

Strategies to Regulate Rongo Urban Growth

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ABSTRACT: *Urbanisation started in the early days along the river valleys where civilisation was first experienced. The rate of urbanisation at this time was slow; however, the rate of urbanisation in developing countries is so fast at the moment where it generates many problems like pollution, inadequate housing and clean water, flooding, high rate of waste disposal and insecurity. Many towns do not have plans and policies to govern the establishment of the infrastructures. Planning ensures proper establishment of infrastructures and thus adequate provision of social amenities. One of the major problems in Rongo Town is inadequate housing which is caused by high rate of population growth. Similarly, the provision of other social amenities like education, health and electricity has been stressed as the local authorities and central governments lack the capacity to cope up with the population increase. There is great need to expand the capacity of these facilities in Rongo Town. The need to put in place policies that govern waste management and environmental conservation cannot be downplayed. The government and the local authorities should establish town boundaries to check the movement of towns into the neighbourhood and hence protect the resources in the neighbourhood for economic growth. In a nutshell, everybody including government, local authorities, engineers, planners, town and local residents should be involved in planning and policy formulation so as to improve the living standards of the residents of Rongo Town.*

KEYWORDS: *planning, policies, social amenities, strategies, urbanization*

I. Introduction

1.1 Background

Rapid urbanization started during the industrial revolution when machines were invented and more industries were established where raw materials were processed. The industries attracted many people who went to look for employment in those facilities, UN-Habitat (2011). Those who were employed settled in these places which created the demand for more housing units, more services like education, religion and security. Even other goods like food products were required. This industrial revolution therefore created the need to build more infrastructures such as roads, power supply and even more water sources. The towns that benefited during industrial revolution included London, Paris and Lisbon among others, National Coordinating Agency for Population and Development (2007).

It is important to note that, urban centres that grew up during this period did not have plans. They were haphazardly built. Lack of planning later brought many problems in the early urban centres because there was inadequate provision of social amenities such as houses, water, road network and medical facilities. This happened as these towns were experiencing sprawl due to population increase and scattered development towards the neighbourhood. Some towns in the USA like Chicago and Washington DC experienced the same problems. These towns even suffered from traffic congestion, flooding, air and water pollution. Rongo Town as it was located at a road junction which made it to be accessible to very many areas grow up from a very small settlement around administrative centres which were established by the colonial government. Its location in an area with modified equatorial climate which experiences adequate amount of rainfall throughout the year with fertile soils has made it to attract a large population which has been increasing every year. The increase in population has always been higher than the establishment of the infrastructure. This has caused stress in the provision of social amenities the paper there for highlights the strategies that could be put in place such expansion of existing facilities like medical, education, water sources, commercial and residential houses, security and electricity, Hall (2005). Other measures include filling in undeveloped spaces between the infrastructures, having storey buildings and establishing town boundary.

1.2 Statement of the Problem

Planning is important in any urban establishment because it ensures the proper establishment of infrastructure and provision of social amenities like houses, water, educational facilities, residential and commercial houses, health facilities, electricity and roads. However, the state of Rongo Town is quite different because there are no proper planning and implementation of development plan and policies. This has led to unplanned development of infrastructure and thus stress in the provision of social amenities.

Hospital facility at Rongo Sub County is sometimes congested forcing patients to share facilities like beds. This is the only public health facility in the town which handles all medical cases. Its expansion has not been done to the level that can meet the demands of residents of Rongo Town despite the population that has been increasing every year. It is operating at a low capacity. Sometimes patients are forced to share basic facilities like beddings whenever they are admitted in large numbers thereby causing stress on this facility.

The houses in Rongo Town are inadequate because the rate of population growth is higher than the rate at which houses are being built. This scene is also caused by the large spaces between the buildings that have not been developed and which further gives the town a scattered outlook. These large spaces propel the development of other infrastructures and more particularly houses into the neighbourhood. The houses that are there do not meet the demand in Rongo Town. This has caused some residents to reside in smaller market centres like Opapo and Rakwaro. There are no proper water sources that have been established to supply water to Rongo Town. This has made the residents to continue using ground water system, which is not clean and safe because there are very many pit latrines that may pollute this water. River waters are not pure and clean because some residents wash vehicles and motorcycles very close to these rivers and the waste water is discharged into the river system making them quite unsafe to human life.

Due to the fast growing population, the garbage deposition is so high but there are no defined modes of collection of this material for proper disposal. Thus, there are always deposits of garbage at Rongo Market site and in the estates. The garbage at the Rongo Market is being collected but not on daily basis and hence making the place to be unhealthy. Unless these issues are addressed, the residents of Rongo Town would continue to experience the challenges.

1.3 Research objective

To highlight strategies that should be put in place to regulate Rongo Urban growth.

II. Literature Review

2.1 Urban Planning

Urban planning should be a coordinated effort by both the stakeholders and the residents of the town. In this case, the stakeholders are the town council and the central government. Proper consultation between these parties results to a well planned town that is able to provide the required services to the residents. The exerted effort in bringing about a balance in urban system is the output of urban planning. It is therefore important to highlight the crucial role of urban planning as a factor in any proper urban operation, Hartz (2013). The integral part of this idea in urban system cannot be over emphasized but it remains a necessity in the continual global urbanization which is at a very fast rate. This rate is even higher in the developing countries in Africa, Asia and Latin America. Any attempt to subordinate this fact would put the lives of the people in urban centres in great jeopardy.

For proper town plans to succeed, the expectations of the town residents must be taken care of. The involvement of the town residents in town planning would make them to own the success of the plans and the shortcomings of the same. Proper urban planning should be creative and should involve both functional and aesthetic values. It should be able to catch the attention of the general public, New Urbanism (2013). This would create a sense of pride and ownership to the local and town residents. In a nutshell, it should improve the standard of living of the people of that town, which is Rongo Town.

The available resources in the town and the neighbourhood should be put into proper use. These resources include land, water, forests and people. Proper utilization of available land in the town would control the conversion of neighbourhood land to urban status as the situation in figure 1 should be avoided. This would improve the economy of the town and hence improve social amenities like houses, health, education and water, Alties (2009).

Proper planning of Rongo Town would make a correction of the mistakes which were done in the past. These past mistakes should be eliminated because they cannot correct themselves but instead they may yield other problems like traffic jams, floods and poor waste disposal, Angel et al. (2007). This plan should embrace all aspects of human life, economic, social and political. The economic aspects should include areas like employment and business opportunities. A good urban planning must point out areas where employment can be generated so that the town residents can get employment in those areas. This would improve their daily income.

The high demand for houses in Rongo Town can be exploited by both town and private developers to construct more houses within Rongo Town. These developers should be aware of the need to put up high density houses that would increase the accommodation capacity, Smith (2013). The high density houses include closely built houses that are in compact units but which have the environmental management issues infused in them for proper health management. Correspondingly, storey houses should be preferred so that the vertical space is utilized as this would save the horizontal space for other activities. Compact and vertical houses control sprawl of urban centres. There are some low density housing units in areas like Nyarach, Matagaro, Winter, Nyamuga

Junction, Matafari and Koderobara. This has been due to lack of planning and policies in place to control development of such types of housing units as was observed in Canada, Territorial Review, Toronto (2010). Rongo Town has so many undeveloped spaces between the buildings and even between different plots which is making the town to appear as a very big town in terms of spatial space as seen in figure 1. The large spaces are partly the cause of housing shortages because if the spaces would have been filled, then the problem of housing would be greatly reduced. It is important for the planning system to bring policies that would reduce the empty spaces between the buildings. There is need to fill the empty spaces before other rental houses are constructed in the town fringe for residential purposes, Alties (2009).



Figure 1: Undeveloped parcel of land near Makutano between houses in Rongo Town.

2.2 Provision of social amenities in Rongo Town

One of the basic things that urban planners must identify in any urban planning and set up is the availability of sources of water that can be developed in order to provide clean water to the town residents. Rongo Town has many water sources that have not been developed. The water sources include springs like Kibo and Kangoje in Rongo Town and other springs that are in the neighbouring villages. They have not been developed to increase their output so that they can be tapped to serve a larger population. The harvesting of water from such springs can be improved by sinking deeply into these underground aquifers so that more water can jet out to be pumped into the storage tanks for distribution to the residents as was analysed by Kazushi (2013). Rivers, Misadhe and Odundu, can also be dammed to supply the town with water. The planning system should have elaborate plans to develop such water sources for Rongo Town residents as in USA, American Rivers Journal, (2014). It is quite necessary to adapt some methods of harvesting rain water and store it for future use. All the water sources in Rongo Town should be developed for harvesting and the same was observed by Fayeez and Al-Shareef (2008) in other towns.

Rongo Town should have well developed health plans and policies that should be put in place, particularly in the medical sector. The need to expand the existing Rongo District Hospital is a basic health priority in Rongo Town. The population has risen and this calls for the need to have more wards and other health facilities like theatres among others.

Despite the need to expand the existing health facility at Rongo District Hospital, there is still need for the establishment of more health centres and dispensaries within some areas of the town and in the neighbourhood of Rongo Town so that the health facility at the district headquarters can be decongested. This can be done in areas like Kosodo, Matagaro, Matafari, Marera and Nyakwere where diseases like malaria can be treated and the patients discharged back on outpatient basis. Patients on regular drugs can also be served by these small health facilities.

2.3 Roads and Transport

The movement of people and goods is made possible in the town through roads and rail system. This movement can only be fast if the roads are well improved to facilitate the process. Rongo Town just like any other fast growing town should have well developed standard roads both internally and those leading to the neighbouring villages so that the transportation of both goods and people can be made easy. The roads must be of the right

size to allow the movement of two or more vehicles at the same time on the adjacent lanes, Abdi (2008). There are very many roads in Rongo Town which are not of this standard. The need to expand the existing roads is therefore inevitable. Further to this, connectivity of the road network within Rongo Town and beyond needs a great improvement. Road network should connect various estates of Rongo Town and the Central Business District. These roads should be extended to the neighbourhood of Rongo Town because some farm products need to be transported to the market within the town. Some industrial goods also need to be transported to the neighbourhood for use in those areas.

Surface quality of the roads within Rongo Town is not to the required standard. These surfaces need to be levelled and potholes filled to allow easy movement of automobile. This improvement should go along with proper digging of drainage along the edges of these roads. Other problems that are caused by narrow roads due to private fences that are erected on some sections of the roads can be solved by putting the right legislation in place governing road sizes and the extent the fences can reach on the roadsides as can be observed in figure 2.



Figure 2: A narrow road next to Rongo Town Market.

Rongo Town has some bridges on the major rivers at certain points but these are not enough since there are some points where the rivers cannot be crossed using automobile and even pedestrians during rains. River Misadhe has some sections that are not passable like between Kanying'ombe and Koderobara and between Ogeng'o and Siala. The same problem is found on River Odundu between Kuja School for the Deaf and Nyandiwa areas and between Winter and Aila areas. Similarly, River Kobila (Nyamador) has no permanent bridges between Rongo slaughter area and Nyakwere area. Connectivity in terms of bridging in these areas is very necessary if fast and easy movement is to be realised within and beyond Rongo Town towards the neighbourhood.

Rongo Town has a bus stage for picking passengers but it has not been made to the required standard. This can be seen by the way it becomes filthy due to mud when the rain falls. Further to this, it is small in size. It is necessary that an open space somewhere should be used for building this facility or it should be expanded by pushing other neighbouring facilities to other places. The higher number of motorcycle operators may also cause a serious traffic congestion if their operations are not put under proper legislation. In addition to this, motorcycle operators should have designated place where they can pick and drop passengers.

2.4 Waste Management Strategies

Urban development has some features that are very common with it. One of these features is waste disposal. As the population of a town increases, the rate of waste disposal increases every year. Any developing town must have proper methods of waste disposal. In fact waste is a risk to human life because it breeds different germs and pests which cause diseases to people. Rongo Town needs to come up with policies that regulate waste management, Hoomweg et al. (2012). The estates should have places or containers where they throw the waste and this waste should be taken to proper sites for deposition where they can be degraded. The absence of proper methods of waste management have been witnessed in the residential areas and more conspicuously at the Rongo Town Modern Market where waste are deposited by traders but they are not collected on daily basis, making the area to be very filthy as depicted in figure 3. The population at the market place is high and majority of business people here deal on vegetable and fruit products whose wastes are so high and very prone to bacterial actions. It would be proper if these wastes are taken to the dumping site on daily basis. It is prudent that Rongo Town Council should plan to have a tractor and some crew that may be used to clear the place on a daily basis. The same should be done in all the residential and business areas of Rongo Town.



Figure 3: Uncollected garbage at Rongo Town Market.

Waste disposal in Rongo town is even expected to increase further as the population is also expected to do the same over the years. Some of this waste is not biologically degradable. This means that other methods of removing them to the right places must be put in place. Metals, bottles and plastics are in this category. To this kind of waste, recycling may be one of the best methods of doing away with them. Recycling ensures that they are totally removed from the dumping sites because they can form heaps in those areas for many years as they do not decompose. Waste disposal sites should not be located close to water bodies because they may get their ways into the water bodies through surface runoffs. If this happens, these water bodies get polluted and hence unfit for human use. This is more common with liquid wastes and some movable solid waste like polythene.

2.5 Environmental Conservation

Environmental conservation in urban centres is necessary as it ensures that the surrounding is adequately maintained for the benefit of human beings, The Cities Alliance (2007). One of the most spectacular methods of environmental conservation is forestation. In most cases, forests make nature delightful. Rongo Town should set aside some parcels of land in each and every estate for forestation. This would ensure fresh air in the town. Trees absorb carbon dioxide but releases oxygen which is used by animals for respiration. Most trees in the town would also reduce atmospheric temperature by absorbing in carbon dioxide which causes atmospheric warming. Carbon as a greenhouse gas may cause a lot of heat in the town and therefore its percentage in the town's atmosphere should be regulated. The importance of trees cannot be over emphasized because even soil erosion is controlled by the roots of trees that hold the soil together and the leaves that drop absorb rain water and thus conserve water.

Roofs of buildings should be protected against strong winds. It is trees that protect buildings from strong winds by reducing the speed of wind. The establishment of forests and a line of trees along the pavements and along the roads would greatly reduce storm destruction in Rongo Town. Trees also ensure good meteorological cycle by releasing moisture into the atmosphere and thus regulate water vapour in the atmosphere which finally leads to rainfall which is distributed almost throughout the year in Rongo Town and the surrounding. There is need to plant more trees in Rongo Town because the ones that are already mature are being harvested at a very high rate. The planting of trees in Rongo Town should go along with the establishment of flower gardens. It is important to introduce aesthetic balance in the town. Flowers make the town to look beautiful and this gives a lot of psychological comfort to people when they see good things in the environment. These flowers can be planted along the pavements, major roads and roads leading to the estates. They should be maintained by proper weeding and trimming.

2.6 Town Boundary

The process of urbanization of a settlement may be so fast and haphazard if not checked. In very many towns in Kenya, Africa, Europe and America, towns have consumed land in the neighbourhood and have affected the land that could be used for other vital activities, Territorial Review Journal (2010). It has been realised that the rate at which urban centres consume land in the neighbourhood should be checked. This can be done by

ensuring that towns are properly planned. These plans should encourage compact building of infrastructure and more use of vertical space. Compact infrastructure increases the carrying capacity of an area. Similarly, the use of vertical space also increases the number of people that can be accommodated within the same piece of land. Whatever the case, the need for Rongo Town boundary cannot be over emphasized since the situation may escalate when all the land in the neighbourhood is subjected to acquire urban status without proper planning. Some of the most important activities that require land may be affected seriously. Some of these activities that may be affected include grazing fields for animals, land for crop production and forest lands. This means that the neighbourhood of the town should be preserved for those activities.

2.7 Challenges Facing Rongo Town Planning

Just as other towns in Kenya, Africa and beyond are having their challenges, Rongo Town has its challenges related to planning. Rongo Town is under the political leadership. In most cases, the political leaders are the ones who make things to happen. For this reason, Rongo Town planners must liaise with the political leadership in the office to ensure that the plans and policies are fully relevant and implemented, Cu'o'ng (2009). Any new policy must be discussed fully between the experts, politicians and the local residents of Rongo Town for it to succeed. The work of planning is quite involving and therefore must not be done without the input of experts. It is a combination of art, science and technology. This work includes surveyors, architects, engineers and consultants. It is important to note that this team must work very close together so that they can come up with a comprehensive plan for Rongo Town.

The environmental issues that may stem from rapid town growth can be very catastrophic. This may include pollution in the areas of air, land and water. The reason being increased utilization of the resources which may also increase the rate of waste disposal. Unless the challenges are addressed by proper planning and implementation of policies, the problems may be very serious and they may be a great threat to life in Rongo Town. There are some basic facilities which must be expanded and these include water sources, electricity, road network, housing, garbage collection and education facilities. This kind of elaborate expansion of social amenities should cover all areas of basic amenities. The social problems may be mitigated by putting proper laws in the town regarding social behaviour and this must be in line with the constitution of the country.

2.8 Emergency Management and Preparedness

The development of infrastructure coupled with the increasing population in Rongo Town pose a great risk, Mueller et al. (2010). The infrastructure cannot be completely efficient. There may be some weaknesses that may be expected like fire outbreaks as a result of some fault in electric lines, water pipes and even blockage in drainage systems. However, there must be emergency team with the required equipment to attend to any emergency operation. For instance, there must be fire fighters, fire-fighting equipments, bulldozers to clear the road in case of any blockage and to rescue people in case of any falling building. All the first aid equipments should be in place with the apparatus inside at all times.

III. Methodology

Study Area

Rongo Town is found in Rongo Sub County in Migori County of western Kenya. It is located at Latitude 0° 42' 13" S and Longitude 34° 52.2' 30" E, MOS (2008). The town is found at 1700m above sea level. It covers an area of 22 square kilometres. The three sub locations that make up Rongo Town are Kabuoro, Koderobara and Kanying'ombe sub locations respectively. These three sub locations form Central Kamagambo Location. The climate of the town is modified equatorial climate. There are two rainy seasons. The long rains are from March to June while the short rainy season is from September to November. The dry months are from December to mid-March. July and August have some scanty rainfall. The annual rainfall is 1833mm. Humidity is between 52% and 71%. The average temperature is on average 22°C, Migori County Integrated Development Report (2013-2017). The town has two rivers on the eastern and western sides respectively. These are Misadhe and Odundu. There is also a small stream in the core of the town known as Kobila. The surface of the land ranges from undulating to uniform topography. This surface ensures good drainage. The soil in Koderobara and Kanying'ombe is loamy on the higher parts with the lower parts having clay. Kabuoro has loamy soil and sandy soil on the upper parts. The lower parts have clay soil. The parent rock which covers Rongo Town is acidic rock with granite being the basement rock. The water table is as high as 9m below the ground, and because of this, the residents of Rongo Town depend on borehole water. There are some parts where spring water can be found on the surface.

The population of Rongo Town and the villages around the town is 27756 with 6095 households, KNBS Population Census (2009). Given that the area is 22 kilometres squared, the density of the town is 1261 persons per square kilometre.

3.3 Research Design

The study employed cross sectional study design method. This is the design in which individuals are carefully selected to represent the views of others from stratified areas of study. This is specially done when the target population and the area of study are so big while the time is limited, Mugenda and Mugenda (2003). It involved dividing the area of study into smaller areas known as strata and using sampled population in the study. It helps to save time and resources as the sampled population represents the rest in the study and their contribution is therefore used across the entire region for analysis. The study used quantitative and qualitative designs. Quantitative design involved the use of numerical figures from the area of study. Qualitative design involved the use of non numerical figures in the research process. Quantitative and qualitative designs were used to give the study a logical structure.

3.4 Target Population

The total population of Rongo Town was 27756. This was the entire population of the three sub locations of Rongo Town which were Kabuoro, Koderobara and Kanying'ombe. The total number of households in these sub locations was 6095. Each of these sub locations had the following number of households; Kabuoro 3195, Koderobara 2142 and Kanying'ombe 759, KNBS- Population Census (2009). 6095 households were used as target population of the study.

3.5 Sampling Procedure

Purposive sampling method was used in selecting the respondents of the study. This involved the selection of those who were conversant with the area of the study. In this case, household heads were sampled as respondents because of their age and familiarity with the area. Only household heads who had attained literacy level were selected because the study required more accurate information which needed respondents with some basic level of literacy. In this case, out of 6095 households, 360 household heads were selected as respondents and this was pegged on the suggestion of Krejcie and Morgan (1970) table of sample determination. The total number of household heads were shared proportionately by the three strata which were Kabuoro, Koderobara and Kanying'ombe and this was according to the number of household heads in each stratum. Sampling was done in order to save time and resources because the area of study and the population were too large but the time and resources were limited. Krejcie and Morgan table of determining sample population is shown in Table 1.

Table 1: Determining Sample Size for a Given Population.

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377

170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—N is population size, S is sample size.

From the Krejcie and Morgan table of sample size determination out of 6095 households, 360 household heads were sampled as the population of the study. This number was proportioned in the stratified areas as shown in Table 2.

Table 2. Sample size determination

Strata- sub-location	NO of households	Proportion	NO of houses to be chosen
Kabuoro	3195	$3195/6095=5/10$	$5/10 \times 360=180$
Koderobara	2142	$2145/6095=4/10$	$4/10 \times 360=144$
Kanying'ombe	759	$759/6095 = 1/10$	$1/10 \times 360=36$
Total	6095		360

3.7 Data Collection

Both primary and secondary data were collected and used in the study. Primary data included information which was collected directly from the area of study. This primary data was collected using questionnaires, observation checklists, sketches and photographs. This data consisted of urban activities and scenes as they were in existence at the time of study. Primary data was important because it gave the original information from the scene of study and also made the investigator to interact with the scene of study which gave him more insight about the activities in the area of study. Secondary data which was collected included written information about urban activities from government offices, nongovernmental offices and written works of experts on urban activities from the library and the internet. Secondary data was important because it provided written records which acted as a basis upon which the primary data which was collected was anchored to, Mugenda and Mugenda (2003).

3.8 Data Analysis

Data collected for the study was cleaned to remove issues that were not related to the study, organised in terms of weight and grouped according to the issues under study and finally coded for consistency. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 20 as analytical tool which yielded descriptive and inferential statistics. The descriptive statistics included percentages, mean, mode and median which helped in analysing urban activities. Inferential statistics helped to present the analysis of urban activities which were under investigation from a quantitative data. Data was further analysed by use of content analysis method. This involved organising the whole data into concepts pertaining to urban activities and then writing descriptions about them as they appear, Van and Mve (2010).

3.9 Presentation of Data

The information on analysed data was discussed and presented using tables, percentages and written description for easy understanding. The percentages were used to show the level of an occurrence or presence of an activity. The tables contained analysed data based on figures on urban scenes and activities. Some photographs were also used to show the scenes of urban activities on the ground to make the study more practical., Lyons (2010). This information is presented in the next chapter.

IV. Results and Discussions

The major problems that Rongo Town was faced with as a growing town was inadequate housing. Migori County Government was trying to promote public-private partnership to finance private developers who were willing to develop their plots by providing them with loans to build more houses. This could really help private developers who did not have the capacity to build houses on their plots. They targeted to increase houses by 60% of the existing ones, (Table 3).

The water facility which was being constructed next to Koderobara Secondary School was supposed to store water from a borehole next to that place before it was pumped to the other areas of Rongo Town. This was possible because the water table in that area was found to be high. This would supply clean water for Rongo Town at 50%. This percentage was small since a half of the residents would not be able to access this water, (Table 3). There was need to establish 50% of water source in Rongo Town in order to meet the demand.

Similarly garbage collection was just at 20%. This means that there was a lot uncollected garbage in the estates and this was causing health risks to the residents.

The streetlights were only covering 10% of Rongo Town. There were plans to extend the lighting points to areas like Nyarach, Matagaro, Koderobara, River Odundu and along the road leading to Kanyawanga Secondary School. Other streets leading to the residential areas were also to be targeted in this improvement. This would increase security along the streets at night. However, the percentage lighting system required along the streets and residential areas was 90%, (Table 3).

In order to improve connectivity across the rivers, 70% of the roads that passed through the bridges were to be installed with bridges across the rivers and various parts of these roads to be improved. This included the Nyarach-Siala Road through Misadhe River, Kondeyo-Siala Road through Misadhe River and Dago-Nyakwere Road through Nyamador River and Kuja Deaf-Kosodo Road through River Odundu. The development of these bridges was to improve transportation of people and goods. This would improve the economy by lowering down the cost of transportation. Medical facility needed to be improved by the Migori County Government since only 40% of the wards were already in place, (Table 3).

This development strategy should have environmental protection as being part of capacity expansion of the facilities that were supposed to be expanded because clean environment is vital to human life.

It was also discovered that Rongo Town had drawn a development plan in 2005 but was not approved. This was because it did not contain all the basic requirements of urban planning. Despite this, Migori County Government (through Rongo Sub-County) was working on long-term development plan that would take the town through Vision 2030. This included plans for provision of all social amenities as in health, education, housing, roads, water and environmental waste management systems. It was observed in HBRC Journal (2013) that infrastructural development should be matched with population growth through proper urban planning so as to ensure adequate provision of social amenities. Lack of proper implementation of town plan even led to development of very narrow roads that could not be used by two vehicles at the same time thereby causing congestion in some of the roads in Rongo Town as seen in Figure 2. Lack of proper implementation of development plan also led to lack of proper waste management as seen in Figure 3.

It was discovered that Migori County Government planners had not approved the residential areas of Rongo Town in terms of estates. Hence, 100% of the residential areas were not classified as estates with proper names. These estates could not therefore have any autonomy in terms of development as proposed in the New Urbanism Movement (2013) that promotes mixed land use. This movement proposed the provision of all the required social amenities like education, houses, water, health facilities, shops and areas of employment in each estate as it improves the living standards of the residents.

In general, there was inadequate provision of social amenities in the areas such as water, education, health, housing and garbage collection. Services in these areas were not adequately provided as the residents were complaining of the same. Similarly, Rongo Town did not have well established forests or trees along the streets and in areas that may be used for leisure during the day when the sun is hot. Garbage collection was very poor because there were heaps of vegetable material, polythene papers and plastics in the estates and behind the commercial buildings.

There were serious challenges in Rongo Town planning. Some private developers did not have adequate funding that they could use to develop their plots. Some residents were also not adhering to the land survey demarcations as they were erecting their perimeter fences in areas that were designated for roads and facilities like sports ground. It was also realised that Rongo Town was adequately connected by roads in all the areas regarded as residential areas and some of the areas in the neighbourhood. The roads could be there but were not properly developed. Correspondingly, Rongo Town did not have a marked boundary thereby leaving the town to move to the neighbourhood and thus consuming land that could be used for other social and economic development purposes.

Table 3: Percentage improvements that the stakeholders needed to put in place to expand the facilities that were in existence.

Social services	Percentage improvement to be made
Houses	60%
Classrooms in primary and ECD centres	50%
Water	50%
Street lights	90%
Medical facilities	40%
Bridges and roads	70%

V. Conclusion

Migori County Government had a strategic plan to regulate urban growth in its urban centres which runs through up to vision 2030 but it was not detailed. Rongo Town was included but finer details were not there because it was not particular to Rongo Town. Besides this, Rongo Town did not have a well documented plan for the infrastructures in the estates and villages. Many private developers use their own plans though approved by the urban planners, they lacked uniformity in terms of designs.

The issues that have been discussed are basic reality and they can yield good results if all the parties involved in urban planning were brought on board to address all issues collectively in Rongo Town. In this respect, the systems within Rongo Town would be managed successfully. Infrastructural development in any urban centre must be in conformity with population growth in order to ensure adequate provision of social amenities, HBRC Journal (2013). Rongo Town planners should always liaise with the population experts to ensure that the social amenities and the infrastructures are growing at the same rate in order to meet the demand. There was need therefore to expand areas of social amenities such as water, houses, education and health facilities, road surface and connectivity and security apparatus. There was also need to establish Rongo Town boundary so as to preserve land in the neighbourhood for other economic purposes. The analysis of Rongo Town growth had focused on the problems that had been encountered as a result of its rapid growth of population. The rising population requires elaborate expansion of social amenities like schools, residential houses, commercial houses, water services, health facilities, road networks, electricity provision and improvement in waste disposal.

Spaces between the developed areas of Rongo Town should be filled by building more housing units in them in order to increase the carrying capacity of those areas. The vertical space should also be used by building more storey houses. These storey houses accommodate more people. Some spaces could be developed into parking lots, playgrounds and other recreational purposes.

Town planners and policy makers should ensure that the development of the town into the neighbourhood is checked by establishing boundary between Rongo Town and the indigenous villages in the neighbourhood by implementing policies such as levying more tax on rental and commercial buildings in the neighbourhood of the town. This boundary can be reviewed from time to time depending on the need for extension. The boundary can be marked by use of forests or beacons. Beyond this boundary, there should be no construction of rental residential houses without the approval of the authorities concerned.

Migori County Government and the Central Government should create awareness about urban sprawl and its associated challenges so that the residents could find ways of coping with the challenges but gradually improving the infrastructure in their residential areas. Migori County Government and Rongo Town planners should develop proper planning, policies and implementation of the same so that the challenges can be managed. This way, the population growth and the expansion of fundamental social amenities will be in conformity.

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