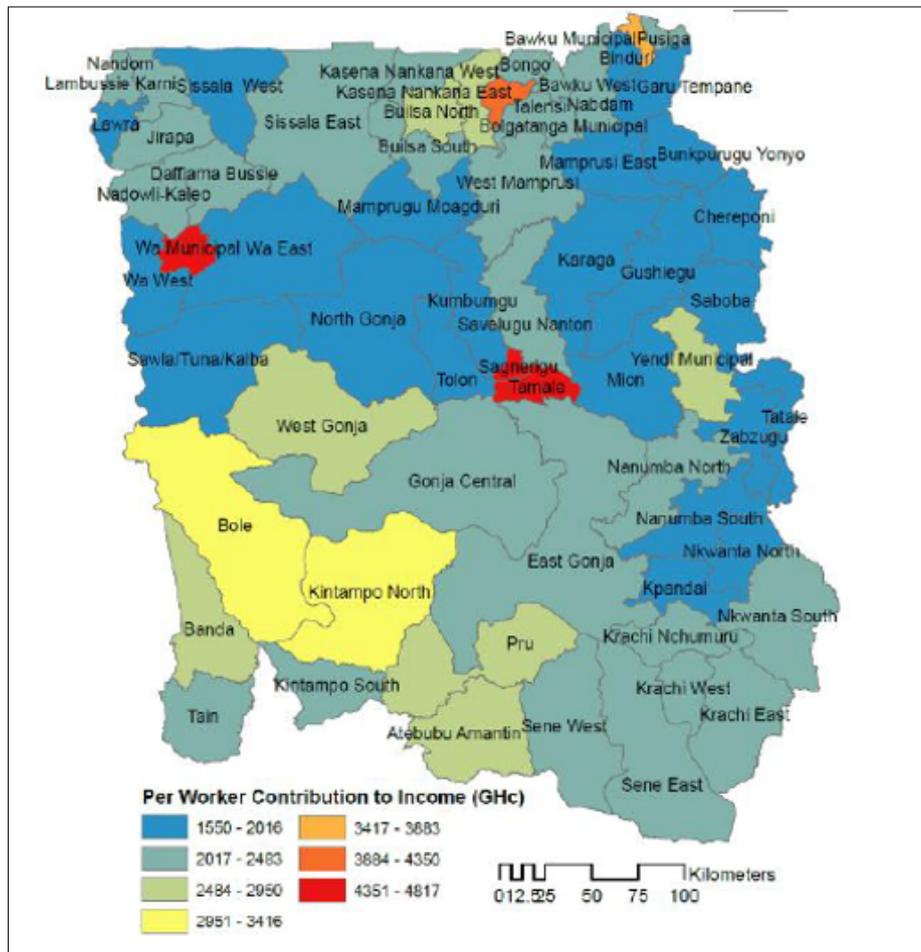


Figure 15: Per worker contribution to income in the NSEZ, 2014
Source: UNDP, 2018

The increases employment potential of the city, thus attracting more people from across Ghana and internationally. There are several long-distance intercity bus service companies that run daily morning and evening trips to southern cities including Accra, Kumasi, Cape Coast and Takoradi. Added to the booming road transport sector is air transport with at least two airlines doing at least two daily flights between Tamale and Accra. All of these symbolise what (Grant, 2009) describes as globalising local economy such that the 'global' has relevance in the 'local' and vice versa. The Tamale airport has been upgraded to international airport status, a strategic development to connect the city and Ghana more to the Sahelian countries. The interconnectedness of the local economy of Tamale with the global economic systems can be appreciated with few illustrations. First, in a food systems study in Tamale and Ouagadougou (Burkina Faso) (Karg et al., 2016) found that much of the fish eaten in Tamale had come through the Tema port, suggesting the increasingly interconnected nature of the local and the global. Similarly, while analysing food systems transformation in urban Ghana, (Andam et al., 2018) found that there were more processed foods on the shelves of retail outlets in small towns in Ghana than in big cities. This shows a reconfiguration of spatial relations in a globalised world beyond capital cities and big cities to small towns. This is unsurprising given that much of future urban growth will occur in cities and towns of less than 1 million inhabitants (Haysom & Fuseini, 2019), and the results of the 2021 national census of Ghana concerning Tamale relative to the other bigger metropolis show that the projected trend is already playing out. Therefore, it seems only natural that economic activities will align with changing demographic dynamics, spatially.

The economy of Tamale has transformed from agricultural-based (70%) to service based such that only about 20% of the city's population was engaged in agricultural employment in 2010 (Fuseini et al., 2017). However, the city's economy is being informalised like in many countries on the continent such that over 81% of the city's active population is employed in the informal sector compared to about 18% employment in the formal sector (public and private) (Fuseini et al., 2017). A lot of the informal economic activities in the city are service based, and this contributes to the growth of the service sector. Many retail shops/supermarkets and fast-food joints, both local and foreign, are springing up (See Figs 16 & 17). However, the city's local (traditional) markets remain vibrant, and it may take some time for the supermarkets to rival these. The traditional markets remain so important that they often take centre stage in urban governance discourse as traders appeal for the markets to be improved, and expanded in order to accommodate more traders (Fuseini, 2016). The local government authorities also find the development and maintenance of the traditional markets as a means to augmenting their internal revenue generation portfolio. Emerging (in press) evidence from the LOGIC project also shows that people prefer buying their foodstuff and other items from the traditional markets¹⁷ for many reasons including price and seller-buyer relationships.

Manufacturing is picking up within the economic mix of Tamale. Many hitherto agro-based cottage industries, especially shea butter processing, are transitioning to small-scale status. Women in Tamale are moving away from hand, laborious and time-consuming task of using their hands to process shea butter to the use of technology and modern tools to facilitate their processing tasks are being adopted. The development now means that, women shea butter processing co-operatives are dotted everywhere in the peri-urban areas of the city. They take advantage of the integration of the local economy within the globalised economy to grow their shea butter businesses for export. This has created female entrepreneurs in Tamale, including young women, whose economic footprint transcends the African, Europe and Asian continents¹⁸.

¹⁷ Open market spaces that accommodate large numbers of people and which promote more physical interaction among patrons than would be possible in formal supermarket systems.

¹⁸ Ayisha Fuseini is one of the merging female entrepreneurs in Tamale whose business is centred on co-operative shea butter processing. By establishing a co-operative processing centre (now centres), she mobilises women to engage in co-operative production using modern equipment and infrastructure. Through such approach, she has grown her business and showcasing their achievement at international business fora. The link below is her presentation in 2018 at one of such platforms in Barcelona: <https://www.youtube.com/watch?v=BMG6dJ5dADM>



Figure 16. International Fast Food Chains in Tamale
Credit: Authors via the LOGIC project



Figure 17. Some local Fast Food Joints in Tamale

Credit: Authors via the LOGIC project

Some foreign interests have also emerged in Tamale to process shea butter into different finished products such as soap, body lotion, etc. There are also large-scale industries emerging in Tamale. One of those is Avnash, an Indian owned rice milling plant located about 15 km west of Tamale. The increasing importance of manufacturing and/or service-based business reflects in the amount of money the local government entities get from business registration, licensing and permitting fees. For example, in the 2019 financial statement of the Tamale Metropolitan Assembly, the component of the internally generated funds that was obtained from licensing was 35% of the total IGF (**Tamale Metropolitan Assembly, 2019**). Licensing of financial institutions (42%), advertising companies (20%) and other small-scale industries (8%) accounted for the bulk of revenue accrued from licensing fees.

Aside the international manufacturing companies and businesses, small-scale industries are also growing in Tamale. Most of these are women dominated agro-processing industries that cluster around shea butter processing and rice milling. This has been made possible for two reasons. First, led by NGOs like Camfed, there have been efforts to empower women to run successful businesses in Tamale through training and capitalisation. The result has been emerging young women whose business model is to mobilise women into

production cooperatives (Fig. 18). By this arrangement, the entrepreneur develops a production plant/space and recruits women to process their shea butter and sell to the entrepreneur. The other factor is available and affordable local technology by which improved equipment and tools are tailor-made to reduce the drudgery associated with using rudimentary tools and equipment (see Fig. 19). This increases productivity and also minimises exposure to production risks such as heat, smoke and burns, especially during the crashing and roasting stages of the processing process.



Figure 18: A scene at shea butter processing cooperative



Figure 19: Improved shea nuts crasher (A) vs manual crashing

Education also plays an important role in the economy of Tamale. By far, Tamale has the most diverse educational services than any settlement in Northern Ghana. There are two universities in the city; two teacher training colleges, two nursing training colleges; over ten secondary schools. There is also a teaching hospital that serves as referral facility for the entire northern Ghana. All of these feed into the economic viability of the city, promote cultural exchange and ultimately impact on the growth of the city. The increasing economic activities in city present a great opportunity for the city's economy not least on account of employment generation but also the potential for the local government entities in Tamale to generate more internally generated funds to pursue their development programmes.

3.4. City Infrastructure report

Given the generally weak financial capacity, most MMDAs in Ghana rely on central government funding and donor support to finance the development of infrastructure. Aside the transfers from the DACF, central government mobilise funds through loans and grants and disburse these to MMDAs to support infrastructure and service delivery in the beneficiary MMDAs. In recent times, Tamale has been a beneficiary of these support programmes and projects. First, Tamale was one of four cities that benefited from the Ghana Urban Management Pilot Programme (GUMPP). The GUMPP was financed with a €40.5 million credit facility from the Agence Francaise de Developpement (AFD). The broad objective of the programme was to “enhance widespread access to essential services, build the financial, management and ownership capacity of cities, support economic activities and local employment and limit the negative impact of city extension on peripheral ecosystems” (Fuseini, 2016). For Tamale, the GUMPP financing was applied to upgrade markets and transport terminals, construction of storm drains to address seasonal flooding and also provision of other urban infrastructure and services including construction of public toilets. The only abattoir in Tamale also got a facelift thanks to the funding from the GUMPP facility. The main structure of the abattoir was rehabilitated while improvement was made to its drainage system, a 150m³ biogas plant and digester built, installation of water storage tanks and construction of a 10-seater toilet facility. The infrastructure provision also included the upgrading of Tishigu and Moshi Zongo communities with provision of internal roads, extension of water to the two communities, installation of street lights and the construction of a 20-seater public toilet. Another national programme that is being implemented in Tamale is the Ghana Secondary Cities Support Programme (GSCSP). This is an agreement between Government of Ghana and the International Development Association (IDA) represented by The World Bank, by which the latter supports Ghana with \$100 million dollars to support 25 secondary cities in Ghana to enhance the management of those cities and service delivery. The project's implementation will end in 2024, and Tamale is expected to benefit from it like it did with the GUMPP.

The following sections present a description of condition and access to a selected urban infrastructure and services. These are water, sanitation, electricity infrastructure and access to services that these infrastructures produce as well as road network.

3.4.1. Water

Pipe water supply in Tamale commenced around 1972 following the construction of an intake facility at Nawuni (located about 37 km away from Tamale) on the While Volta River and a treatment plant at Dalun in the Kumbungu district. The installed production capacity of the treatment plant was around 13000 m³/day at the point of construction but this was later upgraded to some 45000 m³/day due to increased population growth (Ngben & Yakubu, 2023). Notwithstanding the upgrading, the water company is consistently unable to produce enough water to meet average daily demand of about 30000m³ due to the combined effect of poorly equipped water system infrastructure, unstable electricity supply to the treatment plant and increased human activities at the river site. Also, the **NWTP** serves not only Tamale Metropolitan Area but other districts including Kumbungu, Tolon, Savelugu and Nanton. In all, the plant serves six districts at existing infrastructure network coverage of 562 km. But in the context of Tamale, the existing water supply network is woefully inadequate relative to the rate of demographic and spatial growth of the city (see Fig. 21). Most areas in the eastern, north-eastern, southern, south-eastern parts of the city have irregular

supply of piped water. Water delivery in Tamale is further compromised by losses due to leakages which stands at about 30%. However, official statistics report access to portable water in Tamale at over 90% (SADA, 2017). Indeed, between 2005/2006 and 2012/2013, Tamale was the only city among the five metropolitan assemblies in Ghana to have recorded a positive growth in respect of the population's access to piped water by about 10%, while Accra recorded about 22% decline in its population's access to piped water (The World Bank, 2015). In fact, TaMA was ranked 4th in the 2019 Ghana Districts League table mainly due to a 93% score in the population's access to piped water (UNICEF-CDD Ghana, 2019). What is particularly good about access to water in Tamale is that, there is fairly high proportion of households across different economic and social groups with access to in-house water supply (Yakubu et al., 2014). However, water supply through the mains is highly irregular with many households going days without seeing water flow through their taps (Fuseini et al., 2023; Ngeben & Yakubu, 2023). This is partly due to low production at the only water treatment plant at Nawuni as well as the limited coverage of the water infrastructure to distribute water across the city (see Fig. 20). A case is also made about the erratic nature of electricity supply to the treatment plant. At the time of construction in 1972, a dedicated electricity service line (powered by a generator) was installed for the treatment plant. But following the extension of the national grid to northern Ghana in the 1990s the government, through its rural electrification programmes, connected rural communities along the dedicated service line onto the network. While this policy expanded access to electricity for the rural population, it also weakened the regular supply of electricity to the treatment plant and therefore the regular supply of water.

Preliminary evidence from an ongoing LOGIC project in Tamale suggests that a new 135000m³ water treatment plant is being constructed at Yapie to augment existing supply and rid the city of its perennial water problems. The situation is made worse by the limited alternative water sources (Fuseini & Kemp, 2016). Therefore, water tanker services are in high demand in Tamale. Indeed, the water company has put up three water filling points at strategic locations in the city so that registered tanker drivers can supply households who are far removed from the networked infrastructure and are therefore unable to connect to the mains (Ngeben & Yakubu, 2023). But findings from the LOGIC project indicate that due to the joint effects of poor road conditions and limited accessibility, water tanker services are mediated by seasonality whereby only households proximal to transport arteries are served by tanker services during the rainy season. Those who remain cut off from tanker supplies during the rainy season are served by motor tricycle water vendors.

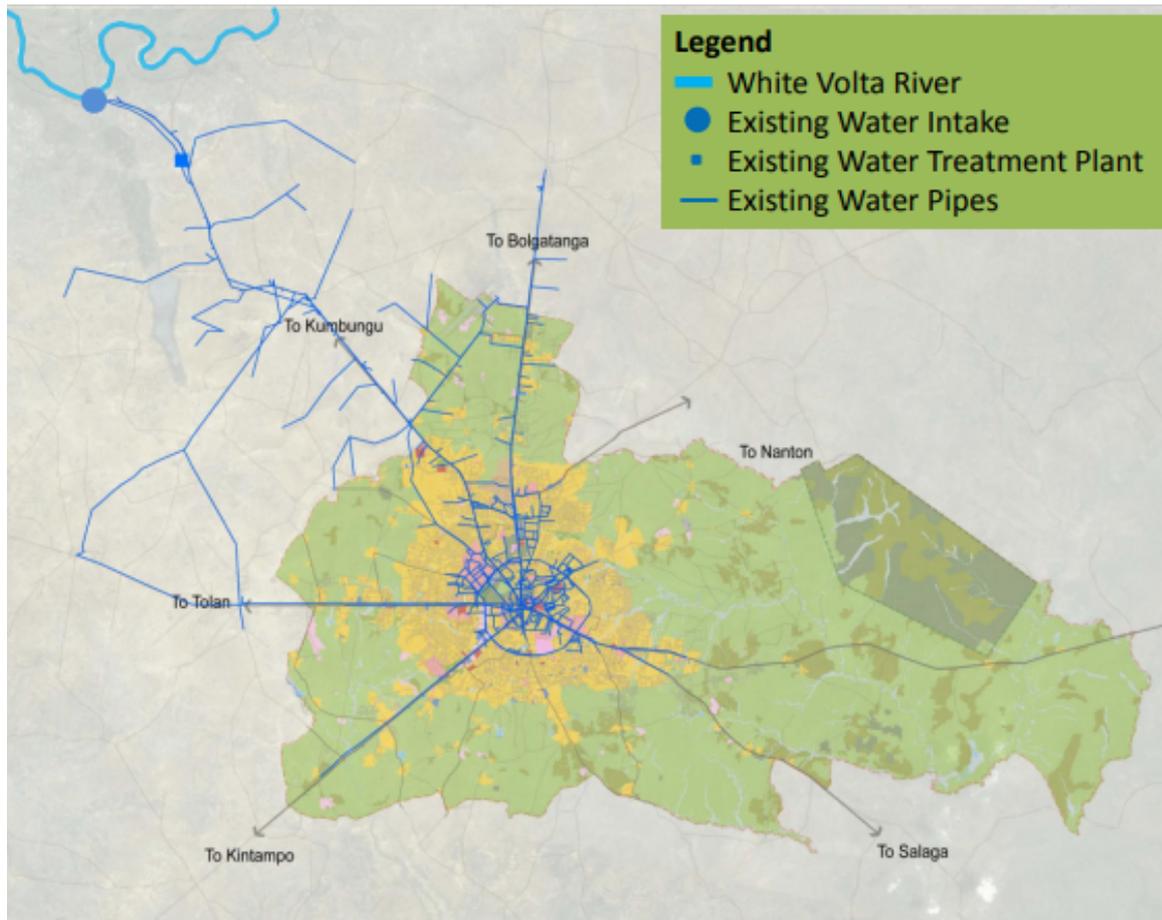


Figure 20: Existing water supply network in Tamale
SADA (2017)

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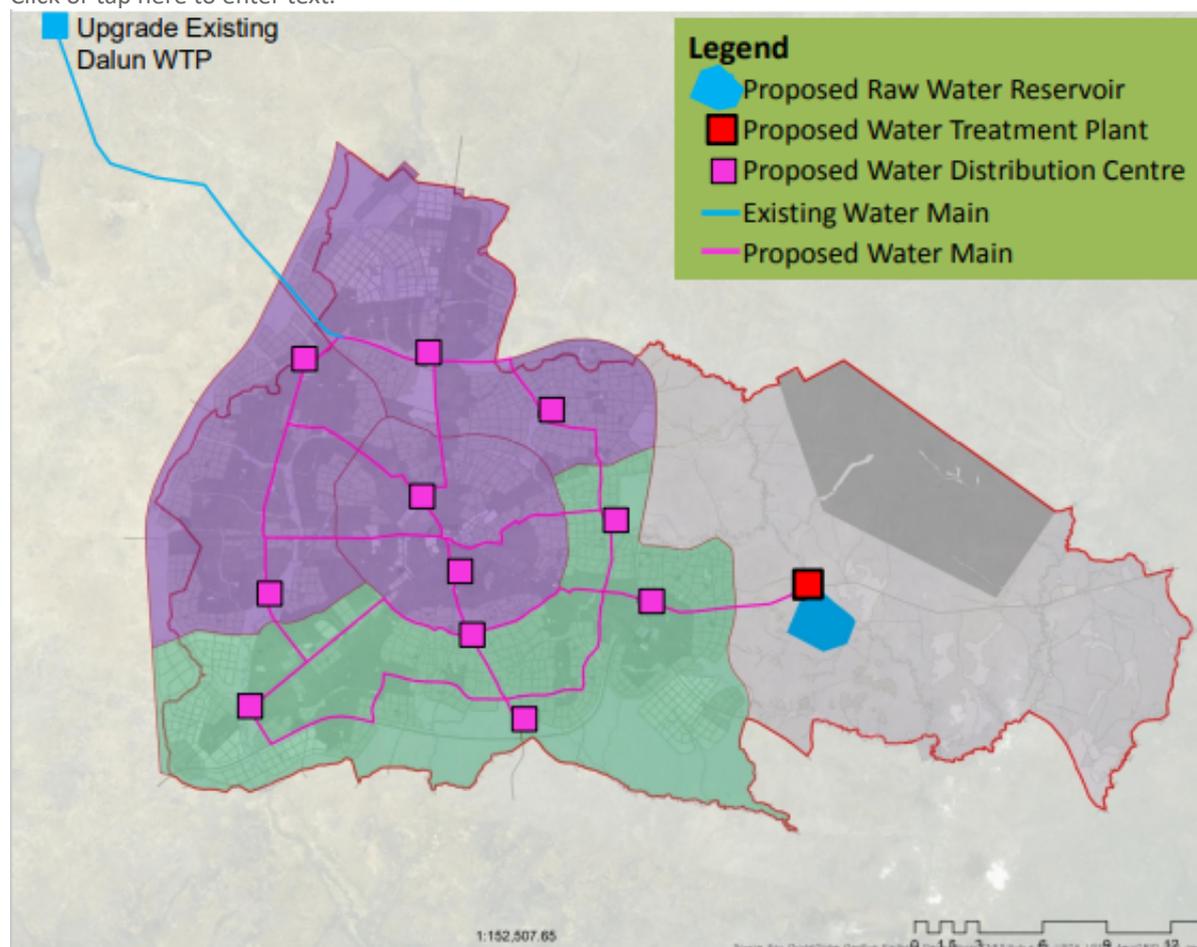


Figure 21: Proposed Tamale water supply improvement plan

SADA (2017)

To improve water supply to Tamale, the city authorities together with the Northern Development Authority (formerly SADA) have designed plans to augment the city's water supply infrastructure and service delivery as part of the implementation of the city's master plan which came into being in 2017 (see Fig. 21). The plan includes significant investment to expand the city's water supply system as follows: establishment of raw water reservoir and treatment plant in the eastern corridor of the city (the corridor through which the city's few ephemeral streams drain), establishment of eleven water distribution centres across the city and significant expansion of the water infrastructure grid (mains). Despite the comprehensive nature of this plan, funding proposals have remained unclear and there are indications of a complete shift of attention away from these plans due to increased politicisation of the NDA and frequent change of leadership at the institution. Indeed, some past leaders of the NDA were purported to have publicly described these proposals as mere fantasies which failed to connect readily with the daily struggles of city residents. It is said that leaders were busy framing fantasies up the skies whilst their clients were operating at the bottom.

3.4.2. Sanitation

In terms of sanitation, the population of Tamale has very low access. The proportion of the city's population with in-house toilet facilities is very low. Unlike access to piped water, between 2005/2006 and 2012/2013, Tamale suffered the highest decline (-8%) in terms of the population's access to safe toilet facility among the five metropolitan cities in Ghana (**The World Bank, 2015**). About 30% of households in the city had no toilet facility at home, leading over 40% of the city's population to depend on public toilet facilities (Figure 22). Only about 10% of the city's population that has access to safe toilet facilities fitted

with WCs (Fuseini & Kemp, 2016). Access to improved sanitation, specifically toilets, is one area where there are wide disparities between high-income and low-income households in Tamale. Whereas 70% of low-income households depend on public toilet facilities, only 4% of high-income households fall in that category (Yakubu et al., 2014). The sewage system is very limited in Tamale, and so home owners have to find their own way of provisioning in-house toilet facilities. So that those that cannot afford resort to the use of public toilets. But given that these public toilets are poorly maintained, many people resort to open defecation. In the 2019 Ghana Districts League Table (UNICEF-CDD Ghana, 2019), Tamale and the SMA were ranked the worst districts in the entire northern Ghana with respect to access to improved sanitation. Open defecation was a key factor that influencing the rating of the two districts. While some districts scored very high in open defecation free assessment, Tamale scored just 0.9 and SMA scored 2.5.

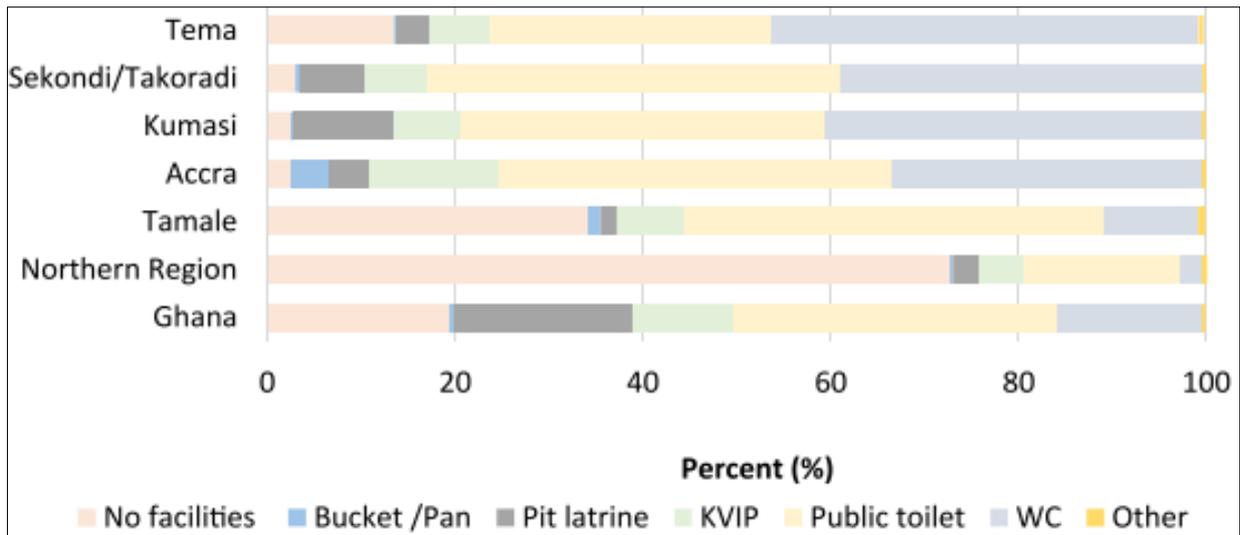


Figure 22: Access to toilet facilities in selected Ghanaian cities

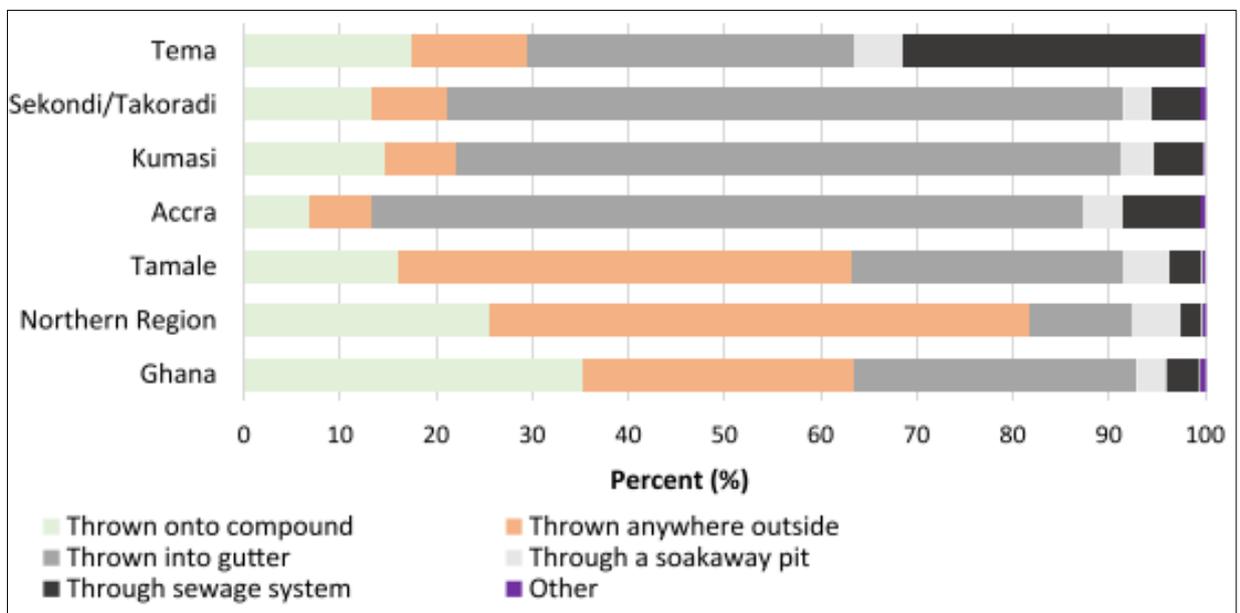


Figure 23: Popular modes of liquid waste disposal in selected Ghanaian cities

Source: Fuseini and Kemp (2016)

Just as in the other five metropolitan areas, high proportions of the city’s population dispose of both domestic liquid waste and solid waste in unsafe manner (Figure 23). It means that there is very low access to sanitation infrastructure and service, a situation SADA and the local government entities in Tamale

seeking to address in the 2017 Master Plan of Tamale (Savannah Accelerated Development Authority, 2017) (see Figs. 24 and 25). In 2022 the city authorities in collaboration with Catholic Relief Services launched a citywide waste management plan which is aimed at comprehensively addressing the problems of Water Sanitation and Hygiene (WASH) in the city. The plan sought to increase investment in sanitation as part of efforts towards achieving safe sanitation for all by the year 2030. The plan has placed considerable emphasis on dealing with the menace of open defecation which is practiced by almost a quarter of the city's population (<https://gna.org.gh/2022/06/tamale-metropolitan-assembly-launches-citywide-sanitation-plan/>).

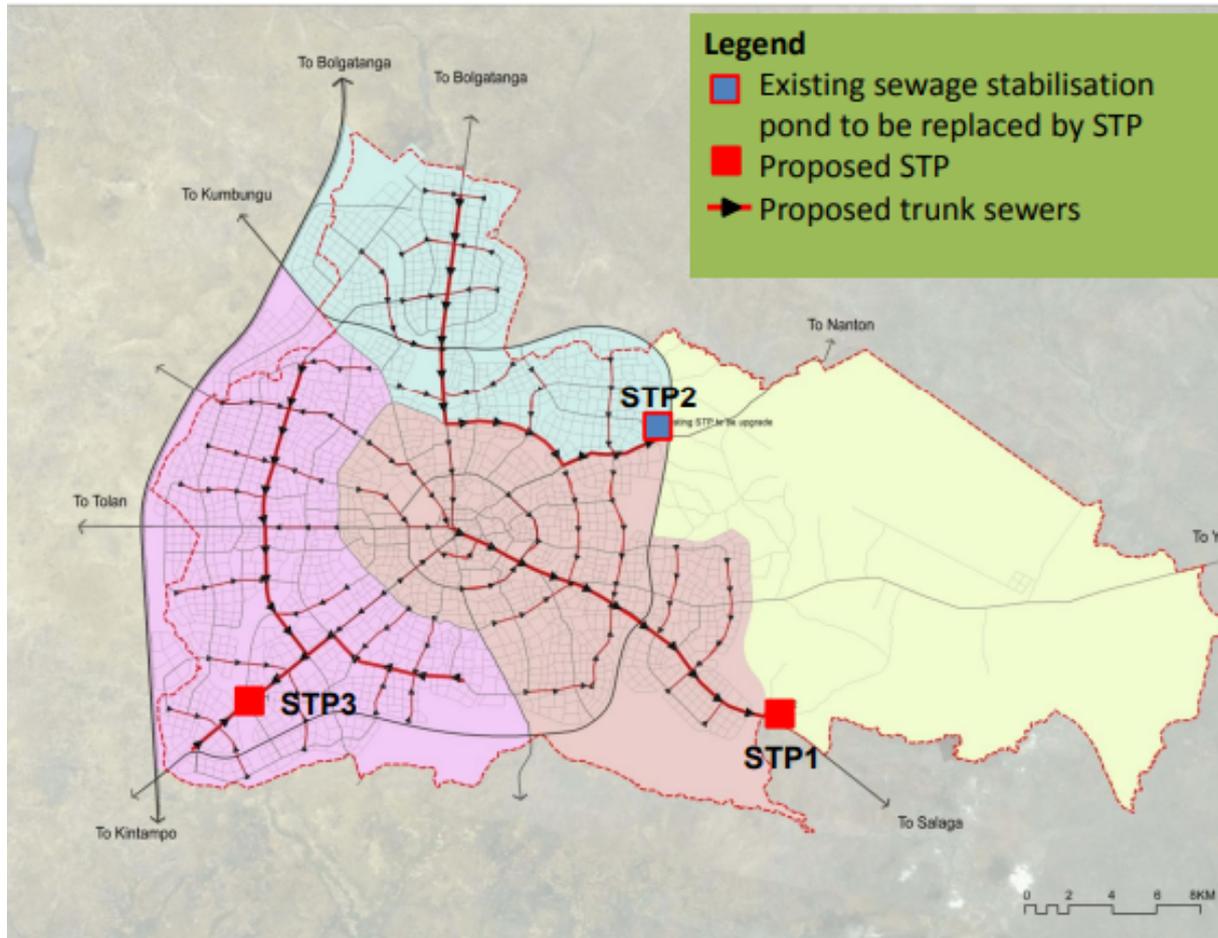


Figure 24: Proposed Tamale sewerage expansion plan

Source: SADA (2017)

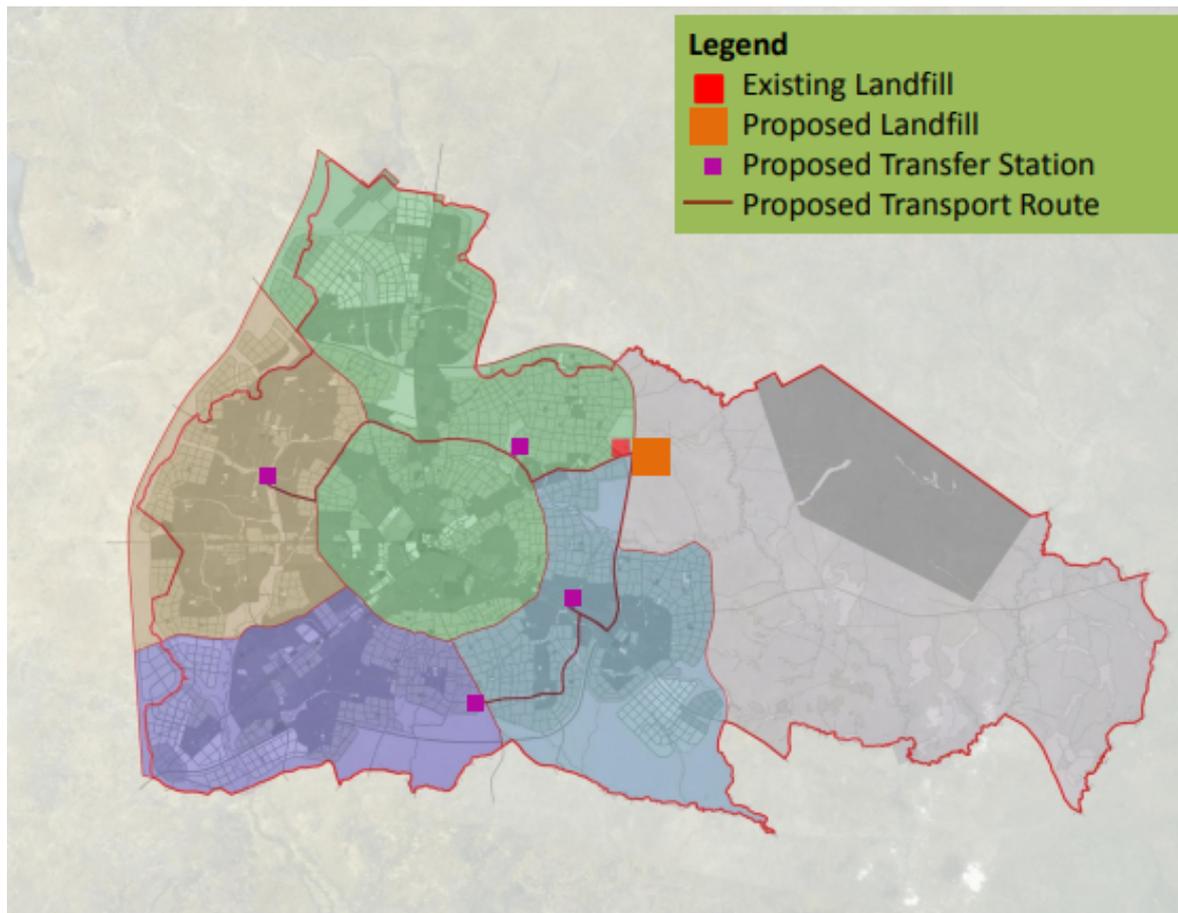


Figure 25: Proposed Tamale solid waste treatment plant (landfill)

Source: SADA (2017)

3.4.3. Electricity

Access to electricity in Tamale has grown consistently over the past three decades, from 59% (UN-Habitat, 2009) to 78% in 2010 (Fuseini & Kemp, 2016) and to over 82% presently (Savannah Accelerated Development Authority, 2017). The 82% access rate in Tamale compares favourably with the national access rate of about 80% (Fuseini & Kemp, 2016). However, it must be noted that the high access to electricity in Tamale does not mean stable supply. As in the case across Ghana, power outages and low voltage are common in Tamale. The situation may even be worse in the city than it is at the national level due to the heightened incidence of overloaded transformers getting broken, plunging neighbourhoods in darkness for days while the cash trapped service provider struggles to keep up with investments and maintenance. Indications are that rapid population growth in Tamale has outstripped the capacity of the network and the utility is making frantic efforts to reinforce the network. Another electricity supply challenge in Tamale is power theft. The service provider, Northern Electricity Distribution Company (NEDCo) of the Volta River Authority (VRA, national power production company) often complains of high rate of power theft in Tamale, up to 45% of monthly generated power¹⁹, causing the supplier to lose revenue and that threatens the sustainability of supply in the city. The scale of power theft in Tamale undercuts the efforts put in by the service provider to raise funds to reinforce the grid. Current ongoing research activities in Tamale indicates that partners, including bankers, get scared to put in investments in the sector if they look at the company's cash flow records. The incidence of power theft often pitches

¹⁹ Information given in a media interview by Chairman of NEDCo's Senior Staff Association in Tamale. Available at: <https://www.graphic.com.gh/news/general-news/ghana-news-nedco-loses-gh-8-4m-monthly-to-power-theft.html#:~:text=The%20Northern%20Electricity%20Department%20%28NED%29%20of%20the%20Volta.Staff%20Association%2C%20Mr.%20William%20Kwame%20Asare%2C%20has%20revealed.>

residents of the city against the field staff of NEDCo and the police when they embark on routine checks to detect and control power theft in the city. A recent incident that sparked public outrage in Tamale and across the country was a September 20, 2021 exercise to clampdown on power theft, but videos emerged on social media showing police brutalising members of households that were suspected of power theft. It was so appalling that the Corporate Communications and Customer Service at NEDCo had to issue a public apology. The Officer expressed regret over the incidence and added that "... steps are underway to drill down this apology through our revered chiefs and also, to reach those directly affected by the excesses to confer and sympathize with them appropriately."²⁰

In Tamale, electricity is used largely for lighting and cooling. Studies have shown that fuelwood and charcoal are the most popular energy sources for cooking in Tamale. The two account for a combined use of over 65% while LPG usage hovers around 29% (Meng et al., 2021). Anecdotal evidence from current research activities also suggests that high cost of electricity together with the risk of fire, electrocutions and other safety concerns are the main considerations which limit the use of electricity for cooking at the household level. Temperatures are generally high in Tamale, making energy demand for cooling relatively high all year around. In Tamale, temperatures can rise to dangerous levels between April and May (on the mid to high 40° range, and the lack of reliable energy for cooling predisposes people to health hazards (Codjoe et al., 2020; Kayaga et al., 2021). Due to the high temperatures, CSM (cerebrum spinal meningitis) outbreaks in Northern Ghana align with months of high climate.

Generally, the power grid in Tamale is limited in spatial spread, and like water, developers consider access to electricity as key to a meaningful life. Therefore, they pool together resources, connect and extend power to their properties from the nearest grid lines. This explains why access is very high for both water and electricity (Fuseini, 2016) in up market areas. However, plans are underway to expand power supply in Tamale to address demand gap as shown in Fig 26. Ongoing research activities revealed that a comprehensive network reinforcement plan has been developed for Tamale and discussions on financing the implementation plan have been held with donors and development partners. Although these engagements are still ongoing, there have been strong indications that the debt exchange programme of the government of Ghana is slowing progress since many of the development partners await outcomes of debt exchange agreements with their respective countries and organisations before they make further funding commitments.

²⁰ Excerpts from a public apology press release titled "For Immediate Release: NEDCo Regrets Events of September 20, 2021" and signed at Tama

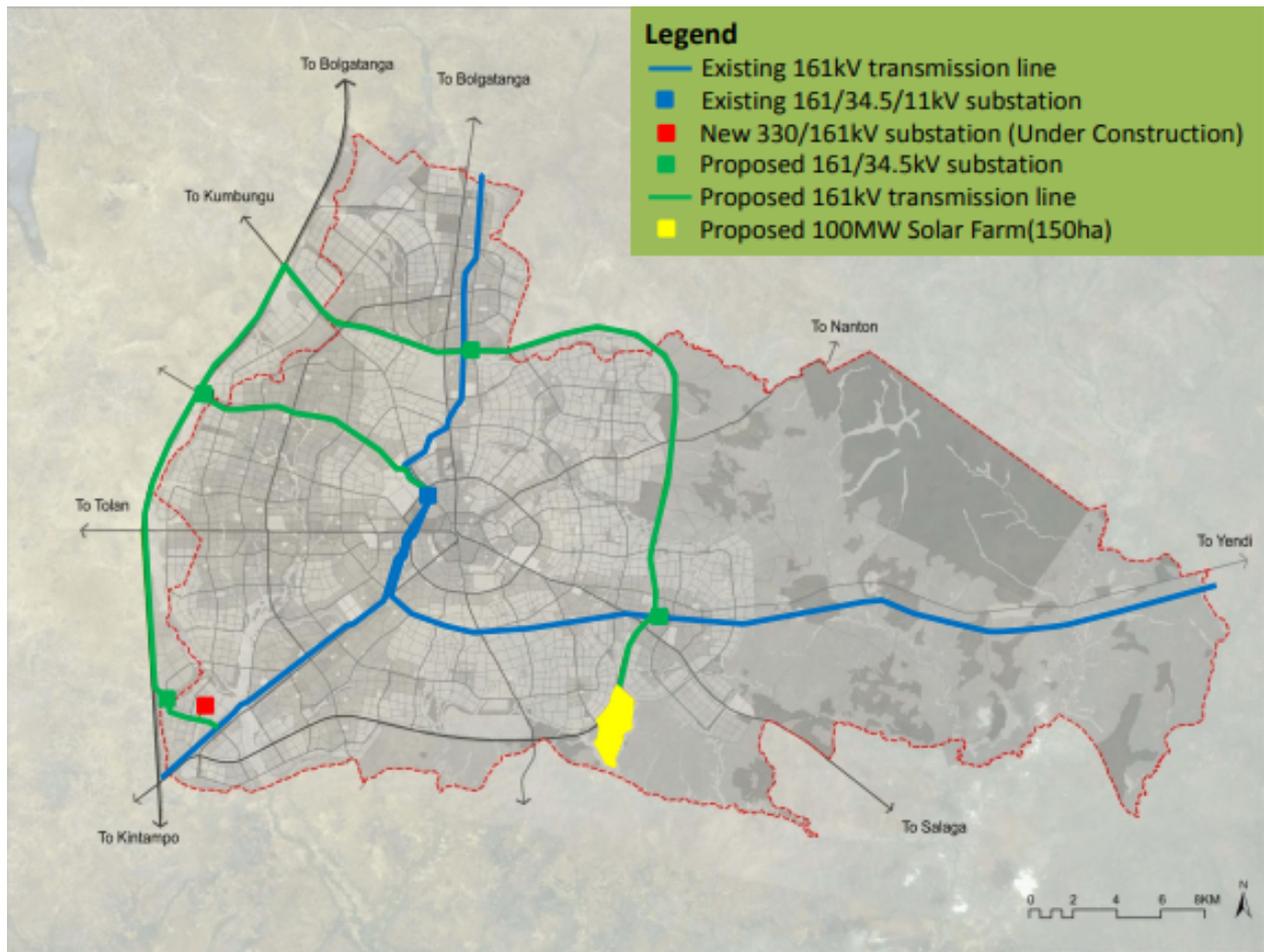


Figure 26: Proposed Tamale power expansion plan

Source: SADA (2017)

3.4.4. Road network

When the first plan for Tamale was drawn in 1969, the road network envisioned was based on a series of ring roads at varying radii. These ring roads were envisioned as boundaries for the city's spatial extent at different times. The rings were to be connected by well-laid collector roads to improve traffic flows and intercommunity mobility (Yakubu, 2021). The ring road was the idea recycled from the era of colonial administration when in 1926 Governor Guggisburg envisioned constructing an inner and outer of ring roads in Tamale (MacGaffey, 2006). However, just as the colonial vision of 1926 was not realised, the 1969 plan has not been implemented and the result is that the road network in Tamale is less developed compared to other metropolitan areas in Ghana. Fig. 27 shows road conditions in Tamale in the years 2001 and 2014. It is obvious from the figure that road network increases with increasing urban growth but the rate of improvement of the expanding road network lags far behind the rate of the city's expansion.

The rate of road development in Tamale is very slow. This has been a historical problem of lack of finances from the colonial period to date. Vast areas of the peri-urban communities have no clearly delineated road network; what exists is nothing more than footpaths. The local government authorities are fully aware of this problem and concede that most areas in the peri-urban parts of the city require 'opening', the basic and first step towards road development by grading the line to make it visible as a road only. The task of opening up a road and building it to acceptable standards with tarred surface and rains can take up to 20 years in Tamale (Fuseini & Kemp, 2016). A good proportion of the roads in the urban core remains untarred, in very

poor condition and on average, are very narrow, leading to an unfathomable traffic congestion relative to the size of Tamale. As far back in 2007, Tamale was second to Accra as a city in which high traffic congestion was deemed the main challenge facing commuting to work (**The World Bank, 2015**). The Government of Ghana is intervening to help improve connectivity in Tamale in order to ease out traffic congestion in the metropolis. In April 2019, the president of Ghana cut the sod for the construction of a 1.1km interchange in central Tamale. **The project is now opened to traffic and is said to have significantly reduced congestion in the Central Business District. The project also came with the construction of 10km of asphalted overlay around the Interchange, retrofitting drains and streets lighting systems, etc.** Funding for the project came from a \$2 billion loan deal between the Government of Ghana and Synohydro Company of China of which the former intends to invest \$1.5 billion of the loan sum to improve road infrastructure across Ghana.



Figure 27: Road condition in Tamale, 2001 and 2014

Source: Fuseini & Kemp (2016)

The road infrastructure situation is very poor in centrally located old neighbourhoods such as Wards A, C, D, E, F. These colonial era indigenous neighbourhoods suffered poor planning and investment during colonial era and have essentially remained in slum conditions (**MacGaffey, 2006; Yakubu et al., 2014**). Road density in these areas is very low while housing and population densities are very high. The few roads that are there, though mostly tarred, lack drains and are also very narrow. In short, accessibility in these areas is very poor, presenting logistical nightmare in times of emergency response.

Given that good connectivity in a city or town confers advantages in terms of promoting economic and social development through increased production, accumulation of capital as well as enhancement of individual lives (**Obeng-Odoom, 2015**), the poor road infrastructure is a potential drag on the city's local socio-economic development. **The World Bank (2015)** identifies poor road networks and urban transportation as contributing to low development in urban Ghana. And the situation in Tamale may be dire compared to other urban centres in the country.

3.5. Food and nutrition security

This section presents food and nutrition situational analysis of Tamale. The presentation is structured on the following themes, namely state of food insecurity in the city, groups that are vulnerable to food insecurity, governance responses to issues of food and nutrition security

3.5.1. Food and nutrition security situational overview in Tamale

The food system of Tamale is transforming in ways aligned to the pace of urbanisation currently underway. These related phenomena then have implications for the food security status of residents in the city; more households or people are becoming food insecure. Evidence from food systems research in Tamale attests to this dynamic. For example, findings from the Lund University led Swedish African Urban Agriculture Project suggests that of the over 1000 households sampled, 47% was food secure while the remaining proportion was mildly to severely food insecure (Ayerakwa et al., 2020). Another study, as part of the larger Federal Ministry of Education and Research (BMBF) of Germany funded project titled UrbanFood^{Plus} which produced several PhD and Master theses, found that 36% of urban households in Tamale were food insecure compared to their peri-urban (9%) and rural (10%) counterparts (Chagomoka, 2015). The same study found that urban households in Tamale had more diverse diets than their peri-urban and rural counterparts. However, prevalence of underweight was higher among under-5 children in urban Tamale compared to those in the peri-urban and rural continuum. Thus, food security in Tamale has a spatial character along the urban-rural continuum.

Seasonality is also a feature of food security in Tamale, with a lean season occurring between June-August (Chagomoka, 2015). The effects of seasonality in the food system of Tamale is that it amplifies food insecurity by limiting physical availability of food while also forcing an increase in prices which in turn drives access challenges. While imports is a way of easing the constraints imposed by seasonality, over-reliance on imports also exposes the city's food system to shocks and imbalances. For example, most of the tomatoes and onions consumed in Tamale come from Burkina Faso and Niger respectively. Therefore, the recent political crises in those countries affected the availability of those commodities in Tamale and Ghana. Also, the restrictions imposed on movement at the peak of the COVID-19 pandemic caused disruptions in the supply of some food items from southern Ghana. However, the food system of Tamale shows some resilience in terms of staple food items such as cereals, legumes and yams. This is because most of these are supplied to Tamale within the city's city region food system catchment area, i.e. locally produced with short supply chains (Karg, 2016).

Findings from the LOGIC project has added another dimension to how the food system of Tamale manifest and functions. This is appreciated from infrastructure angle vis-à-vis energy, water, sanitation, transportation and the retail environment. For example, lack of access to energy and water creates trade-offs between spending scarce resources on energy and water or on food. Also, struggle for water by women in some neighbourhoods in Tamale compromises the affected women's ability to prepare food. The lack of appropriate supporting infrastructure also affects the quality of fresh food products sold in Tamale because consumers have subjective views that fresh products easily get contaminated. The positive side is that many of the fresh produce (vegetables) are produced within the city so that these do not have to be transported over long distances. However, consumers have concerns about the quality of water used in the production process. In our interviews for the LOGIC, officials at regulatory agencies bemoaned the practice of using untreated wastewater for vegetable production and the difficulty they faced in enforcing the laws to safeguard consumer health. During fieldwork, we witnessed the arrest of a producer who was using wastewater to produce vegetables, however, the person was seen doing business on his farm a few days after his arrest. Also in this category is fresh meat that is transported in tricycles from the slaughterhouse to the distribution points dotted around the city.

3.5.2. State of nutrition transition and nutritional deficiencies

There is a demographic (generational) dimension to food security situation and nutritional transition currently underway in Tamale. Previous research in Tamale revealed that the elderly are impacted negatively by the nutrition transition underway in the city. They feel that their subjective wellbeing with respect to food is getting worse because they no longer get to eat their preferred foods (Fuseini, 2023). This is the direct result of a dietary transition away from the more traditional foods diet to a variety of processed and foreign foods and diet. This impacts on the elderly's food utilisation and therefore their food security because Noack and Pouw (2015, p. 172) remind us that "food and nutrition security is only achieved when 'sufficient culturally adapted food' is available and accessible to individuals, households or communities". By not getting their preferred foods, the elderly's lives are made worst off. Related to this problem is declining food and nutritional literacy in terms of the knowledge and skills needed to prepare traditional food. As described by Fuseini (2022, 2023), younger women have lost the knowledge and skills needed to prepare locally and traditionally desirable and nutritious foods and instead preferring and specialising in the preparation of convenient foods that do not necessarily have adequate micronutrients to support a healthy life.

At the household level, households respond to food insecurity by diversifying their livelihood activities and activating social capital in the form of food transfers especially between rural and urban areas, engage in migrant farming at distant farming communities, skipping meals, buying food on credit, borrowing, consuming seed stock and restricting adult intake of food in favour of children's (Ayerakwa, 2018; Chagomoka et al., 2016; Kuwornu et al., 2018).

3.5.3. Vulnerable groups

Drawing from previous studies in Tamale, the vulnerable groups in the city's food system are households, women, children and the elderly. Women are vulnerable because they interact the most with the food system, including preparation of food with limited supporting infrastructure (e.g. water and clean energy). Due to water access challenges, women in some neighbourhoods in Tamale spend long hours in search of water for domestic use, and that leads to them losing precious hours that could be used to better their living standards. Evidence from the LOGIC project shows that fuelwood and charcoal are the predominant energy sources for households in Tamale. This means that by being at the forefront of food preparation, women are far more exposed to smoke and heat than anybody in the household. Some respondents in the LOGIC qualitative work complained about suffering from high blood pressure and hypertension which they said resulted from the heat from using fuelwood and charcoal to cook. It is common knowledge that the use of unclean energy for cooking, of which fuelwood and charcoal represent, lowers quality of life and thus expose people to health risks (UNDP, 2018). Studies in Tamale also confirmed that extreme weather conditions, including heat, together with inadequate infrastructure and housing conditions expose households and communities in Tamale to health risks (Codjoe et al., 2020). The vulnerability of the elderly in the food system is embedded in the transforming food system whereby this group of citizens struggle to adjust to the unfolding dietary transition as explained in Section 1.6.2 above.

The vulnerability of children relates to the impact of the dietary transition on their lives in terms of exposure to and consumption of processed foods, foods with low micronutrients to support healthy living. Households' vulnerability in the food system stems from seasonal fluctuations in availability and associated price hikes of food items.

3.6. Culture of the City and relationship with its food system

Culturally, demography is a big factor in how people engage with the food system of Tamale. There is an aspect of gender by which women play leading roles in food purchase and food preparation. Men are more likely to be the producers or providers of foodstuff. Another demographic consideration is what has been presented in Section 1.6.2, about the elderly's food and nutritional experiences. Tamale is inhabited largely by the Dagbamba (Dagomba) people (over 80%), and this group of people has a rich culture with food. There are certain foods that are (used to be) reserved for the elderly, for specific occasions or certain times of the year. For example, hen (chicken) is not ordinarily killed for food among the Dagbamba people. Hens and cocks are used for socio-cultural practices such as during marriage, festivals, when receiving an important visitor. Because of this guinea fowls, goats, sheep and cattle are the popular sources of animal protein among the Dagbamba. Things are changing fast though, with the younger generation losing the traditional and cultural norms associated with food. For example, the food transformation underway and is dominated by imported food has disrupted some of the cultural images of food as well as the ordered relationship between people and food. For example, the transforming food system has broken cultural norms surrounding eating of meat generally and who eats what type of meat.

In a typical Dagbamba culture, young people would not be seen eating meat openly outside of the home, and at home they dared not eat the drumstick of chicken. However, the increasing cosmopolitan character of Tamale has led to the blurring of the lines in terms of who eats what meat. Members of the older generation blame the problems of contemporary times to the breakdown of the cultural relationship with food (Fuseini, 2023). In the midst of all of this, a popular food culture, in the form of guinea fowl kebab (and kebab generally), has emerged in Tamale which further disrupts the traditional food cultures while establishing another which is depoliticised along demographic and cultural norms. Results from the LOGIC project has shown that kebab joints are the most spatially integrated food outlet in Tamale as joints are dotted across the city along the major roads and neighbours.

Another interesting cultural twist is the interaction of food and culture, seen in the meat sector. According to Dagbon culture, occupations or professions are lineage based. This probably follows traditional division of labour which has been handed down from generations upon generations. Therefore, except with "exotic" animals like pigs (pork is not very popular in Tamale) and chicken, one has to come from a lineage of butchers before they can engage in butchery business. This sometimes moves butchery from a mere business to the metaphysical realm of connection between the living and the dead. This has both positive and negative implications. On the one hand, thinking of butchery as a lineage occupation has the tendency to promote self-regulation on the part of the butcher. If this holds, it will be assumed that butchers will operate within the "natural laws" of their profession. On the other hand, such privilege given to a few to be butchers can easily lead to growth of a powerful few who can take the city's food system to ransom at will, especially in the meat sector.

4. AfriFOODlinks City baseline information

4.1. Food systems stakeholders

Multiple actors and stakeholders are involved in the food systems of Tamale. The stakeholders can be grouped as follows.

- Producers: farmers including animal rearing and poultry farming and processors
- Marketers; traders, retailers, aggregators, transporters, distributors, etc.
- Consumers: households, individuals, institutions, etc.
- Service providers: Inputs sellers, tractor operators, harvesters, etc
- Local governments: TaMA and SMA
- Regional Coordinating Council (RCC)
- Regulatory bodies: EPA, FDA, GTA, local government, etc.
- NGOs: Urbanet, RUAF, etc.
- Land sector agencies: Land Use and Spatial Planning Authority (LUSPA), Lands Commission, Survey Department
- The media
- Research institutions: Universities, Savanna Agricultural Research Institute (SARI)
- Regional development bodies: Northern Development Authority (NDA)

The above list is not exhaustive of the stakeholders in the food system of Tamale. These myriad of stakeholders are relevant in their individual capacity but linked in the performance of their everyday duties, even if they unaware of what the other is doing next door. For the interlinked and complementary roles they play, the stakeholders need to collaborate and coordinate their activities so as to execute a comprehensive governance of the city's food system. According to Bellwood-Howard et al. (2015), collaboration among the various stakeholders in the food system of Tamale is bearing fruits. For example, various NGOs provide training to support sustainable production practices such as training on organic production, (e.g. neem pesticide and compost making). These training programmes have been delivered by ActionAid in collaboration with UDS. With funding from the Business Sector Advocacy Challenge (BUSAC), URBANET, has delivered training in conflict management training to help farmers deal with land disputes and other physical resources.

4.2. Policy and regulatory environment

4.2.1. Food related governance (policies, processes, structures, capacities) and Sharing City Food System

At the city scale, the response to food security issues in Tamale is symptomatic of what pertains at the national level. Tamale is a signatory to the Milan Urban Food Policy Pact (MUFPP). The city's joining of the policy pact was influenced by the advocacy led by RUAf. For years, RUAf has partnered with local stakeholders in Tamale to grow capacity of urban and peri-urban producers to produce all year around and to produce safe food, especially vegetables. Agricultural and irrigation engineers from the Tamale based University for Development Studies have been integral to RUAf's work in Tamale. The formation of Urban Agriculture Network (Urbanet) as a multi-stakeholder platform for research and advocacy laid the foundation for engagement with the city authorities in matters of food security, even though the focus has always been on urban and peri-urban agriculture. It was through these engagements that the local government was encouraged to sign up to the MUFPP. Led by RUAf, a multi-stakeholder policy dialogue has been initiated in Tamale with a wide range of stakeholders including those from academic and research institutions, non-governmental organisation, various relevant decentralised departments of the local government units, advocacy groups, urban farmers, etc. to chart a course for better governance of the food system of Tamale (Bellwood-Howard et al., 2015; Imogen Bellwood-Howard et al., 2018). For the start, the focus was on integrating urban agriculture issues in urban planning and city governance, but that has since changed to a broader vision of mainstreaming food system issues into the city's governance processes. For example, our engagement with the local government authorities and traders during the LOGIC interviews has revealed that the two local government units in Tamale have been implementing the establishment of retail markets for specific foods. This started with a livestock market that is now very popular with buyers and sellers. At the time that the livestock market was being established, a vegetable market was also established but traders refused to go there as they feared that they would lose their customer base if they moved to the new site. Presently, two yam markets are at various stages of being established, one each by the TaMA and the SMA. The two assemblies have also upped their efforts to regulate their fresh meat value chain by renovating the aging infrastructure and constructing what they call slaughter pads, where butchers in faraway neighbourhoods are allowed and supervised to slaughter animals outside of the main abattoir. The SMA has also embarked on the development of three local markets. Although this is driven primarily by increasing their internal revenue portfolio, it is intrinsically linked to improving the character and functioning of the city's food system and food environment.

4.3. Food Production environment

The worsening food security in Tamale may partly be explained from production side of the equation. The food system of the city had been largely localised over the decades. This has seen rapid changes in recent years. The rapid expansion of the city has reduced land available for food production in and around the city (Ayerakwa, 2017; Fuseini, 2014; Gyasi et al., 2014; Kuusaana & Eledi, 2015; Nchanji et al., 2017). Even with the decreasing land availability for farming in and around the city, Karg (2016) found that during the peak season about 60% of the major crops in the food system of Tamale were supplied from within the urban and inner peri-urban radius (within less than 10 km). For example, a 2014 study found that about 70% of vegetables eaten in Tamale (local vegetables) were produced within the urban and peri-urban areas of the city (Gyasi et al., 2014). As a result, Karg (2016) characterises the food system of Tamale as 'traditional' in the sense that it was dominated by local staples, food relatively unprocessed, it has short/local supply chains, production is dominated by small-scale producers for subsistence. The author broadly categorised urban farming practices in Tamale into two; open space production of high-valued produce on undeveloped land and, second, backyard gardening. The production of food crops in Tamale vary by season, with rice and maize covering more than 60% of the cultivated area during the rainy season whilst traditional leafy vegetables take up over 90% of the cultivated area in the dry season (Karg et al., 2016; Karg, 2016). While a direct relationship between own production and household food security status could not be established, Ayerakwa et al. (2020) found that households that engaged in urban and/or rural food production tended to have better food security outcomes than those that did not.

Food production in the urban and peri-urban areas of Tamale plays an important role in the city's food systems. For example, both Karg (2016) and Chagatoma (2015) found that except for tomatoes and onions, Tamale is almost self-sufficient in terms of production of leafy vegetables that are commonly consumed in the city. Production along the peri-urban urban gradient also feeds the city with staple foods such that households along the peri-urban gradient are near self-sufficient with the staple foods like maize and rice. Extending the analysis to the regional scale further illustrates the significance of production in the stability and resilience of the food system of Tamale. When the city regions food systems analytical framework is applied, Karg (2016) concludes that the food system of Tamale is robust, capable of withstanding international shocks because a greater share of the food available in the city comes from within 100 km radius. Indeed, cereals from Tamale are also exported to some parts of southern Ghana across the two seasons. However, important components of the city's food system still depend on imports. For example, tomatoes, onions, fish, rice, and chicken are largely imported. For example, about 70 to 90% of rice in Tamale are all imported into the city from outside the country (Karg, 2016). The reliance on imported food exposes the city's food system to sub-regional (West Africa, Africa) and international shocks.

In terms of livestock, Tamale is fed by its peri-urban areas and the outer rural communities. Like vegetables, the city is almost self-sufficient in cattle and small ruminants through supply along the rural peri-urban-urban linkages (Karg et al., 2016). The livestock market in the southern part of Tamale epitomises the vibrancy of the livestock subsector in the city's food system. In short, food production plays an important role in the food system of Tamale. That notwithstanding, imported food is still very important to the functionality and stability of the city's food system. Therefore, it is essential for the diversity of the city's food system to be maintained and nurtured to enhance its sustainability and resilience, so that should there be local shocks (e.g. climate crisis) the international food networks could be relied upon, and vice versa.

However, the stability and sustainability of the city's food system may primarily depend on the productive assets and resources. While the production systems in the urban, peri-urban and rural areas of the city remain productive, factors of production are increasingly become a challenge (Gyasi et al., 2014; Nchanji, 2018). Due to rapid urbanisation of the city, land is becoming very scarce with urban and peri-urban farmers relying on insecure tenurial arrangements. Historically, agriculture in the city has been rain-fed due to lack of irrigation systems. With growing demand for food, especially vegetables, irrigation systems ought to be developed to support all-year-round production. Currently, urban and peri-urban farmers who try to produce all-year-round are limited by the factor of water. That is why some of them use untreated wastewater in their production process, but as presented in Section 2.1.1, that is also the source of concern about food safety. Aside the socio-cultural limitations, climate variability and environmental change are threatening the production systems in Tamale (Gyasi et al., 2014).

4.4. Urban food environment

4.4.1. Food diversity and staple foods

The food system of Tamale has become more diverse and complex in the light of increased urbanisation and the attendant structural and sociocultural changes. Consequently, a typical household food basket has a wide range of local, traditional and imported food. The main staple foods in Tamale include cereals (maize, rice, millet and sorghum) and tubers (mainly yam and cassava with sweet potato increasing in importance), and these are eaten with leafy traditional vegetables such as ayoyo, aleefu, bra, okra and baobab leaves. Cereals are the main sources of calories in Tamale as these are used to make staple foods such as tuo zaafi and porridge. Maize and rice are the most important cereals for household consumption in the city, followed by millet and sorghum. In recent years, consumption of rice has increased significantly. A greater proportion of rice eaten in the city is imported from Thailand and other Asian countries. Tubers such as yam and cassava are another important staple food category in Tamale. The majority of yam comes from the Yendi, in the eastern part of the city (Karg et al., 2016) but cassava is supplied in almost all surrounding communities. It must be noted that staples like cereals, roots and tubers have stable supply all year round.

The diversity of the food system of Tamale increases with an increasing integration of popular foods in southern and those of Tamale. In response to improved long distance road transportation, popular foods from the middle belt are brought to Tamale regularly such that non-northern foods like fresh cassava, cocoyam, plantain are physically accessible in the food system of Tamale. Many southern leafy vegetables and fruits (pawpaw, avocado, coconut, pineapple, etc). These are available all year round just as in the south, except that prices go high in the lean season. The diversified food system caters to the needs of the increasingly cosmopolitan population in Tamale. Given the perishable nature of most of the foodstuff coming from southern Ghana or the middle belt coupled with the lack of refrigerated transport system, the traders have had to devise a strategy to transport the foodstuff to Tamale with minimal losses. This strategy involves transporting the food items overnight when the temperature is cool.

With respect to protein foods, animal protein is very popular, coming from small ruminants (goat and sheep) and cattle. These animals are sourced largely within Tamale and surrounding peri-urban and rural areas. Local chicken (predominantly, guinea fowl) is also sourced from within the city and its catchment area. After a slow growth in popularity²¹, the industrial chicken that is largely imported, has seen rapid growth in its acceptance. The diversity of the food system is also reflected in the adoption of certain foodways and food culture from the middle East and West Africa. In Tamale. For example, certain food items are believed to have therapeutic ability. For example, blackseed and blackseed oil, from Saudi Arabia is believed to treat many disease, so people are increasingly consuming the product for food and medicine. Similarly, there is an emergence of consumption of green tea, "ataya", which is imported from the Sahelian parts of West Africa. This creates a new foodway among mostly males.

Very few studies have been done in Tamale to do a technical measurement of food diversity. Chamogoka (2015) attempted this, however, his analysis was limited to women instead of the entire population. Using Women's dietary diversity score (WDDS) as a proxy, the author found that dietary diversity in Tamale was relatively high in the urban core areas but lower in the along the peri-urban-rural continuum. This suggests that dietary diversity in Tamale has a spatial dimension.

4.4.2. Food safety

Food safety in Tamale could be viewed from three angles; production, processing/distribution, and consumption. With regard to food safety from the perspective of production, the main concern is about resources used in urban agriculture. Given the water supply and sanitation challenges in the city and wider peri urban areas, researchers have expressed concerns about food safety especially about contamination of vegetables with untreated irrigation and/or unregulated agro-chemical use (Cobbinah et al., 2018; Nchanji et al., 2017). A recent study which assessed the microbial quality of locally processed fresh fruit juice in Tamale revealed very high prevalence of E. coli and Salmonella spp, with microbial loads significantly above the acceptable limits (Jimma et al., 2022).

On the part of processing and distribution, a major concern for food safety is in the meat sector. The main abattoir in Tamale and many of the meat distribution outlets are not equipped with the right infrastructure and facilities. As a result, the meat is exposed to the vagaries of the weather and thus stands high risks of being contaminated. For example, meat from the abattoir is transported in open tricycles as there is no decent cold vehicle to transport the meat in a secured and hygienic manner. Poor sanitation is also a food safety concern, especially outdoor food vending spaces.

On the side of regulation to ensure food safety, three bodies are involved. The first is Food and Drugs Authority (FDA) which monitors the food environment to ensure that only wholesome food products are sold to the public. According to an official of the FDA, their monitoring involves two strategies or approaches. The first is by sentinel sites where the Authority does regular monitoring of food products. The second approach involves random visits to markets and other food vending sites to enforce compliance with regulatory standards. A related regulation is done by the Ghana Tourism Authority (GTA) in respect of

²¹ When the industrial chicken first made its way into Tamale in the early to mid-2000s, it was shunned by the predominantly Muslim population in Tamale. The rejection was influenced by religious consideration as people doubted that it was halaal (approved to be eaten by Muslims). Therefore, it was a given a derogatory name as

licensing and supervision of restaurants and other cooked food vendors. The Environmental Protection Agency (EPA) also regulates the city's food system from the production side. The EPA monitors the use of untreated and contaminated wastewater in urban and peri-urban agriculture. Even though this is difficult to enforce, the EPA is doing its best to influence farmers to desist from using contaminated resources in food production. The third institution that plays a role in ensuring food safety is the environmental health department of the assemblies. The environmental health department stations an officer at the abattoir to monitor the health of livestock before the animals are killed for consumption. The objective is to minimise the risk of zoonotic diseases being transmitted from animals to humans.

It must however be noted that, despite the plethora of regulatory institutions in the food systems of Tamale, concerns about food safety remain. Insights from ongoing food systems research in Tamale reveal that for many factors ranging from low capacity, high informality, politicisation and political interference, and abuse of power by powerful individuals and gatekeepers, many of the regulatory bodies do not perform to their optimal best. For example, apart from many of the regulatory bodies lacking adequate and state of the art logistics to do their job, they are also confronted with interference in the performance of their duties. Some of these interference goes as far as spiritual threats of disease or even death. Some of the serious threats come in the fresh meat sector. Sometimes, the designated public health official from the assembly is powerless when powerful individuals push to act contrary to the by-laws governing the processing and distribution of fresh meat. The high levels of informality in the city's food system also makes it difficult for regulation. Bellwood-Howard et al. (2018, p. 295) note that while many of the informal food outlets may pay tax to market managers and the local government authorities, "...there is very little prospects of quality regulation." This leaves a gap for community radio programming to fill by way of phone in programmes that allow active conversations around food safety issues, as is done on many other governance issues in the city (Nchanji and Bellwood-Howard 2018).

4.4.3. Food systems infrastructure

The food system infrastructure in Tamale is basic and rudimentary. The city's food system is largely traditional in character. This means that production, processing, transportation, and distribution are still pass through less sophisticated processes and tools. Therefore, the city's food system is dominated by a hierarchical market system. At the apex of the hierarchy are two central markets; the Old Market and the Aboabo Market. The Old Market is the oldest market in Tamale, and the Aboabo Market is an offshoot when there was the need to expand and decongest the Old Market. The Aboabo Market started as space for wholesale of foodstuff. Today, the Aboabo Market is not just for wholesale purpose but hosts a diverse range of food products which are traded at different scales. The Old Market also holds diverse products. There are many satellite markets dotted around the city as well as organic food vending sites most of which sell vegetables and groceries in smaller quantities. The two assemblies in Tamale are in the process of developing specific commodity markets to deal with congestion in the markets, as well as to stimulate the local economy by attracting more sellers and traders from near and far. This follows a successful experimentation of the livestock market which is now a thriving Thursday market at the southern edge of the city.

Infrastructure make up of markets in Tamale is that of simple stalls served by poorly maintained roads, poor sanitation, inadequate water and electricity supply. On top of these, the markets are congested, making movement difficult while making the risk of fire disaster higher. The markets are maintained by the assemblies; however, the traders do not feel that the assemblies are managing the markets well. Due to the poor nature of infrastructure at the markets, the assemblies continuously renovate and expand the market infrastructure. However, these redevelopment projects remain contentious as the local authorities are often accused of using such redevelopment for rent seeking to the disadvantage of the traders. One of the accusations is that, on completion the stalls in the new development are allocated to party supporters. What makes market redevelopment more contentious is that, most of the structures existing the markets were built by individual traders. Yet, when redevelopment takes place, it often displaces people who had been trading in the market for generations. Redevelopment is also associated with reduced store size, but on the other hand, the assemblies or the developers charge very high rates for rent. And the terms are that, existing traders who are unable to pay the high rent will automatically lose their stalls to anybody who is

interested and can pay. Yet, many of these redevelopment projects are funded by public funds, directly or indirectly. Therefore, to charge commercial rates that are seen as too high is unacceptable to the traders. As a result, the traders often embark on demonstration in opposition to planned market redevelopment.

Transport infrastructure at markets in Tamale also leave much to be desired. There are limited spaces in the market for free movement of vehicles. Therefore, the commonest modes of transport in the markets are man-drawn trolley-like trucks, tricycles and by head portering. Big trucks bring foodstuff from the hinterlands through a network of traders, aggregators, and transport middlemen. This chain of actors work in a coordinated way to ensure a steady flow of food from the hinterlands into the markets in Tamale. It is worth noting that, there are hardly specialised means of transport for specific food products. In other words, fresh vegetables and fruits are transported much the same way as cereals, tubers and legumes, except that most of the vegetables traded in Tamale is produced within the urban and peri-urban areas. Therefore, it is easy to transport these with smaller means of transport which is by tricycles.

Butcheries are a key component of the Tamale food system, and these too are hierarchically ordered with the main abattoir, about six medium-size butcheries followed by numerous meat salespoints dotted around the city. Like the market system, infrastructure supporting the meat value chain is inadequate and sometimes inappropriate. The inadequacy relates to the limited processing space, storage space, and transportation facilities. The inappropriateness of the meat infrastructure relates to the condition of the physical structures used to trade meat, the mode of transportation (in open tricycles) (see Fig 28) and the general lack of refrigeration to store meat to prolong its shelf life while preserving its quality. Juxtaposing the dire state of meat infrastructure with prevailing environmental conditions (high temperatures all year round and dusty harmattan conditions) in the city is what gives reason for people to be concerned about the wholesomeness of the meat, as discussed in Section 2.11. The challenge facing meat transportation is the same as transporting fresh vegetables as the two share a common trait of being delicate and having short shelf life. In both instances, wholesomeness of the products is also compromised with exposure to bodily contacts. For traditional leafy vegetables, people literally sit on them in tricycles.



Figure 28: Carcass in transit from Abattoir, Tamale

Credit: LOGIC Project

4.4.4. City and regional scale development challenges and current responses

The development challenges of Tamale resonate with the broader development challenges within the Northern Savannah Ecological Zone (NSEZ). The NSEZ was created to accelerate the development of Northern Ghana in order to address the historical development disparities between Southern and Northern Ghana. The Northern Development Authority (NDA) was established by an act of parliament, Act 963 of 2017, as a body corporate responsible for accelerating development within the NSEZ. The NDA is a successor name to the Savannah Accelerated Development Authority (SADA) which was the inception name of the Authority following its establishment under the previous government by an act of parliament, Act 805 of 2010. Although there has been politicking around the Authority, as evident in the change of name, the two political parties that have ruled Ghana in turns since 1992 both agree on the need for a body to accelerate development in Northern Ghana so that the latter would 'catch up' with the South. Funds for the Authority are to be mobilised from different sources but just as the MMDAs, central government transfers as approved annually by parliament is key. However, unlike the MMDAs, the Authority is given the power to mobilise finances through borrowing or entering into agreements with local and international financiers or development partners with state guarantees. The Act establishing the Authority makes it possible for the Ministry of Finance to guarantee loans for the Authority where the latter lacks the leverage to secure such loans. In effect therefore, the Authority may be able to mobilise more funds to enable it to implement its development programmes.

Key development issues within the NSEZ include poverty and income disparity, food insecurity, unemployment and low productivity, low educational attainment and livelihoods opportunities, deficient infrastructure and social services/amenities, climate variability in drought and excessive rains, poor connectivity (transport), among others. Improved regional connectivity (by road, air, river, rail) is needed to open up and connect the NSEZ to southern Ghana and the ECOWAS region generally. Providing appropriate and adequate infrastructure would also improve people's access to basic services such as water, irrigation facilities, electricity, and improved sanitation, as evidence exists to show a correlation between proximity to good roads and incidence of poverty. For example, in areas in southern Ghana where levels of poverty are low, the roads are generally of good quality. On the other hand, levels of poverty are higher in areas in northern Ghana where the distance to good roads is highest (UNDP, 2018). Similarly, improving economic development and job creation would enhance households' incomes, stem the tide of the youth migrating to southern cities (in large numbers) to work as scrap dealers (male) and head porters (females). It must be noted, however, that migration out of the NSEZ is not limited to the youth; it is sometimes embarked upon as a coping strategy for household's shock and food insecurity problems (UNDP, 2018).

The above regional scale development imperatives are as relevant for Tamale as they are for the NSEZ. Given the positive relationship between urbanisation in Ghana and improved average conditions of life (The World Bank, 2015), an economically vibrant, socially and spatially integrated and well provisioned Tamale may stimulate development in the NSEZ. For example, Tamale remains a vital transport node in the north connecting the north to the south of Ghana as well as the north to the Sahelian countries further north. Yet, congestion on the roads in Tamale is very common and is worsening by the day, and this has the risk of slowing productivity and general economic growth in the city and region. Social development is also affected by the scale and pace at which appropriate infrastructure is provided. A paragraph in the Tamale Master Plan (2017-2040) reads:

Located centrally along the important linkage that links Ghana's key cities along the North-South corridor and cross-border to Burkina Faso, Tamale has tremendous opportunities to serve as the key growth capital to catalyse the transformation of NSEZ as the gateway to the Sahel Region.

Efforts to confront the aforementioned development challenges in the NSEZ and Tamale include developing a comprehensive master plan of Tamale to help address the infrastructure and other challenges in the city. A strategy for economic development in Tamale includes investment in agriculture, specifically the provision of irrigation facilities, development of large-scale commercial agriculture to create jobs and

stimulate economic activity in the region. In this regard, a spatial development framework has been prepared for the NSEZ region to harness the economic potential of all sectors to promote development within the region. The NSEZ spatial development framework aligns with the national spatial development as well as policy guidelines of the National Development Planning Commission (NDPC).

5. Conclusion

In conclusion, Tamale has experienced rapid population growth and urbanisation so much that it is becoming increasingly a challenge to manage the city's growth sustainably. While the city's growth presents challenges in infrastructure and service delivery across water, energy (electricity), sanitation and all that make urban living meaningful, the city's food system is transforming with its own challenges such as production challenges, distribution bottlenecks, and marketing which interact to influence the availability and access to safe food for consumption by residents of the city. An all-hands-on-desk approach involving key stakeholders in the city's governance and food system is needed to engineer a path through the unfolding food system transformation to ensure a robust and stable food system and food environment for the citizens of the city. In this multi-stakeholder engagement process, the assemblies need to play a lead role through policy, investment and execution. By this, the local government authorities ought to consider that the city's food system is intrinsically linked with the other urban systems, and therefore comprehensive and dialogical multi-stakeholder governance approaches are needed to guide the successful transformation of the city's food system.

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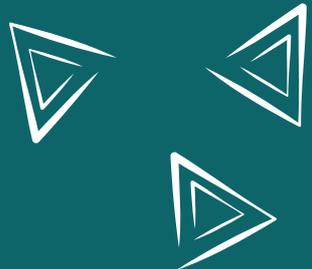
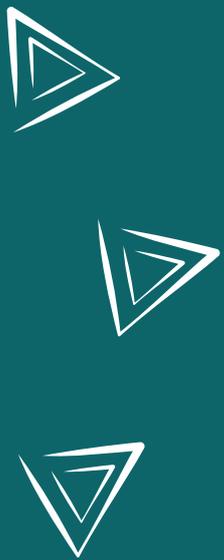
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