
Urbanisation Pace in Tanzania: The Delivery of Water and Electricity in Selected Urbanised Cities

Idda Lyatonga Swai¹, Mackfallen Giliadi Anasel²

¹School of Public Administration and Management, Department of Local Government Management, Mzumbe University, Morogoro, Tanzania

²School of Public Administration and Management, Department of Health Systems Management Mzumbe University, Morogoro, Tanzania

Email address:

ilyatonga@mzumbe.ac.tz (I. L. Swai)

*Corresponding author

To cite this article:

Idda Lyatonga Swai, Mackfallen Giliadi Anasel. Urbanisation Pace in Tanzania: The Delivery of Water and Electricity in Selected Urbanised Cities. *Social Sciences*. Vol. 8, No. 6, 2019, pp. 338-347. doi: 10.11648/j.ss.20190806.16

Received: October 14, 2019; **Accepted:** November 27, 2019; **Published:** December 6, 2019

Abstract: The Tanzanian censuses for the period of 45 years, from 1967 to 2012, indicate a rapid increase of urban populations from 5.7 percent to 22.6 percent. The increase has created a massive urbanization pressure on social services including water and electricity. Ideally the institutional frameworks of the delivery of these services are expected to interact during planning, budgeting and implementation of those plans. This study aimed to answer the research question that ‘How are water and electricity services delivered in the context of urbanisation?’ The study was conducted at Arusha, Mwanza and Dodoma City Councils which includes two State Owned Utilities (SOU) that is Water Supply and Sanitation Authorities (WSSAs) and Tanzania Electric Supply Company Limited (TANESCO) from each city. Purposive sampling was used to select the three cities and key informants from the SOUs and in the city councils. The study participants include: the City Executive Directors, Planning Officers and Urban Planners in the cities as well as the planning officers from the SOUs. Documentary review and interview data collection methods were used to collect data. Content analysis, narrative analysis and phenomenological analysis were used to analyse data collected from the documents and interviews. The findings indicate a slight relationship between the LGAs-cities and SOUs studied, particularly in the preparation of master plan but they do not cooperate in operational activities including planning and budgeting. There is no any formal forum for LGAs and SOUs to meet, discuss their plans and budget as well as implementation of those plans. This study recommends to have an institutional framework whereby the utilities delivering water and electricity meet with the LGAs in a formal forum to discuss the plans, budget and implementation of the same to avoid duplication of effort.

Keywords: Urbanisation, Water and Electricity Delivery, Institutional Framework, Institutional Linkage, Population Increase, Tanzania

1. Introduction

The UN [[1]] statistics shows that 55 per cent of the world’s population lived in urban settlements in 2018 and project by 2050, 68 per cent of people globally will live in urban areas. This indicates that urban populations are growing quickly worldwide. Urbanization in developing world and Tanzania in particularly is not a new phenomenon. The level of urbanisation in Africa is approximately 43 per cent. The Tanzanian censuses for 1967, 1978, 1988, 2002 and 2012 indicate a steady increase of urban populations from a

low base of 5.7 percent to 22.6 percent over the period of four decades (1967–2002). Again, the urban population is projected to grow at twice the rate of total population that over half of Tanzania’s population will live in urban areas by 2050. These figures show quite rapid urbanization in Tanzania where the urban population has always grown more rapidly compared to rural population. This was experienced in Dar es Salaam where soon after independence in 1961 the city experienced unprecedented high rate of urbanization. While natural population growth has been the major contributor to urbanisation, rural-urban migration linked to the socio-economic difficulties in small towns and rural areas

continues to be an important factor [[2]].

Inevitably, the increase of people into the city created a massive urbanization pressure on the demand of social services, while the natural resources are deteriorating [[3], [4]]. The influx of people resulted into rampant changes in land and building utilization in this case land use plan [5], increasing of urban poverty [6], overcrowding and squatter settlement. All these have resulted to shortage of clean and safe water and further epidemics like cholera and dysentery that limited access to basic services such as electricity, health and education. Lack of access to water and sanitation results to deterioration of the overall urban waste management systems as the excess population forced access through informal means [1]. This means that water and sanitation management systems are failing to keep up with the growing demand of the same [3]. Excess population that had no access to services has been blamed for running down the infrastructure of the city by overloading the infrastructures. High population and urbanization growth rates in Tanzania among other things, contributed to informal or unplanned settlements where the majority of urban dwellers live [7]. About 70 per cent of the people in Dar es Salaam, Mbeya and Arusha live in squatters where they do not have access to basic infrastructure and social services.

As Tanzania expects urban population increase from 15 million people in 2012 to 63.12 million people by 2030 [8], additional pressure on urban infrastructure and services are also expected (as indicated in ‘The country’s Five Year Development Plan’) in spite of high levels of GDP growth in recent years. In other words, in 2030 more than half of the Tanzania population will be living in cities. However, the growth of most of the cities of sub-Saharan Africa is unguided and unregulated [9, 10]. This fosters and prolongs the growth of informal settlements where land development and formalisation processes are carried out independently from the formal systems.

Urbanisation in developing world like Tanzania is closely related to the three dimensions of sustainable development: economic, societal and environmental [1]. Cities continue to be constrained by deficits of infrastructure and social services, a lack of planning for sustainable development, and limited or low private sector participation in planning and developing towns [11]. Unplanned urban expansion, in combination with unsustainable production and consumption trend and a lack of capacity to manage the increased urban dwellers, can impair sustainability due to urban sprawl, pollution and environmental degradation. For instance, the informal settlements in Dar es Salaam city develop in valleys and other areas of ecological importance which is not connected to urban infrastructure [7]. Weak institutional coordination prohibits efficient use of resources and often leads to duplication of efforts on the same projects and piecemeal development of cities and thus residents’ basic needs are often unmet [11]. However, little is known regarding the institutional framework of water and electricity authorities and how they interact during planning, budgeting and implementation of those plans in the context of

urbanisation. Therefore, this research addresses such knowledge gap.

1.1. Previous Research

There has been some attention through empirical evidence towards urbanisation in Tanzania in general. For instance, study on the managing urbanisation and risk accumulation process in Dar es Salaam city; Urban Transition in Tanzania with focus on Building the Empirical Base for Policy Dialogue; the challenges of Urbanisation in Tanzania; and flooding, flood risks and coping strategies in urban informal residential areas to mention few [12, 13]. Yet the urbanisation pace and its influence on water and electricity delivery is a blind spot [14]. It is estimated that in African cities, individuals require 20-50 litres of water to ensure that basic needs of drinking, cooking and washing are met [3]. However, studies indicate a significant challenges facing water sector. For instance, a study by [15] indicates a challenge in accessing water service whereby more than 800 million people in developing countries lack access to clean water. These challenges need numerous efforts that involve several interest and actors [16-18]. Despite these challenges water provision and basic sanitation services remain the core for achieving sustainable development [19], due to population increase into the landscapes of the most of cities which is likely to increase the demand of the services [4].

It is therefore not yet known on how the increase of population and urbanisation at large has influenced the delivery of water and electricity and the available mechanisms to improve the same. The proposed study go beyond Dar es Salaam since most studies on urbanisation were done in Dar es Salaam city, while there are other cities such as Mwanza, Arusha, Dodoma and Tanga where the urban population is growing fast. Thus this study bridges the knowledge gap by examining the institutional framework for delivery of water and electricity in the context of urbanisation and how it influences the delivery of those services in the selected cities in Tanzania.

1.2. Research Question (s)

The study answers the general research question which states that ‘How are water and electricity services delivered in the context of urbanisation’?

Operational research questions:

1. What are the institutional frameworks of the Water Authorities and TANESCO in delivering of water and electricity services in urban areas?
2. How do Water Authorities, TANESCO and Councils actually interact in the whole process of planning, budgeting and implementing their respective plans?
3. What are the established mechanisms (if any) for Water Authorities, TANESCO and Councils to enhance sustainable urbanization with respect to the delivery of water and electricity services?

2. Methods

The study was conducted at Arusha, Mwanza and Dodoma City Councils. In addition to Water Supply and Sanitation Authorities (WSSAs) and Tanzania Electric Supply Company Limited (TANESCO) in each city making up a total of six (6) State Owned Utilities (SOUs), three WSSAs and three TANESCO offices, were studied as well. The cities have been selected being the top five cities with high population in Tanzania after Dar es Salaam according to Tanzania census 2012.

2.1. Selection of Study Participants

The study employed two kinds of informants to acquire the data in the selected cities and SOUs which are Water Authorities and TANESCO in the selected cities. Purposive sampling was used to select the three cities and key informants from the SOUs and in the city councils. The aim of doing so was to ensure that all key actors who are involved in the actual implementation of policies related to water and electricity delivery are included. The study participants include: the City Executive Directors, Planning Officers, and Urban Planners in the cities as well as the planning officers from the SOUs. The sources of the data for the study were documents, people and their individual behaviour.

2.2. Data Collection Methods

Documentary review and interview data collection methods were used and triangulated to increase reliability of the findings. Documents such as water and electricity policies and rules and regulation guiding the delivery of water and electricity. The key informants from the selected city councils and the SOUs were interviewed using an interview guide that was prepared and improved during the data collection.

2.3. Data Analysis

The documents were analysed through content analysis by carefully reading the documents from the beginning to end then re-reading them while highlighting the text fragments that reflect the topic of study. A narrative analysis was done to process stories collected in the in depth interviews while phenomenological analysis was done to describe the officials' experiences in interaction between council and SOUs in planning and implementation of plans. Transcription of the recorded information was done within forty eight hours after the interviews. The transcription were done in English while the interviews were mainly done in Swahili. This was followed by repeatedly reading the transcripts to cross check the quality of the data and to acquire an overall sense of the data. Thereafter, the transcribed texts were imported into the Atlas.ti programme for analysis.

Within that programme, all data were coded inductively, using predetermined themes and patterns from the operational research questions. Moreover, the emerging themes and patterns were captured deductively from the data.

After that Atlas.ti project was created. This was followed by identifying patterns in the documents reviewed and transcribed interviews. Similar codes were further grouped together to form families and used to form sections. Finally, the output was created and all codes and quotations, memos, and families were attached to it and further transferred to word a document and a descriptive report was created and used to write the paper.

3. Results

3.1. The Institutional Frameworks

The first operational question seeks to know the existing institutional framework of Water Authorities and TANESCO in delivering of water and electricity services in urban areas. The study found that water and electricity utilities in urban areas of Dodoma, Mwanza and Arusha are operating to provide the services and ensure the services are accessed by all people. It was expected and found that the institutional framework for water and electricity utilities varies as elaborated hereunder.

3.1.1. Institutional Framework of Water Utility

Sustainable water supply and sanitation services in urbanised cities require an effective and efficient institutional framework that defines roles and responsibilities and the linkages of all stakeholders including Central Government, Local Government, Private Sector, NGOs, and the water utilities. It is the role of urban water bodies to distribute water, collect water bills and maintain water infrastructures, while the task of constructing water infrastructure remains within the LGA and national government. The government has used huge amounts of money to improve the provision of water services by; using agencies in urban areas, empowering the LGA and engaging the private sectors.

Urban water authorities are classified into three classes based on their capacity. Class A authorities are full autonomous meaning that they have power to make their own decision and raise money to pay their employees and energy. These are the authorities capable of providing water services without due support of the ministry and the LGAs. Class B water authorities are autonomous in terms of making decisions related to delivery of water, and they are supported by the government in paying percentage of electricity but salaries they pay by their own. Class C authorities are working under the umbrella of the PO-RALG meaning that they are supported by the LGAs to pay salaries, electricity and other costs. The majority of the employees of class C authority are employed and paid by the council. Huge investment in water utilities in class A, B and C is done by the central government. The goal of the government is to support all water authorities to be in class A to reduce the burden of the government.

The three water authorities visited for this research belong to class A authority. This means that they pay their workers and electricity and all other costs while huge investments is done by the government through the ministry. This was

highlighted in all three visited water authorities and confirmed by the participants from the ministries on the workshop to share and discuss the results of this study. It was further noted that there are challenges associated with investment of water projects in urban areas and the challenges tend to increase as the population increase and status of the urban change.

We are experiencing challenges in investment in our urban authorities. For instance, in Arusha the service boundaries have increases when they become a city and the coverage of service dropped from 95% to 40%. We saw that as a problem and we asked for donor support and now they have a big project which will increase the coverage of the service...P1

It is noted in the quotation that water service boundary has increased as Arusha become city. This implies that the demand of water varies depending on the population and the status of the area. This concur the experience shared during the interview at Dodoma where the population has increased but the services remain the same. The challenge seems to be the same in most of the urban areas.

The big problem is when the cities grow and the services remain the same that they remain low compared to the growth of the towns like now in Dodoma where most of new areas are not connected to water services. ... P4

The same challenge in accessing clean and safe water was also shared in Mwanza where the access was found to be between 30 to 50 percent. Water service provision in this aspect was found to be disproportionate with the pace of urban growth.

Water infrastructures in the cities where this study was done were constructed in 1970s and 1980s. This mean that they cannot afford to provide water services to all citizens taking into account the rapidly increase of population in the urban areas. For instance, in some parts of Arusha and Mwanza water infrastructures were claimed to be a main challenge for water distribution in the areas.

Most of the water infrastructures were constructed in 1970's when the population was still low and now population has increased and the infrastructures are old and water leakage is common... P3

The study further shows that the delivery of water service in urban areas is affected by not only the infrastructure but also shortage of water sources, lack of fund and primarily the increase of population not matching the delivery of the service. This indicates that the status of water delivery in urbanised cities is not satisfactory.

3.1.2. Institutional Framework of Electricity Utility

Tanzania Electric Supply Company (TANESCO) has so far been the sole supplier of electricity on the mainland and Zanzibar for years now. Domestic energy demand especially in urban areas has grown rapidly due to population growth and the increase in economic activities during the last ten years. This has resulted into a shortage of electricity despite of an abundant of natural energy resources the country has. Despite the improved connection of electricity in both urban and rural areas electricity service by itself is not stable due to

frequent and uninformed blackouts. This is contributed by technical and non-technical losses in the system, vandalism on power system infrastructure in some places, high cost of producing and supplying electricity and shortage of financial resource. These constitute the major challenges which also affect the delivery of water in urban areas and limiting other activities. This was experienced in the cities where the study was done. The interviewed representatives lamented that;

In Arusha region the electricity demand is high for now the megawatts used is 66 but still there is high demand where we have not take the service yet and we do not have budget for that... We know that every project has scope and budget, you may find one side of the town has electricity and the other side (the growing area) do not have...we wish to expand the scope that is to supply power in all area but the problem is fund... TANESCO Arusha

It was also noted that TANESCO provide services in the areas where they are assured to get return of the investments and other cost. This is the reason that they connect electricity in the areas where the houses are already constructed as clarified in the quote above. This concur the experience shared in water authorities that they provide services where there are houses and the demand of water is high. This was explained by participants in both TANESCO, water authorities and in the councils. One of the participants in TANESCO explained that;

We normally supply electricity in the area where the houses are constructed because we want to be assured with the return of our cost to expend the connection in the newly constructed areas. You know money is a challenge; the little we have must be used efficiently. ... TANESCO Mwanza

This suggests that the criteria used when establishing new settlement and distributing services varies between the LGA and SOUs. The motive of the LGA is to plan ahead that is to survey the plots before people starting to live/establish settlement. On the other hand, the SOUs wish is to distribute services in the areas where they can get their return that is providing services where there are customers.

Again, the findings showed that TANESCO do not have special/dedicated line for domestic and industries. It is agreed that there is a variation on the requirement of electricity for industries and domestic, but the distribution of electricity do not take into account this variation. The participants in TANESCO clarified that it is not only contributed by not knowing the plan of the area that is the direction for industries, settlement and public spaces, but also shortage human, material and financial resources. If you found that there is a special line for industries, it happens by chance or the owner of the industry paid to be given special line for his industry. One of the participants in TANESCO clarified that;

...It is by chance if you find the special line for industries, we normally have the same line for industries and for domestic use. For instance, we have one line where there are a lot of industries and many more industries are constructed, but there are also domestic users... The line was not meant for industries only and so we cannot restrict domestic users. For now, we are planning to have special line for industries,

we have decided so because we think we will address some of the challenges we are facing...TANESCO, Mwanza

The participant in TANESCO further added that the utility has made decision to separate the line for domestic use and industries after experiencing a lot of challenges. They clarified that the plan is to have a separate budget for the two lines because the requirement of electricity is different. For instance, TANESCO-Mwanza decided to start a new line for industries which will be from Nyakato to Kisesa up to Magu expecting that it will address some of the challenge they are recently experiencing.

Most of the participants had an opinion that electricity connection in urban areas is improving because the focus of TANESCO recently is in urban areas. Connection of electricity in villages is done by REA reducing the burden of TANESCO and giving them opportunity to focus on urban areas. REA is perceived as a cheap project to realise the goal of distributing electricity in villages, although getting the actual service is challenges.

We were using a lot of resources to serve both villages and urban areas. Sometime we were required to provide service even when the return is not assured, but now our devotion is in cities and town because REA is dealing with villages....TANESCO Dodoma

Electricity needs to be made reliable and affordable to customers with very low demand, for lighting and limited domestic purposes. In addition, security of electricity supply in urban areas needs to be enhanced through utilisation of other local energy sources, including coal and natural gas to meet the growing population and power demand in industries. Investment to have viable and independently sustainable energy sector is a priority of the Tanzania's electricity sector and the Government to ensure Tanzanian households and businesses are provided high quality electricity supplies to match with a pace of population and economic growth in cities.

3.2. Existing Relationship

Three State Owned Utilities (SOUs) and Cities of Mwanza, Arusha and Dodoma were visited and the representatives were interviewed. The SOUs referring in this study are Tanzania Electric Supply Company (TANESCO) and Water Authorities. It is ideally expected that the LGAs and the SOUs work together in the whole process of service delivery especially in cities. Then how water authorities, TANESCO and council actually interact in planning, budgeting and implementing their respective plans is examined. The aim is to know the existing relationship in delivering electricity and water in urban areas.

The interviewed representatives from the three cities said that there is a slight relationship between the LGAs-cities and SOUs studied, particularly in planning processes. The planning officers in the LGAs acknowledged that they cooperate with water authorities and TANESCO in preparation of master plan, but they do not cooperate in other activities including the detailed plan, budgeting and implementing the plans. One of the participants from

Mwanza stated that;

In theory we are supposed to work with water authorities and TANESCO from planning to implementation of those plans, but in practice we only involve them 100% in master plan preparation only and not otherwise.... I think this is wrong... Nyamagana Council

The views from the quote above showed that the LGAs do not cooperate with water authorities and TANESCO in other activities except in preparing master plan. Master plan is very general and it does not show the detailed plan of the area. In other words, the authorities may share the master plan, but may not know the detailed plan of each other meaning that the detailed and actual map is not familiar to each other. This may result into conflict especially during the implementation of those plans. One of the participants shared his/her views that water authorities and TANESCO need to ask the detailed map of the area from the LGAs before planning and implementing their plans, but they do not do that.

Everyone work alone, for instance TANESCO they do not ask for the map of the area which I think may help them during the implementation of their daily activities. The same to water authorities, they were supposed to cooperate and ask the detailed plans but they don't. I do not know how they do their work ... Office of Director Itemela

This official seems to wonder on how water authorities and TANESCO do their work without having the detailed plan of the area. If the SOUs do their work without involving the LGAs which is believed to know and own the land, then it is likely to have different plans of the area and so delay the development of the people in a newly established urban area. This is because the LGAs and the SOUs do not meet and share their plans or discuss the areas where the LGAs plan to develop or the areas where the SOUs plan to distribute the services.

The same experience was shared in Arusha where the officials from the City said that the SOUs and the council do not plan together and they sometime realise that the SOU plan is not matching with their plan that is the SOU plan to take their service in the area where it is not the interest of the council. They further clarified that they are all working to bring development for their people, but their plans are not integrated which may delay the development. Development can be fostered if the LGA and SOUs plan together. For example, the LGA can construct the dispensary and then water and electricity may be supplied on time by the respective utilities if they work together as a team. One of the officials from Arusha clarified that;

If you are fighting one enemy regardless of resources you have, you need to work as a team by integrating the resources then it will be very simple to fight the enemy... Office of Planning Officer-Arusha

Another official added that;

If you want to build a health centre or a school somewhere you will need to have water and electricity and if you don't have those services, then the building cost will be too high because you have to fetch water faraway and you cannot open the centre or the school without water...Planning

officer

The views from the quote above indicate the benefits of integration. If the LGA and the SOUs will plan, budget and implement their plans together, it is likely to reduce cost and foster development. After all the focus of the LGAs and the SOUs is to provide services and foster development of the people, so integrating their plans and working together is paramount. If precaution is not taken in this era of urbanisation there is a possibility to have statistics of schools and even health centres which are not functioning well because they are not connected to the services such as electricity and water.

The experience shared by the official in the LGAs concurred with the experience of the participants from the SOUs. The representatives from the SOUs in Arusha, Mwanza and Dodoma said that there is no formal relationship or cooperation with the council in the whole process of providing services in the city. They further elaborated that they work independently because they are autonomous institutions and they are not required by any law or guideline to cooperate and share their plans with the council.

There is no formal relationship with the council and water authorities and we are not forced to do that. May be if we are implementing a project together, then we must cooperate and sometime when the LGA is planning to implement a certain project they channel their request like other customers...TANESCO, Arusha

Another staff from the water utility provides the views that corroborate with the views of the staff from the LGAs that;

There are many institutions in this city and we are all working for this city, but we had never shared our plans, we are not coordinated at all, this is a major weakness... Water authority

This corroborates the views given by the participants in TANESCO that they are not cooperating with the LGA and the water utility in any formal way. They also added that the LGA starts in everything in terms of planning and land zoning to indicate the industrial and other areas. They are expected to guide other service providers such as water utilities and TANESCO by informing them about those plans and cooperating with them. However, according to the majority of the participants from the SOUs the LGA do not do that and they are sometime not ready to cooperate with the LGA. What the utilities do is that they wait to see the houses are constructed then they take their services.

...In short we are not cooperating with the LGA in any way, this is the culture I found here since then, I tried once to communicate with the LGA asking to be given the detailed map of the area, we tried to make follow-up but it took too long and we did not get it. We plan and implement our plan independently and in most cases we wait to see the houses are constructed then we take our services there, we do not take services in the areas where there are no houses...TANESCO, Mwanza

It was further added that;

...If we take our services in the areas where there are no

customers waiting people to start construction it will take too long to start supply of electricity and we may even start servicing before selling. This is expensive. We have our formula; we must do some mathematics to see whether taking our service somewhere we will have return or not. If the possibility for return is low, then we do not take our services in the particular area... TANESCO Dodoma

The experience of the participants from the SOUs indicates that they face difficulties in implementing their activities accordingly. They said that they are sometime informed to take services in the areas where there they did not budget for. This was supported by the majority of the SOUs representatives that they are never involved by the council in planning the issues which requires them later on to provide services. For example, they were required to take services where new settlements are constructed while they do not have budget for that. This was reported to be one of the obstacles to implementation of their plan that they are forced to provide service which was not in their plan and budget.

The council plan to construct new settlement for government employee almost 20km out of the town, and been instructed by the minister to take service there, but I don't have budget for that. It is true the role of taking service there is mine, but I was not informed beforehand to include it in our plan. After all we all depend to get money from the central government. We are now blaming each other because we did not plan together... Office of Director DUWASA

Different experience was given in Mwanza City where the participants said that they sometime cooperate with the LGA especially in project implementation. They also shared the view that they sometime asked by the council to design and searching for water sources and other issues related to water. According to this participant, water utility in Mwanza and the city works as a team in some issues related to water.

We normally work together very well; sometimes you find we are implementing a project that requires huge compensation to get land for a project, but the council support by providing us land for free of charge to build water tanks... MWAWASA Mwanza

It was further clarified that the water utility and the council were forced to cooperate when they were found to have duplication of projects in their plans. The councils were ordered to submit their plans for water to water utilities before implementation of those plans. It was clarified that;

... You may somewhere find that the council is searching for water source like water well and at the same time we may have our water pipe lines in the same area that means what is required is just an extension and separation of distribution tank, but you may find the council drill a water well which cost 100 million which is misuse of resources. This is a reason we were ordered to share our plans especially in projects... MWAWASA Mwanza

Further the participant added that;

Like now we have two projects on progress at Nyamagana, which is under the supervision of Nyamagana Council and MWAWASA. The source of water for these projects is from MWAWASA pipe line, but the initial plan of the council was

to drill a well... MWAWASA Mwanza

The exceptional was observed in Mwanza City where the SOU and the council managed to cooperate in implementing their projects, the participant elaborated that they only cooperate in big water project and in projects where the water system is already constructed by water utility alone. These are projects that can be done by extending the available water system. This shows that the LGA and the SOU cooperate when there is a need to do so and they are likely to expand their cooperation. This was seen as success since other LGA and SOUs are not yet cooperating in project implementation. The council directors and a mayor or any councillor are board members of water utility. However, it was realised that they are just informed and not given a chance to give their opinion. The same was noted in the situation where the SOUs and LGAs decide to informally cooperate still each part do not have an opportunity to turn around the plans of the other parties. This means that the decision on the plans, budget and implementation of each party cannot be influenced by other part.

3.3. Is There a Formal Forum to Share the Action Plans

This question seeks to know whether there is a formal forum for Water Authorities, TANESCO and Councils to plan and budget as a means to enhance sustainable urbanization in delivery of water and electricity services in urban areas. All interviewed representatives from the SOU and LGA said that there is no any formal forum for them to prepare their plan, budget or discuss the implementation of their respective plans. The participants shared their experience that the SOUs and LGAs cooperate in an informal way depending on the need and interest of the two parties. For instance, the participants from TANESCO declared that they are only consulted by water utility when they are implementing a big project which requires electricity that;

We do not have a formal forum with water utility and LGA to prepare plans, budget or even to discuss the implementation of the plans. We normally meet on demand basis or individually when we need their service or they need our service. Sometime water utility or the LGA inform us that they need our service during the implementation of their project...TANESCO, Mwanza

It is observed from the quote above that the SOU and the LGA cooperate on demand basis. This means that there is no formal forum for them to meet particular to discuss their plans, budget as well as implementation of the plans. This was confirmed by a participant from the LGA that each authority prepares their own plan and does the budgeting of their activities. They further clarified that they are not forced/guided by the law or regulation to cooperate. However, the participants highlighted that there are a lot of chaos and misunderstanding which are the result of not having a formal forum between the LGA, water utility, TANESCO and other partners such as TARURA and TANROAD. This was clarified by one of the town planners that;

We, the town planners are dealing with town/plot planning

and we have a detailed map of the area. Theoretically other service providers including water utility and TANESCO are supposed to consult the LGA and familiarise themselves with the detailed map, but they are not doing that at all and in the end we experience a lot of interference and conflicts among the land owners and TANESCO and sometime with water utility. This can be avoided if we plan or even share/discuss the plans among ourselves...Office of Town Planner, Arusha

The participant further added that;

MWAWASA and even TANESCO are autonomous entities; they are mandated to plan and implement their plan without consulting or reporting to the LGA. It is real a challenge, you may find we construct road today and tomorrow water utility cut it to rehabilitate water system. We tried to address this in our master plan, but its implementation seems to be difficult... office of Planner, Mwanza

Another participant from Arusha added that;

We normally plan the plot and other service providers bring their service particularly after construction, this is a challenge. We have an example at Njiro where TANESCO install a large pole in the plot brought by the citizens and we are struggling to accommodate the two.... may be we will ask them to move the pole somewhere else... Office of Planner, Arusha

Interference and in fact misuse of resources are some of the experienced problems of not having a formal forum to discuss the plans that are implemented in the LGAs. Some examples of incidences occurred in the LGA were shared by the participants. An example of a tarmac road that was constructed in Arusha City but after few months the water utility cut the road to install new water systems. This is not only misuse of resources but also it affects the quality of the road.

Lack of avenues for the SOUs and LGAs to meet have also resulted into a mismatch of plans for service delivery and sometime duplication. In addition, lack of water and electricity services in some areas and in public institutions such as schools and hospitals was mentioned as effects of not planning together. This means that if the utilities are involved in planning and budgeting of the council they can also plan according to council plan and set the dedicated line for specific areas such as industrial and hospitals.

Moreover, the SOUs and LGAs have an opportunity to meet in official meetings at District and Region. These are the District Consultative Committee (DCC) and Regional Consultative Committee (RCC) meetings where various stakeholders working at district and region respectively meet and share their plans for a particular year. It is in this forum where each organization presents their plan of action.

"It is true that we do not plan together, but we can know the plan of others through the RCC meeting where we normally meet and present our plans although it is not possible to know everything in the plan from this meeting... Office of Planner, Mwanza

RCC meeting is always done and different institution working in the region present their action plan. However, it was also found that the District Consultative Committee

(DCC) meeting is not normally done compared to RCC. When the participants asked further they were unable to explain as to why this important meeting is not often done. This is an area that may require more investigation.

Informal forum between the LGA, SOU and other stakeholders seem to be common in the areas where this study was done. This means that the meeting is done only when the parties feel that there is a need to share or discuss something in common. This was elaborated by the participants that they are not forced to meet and so they may decide to share or not share the plans and budget. They also shared the experience that it is not possible to have a total integration of the plans and so there is no need to know the detail plan of the LGA as clarified;

"I know it is important for the LGA and SOUs to have a formal forum to share the plan and discuss issues related to what they do. Mind you everyone have their profession and each of us has a vision and mission. I think it is not possible to integrate our plans completely. My advice is to make sure the laws recognise each other and at least require each of us to involve others before implementing a project... example if you want to take electricity somewhere surveyed you must get approval from the town planners, and they will approve according to the map and the roads on where to install the poles. I think if it will be that way will be better" ... Office of Planner, Dodoma

The participants from water utilities claimed that the director of the LGA is the board members of water utilities and therefore their plans are automatically known to the LGA. This was confirmed by the participants from the LGA and clarified that it is not possible for a director to know the plan by attending a meeting.

"The Executive Director is the member of the water boards in the LGA. We believe that his/her presence in their meeting is enough for representation though he/she may not be aware of the whole plan. But we do not have any representation at TANESCO" ... Office of Planner, Mwanza

It was again explained that the activities and projects of water utilities are also done by the LGA and so there is huge demand for the two to share their plans to avoid duplication. An effort to have a forum for LGA and SOU to meet was done in one of the city studied where the LGA normally invite representatives from the SOU to attend their meeting as clarified;

"TANESCO and water utility are serving our people. We did our own initiative to invite them in our meetings and they present their plans. They also give us their plan during the budgeting to see what they have planned to avoid duplication of projects". ... Office of Planner, Dodoma

A participant from TANESCO explained the challenges they are recently facing through formalisation of settlements done in Mwanza which is a result of not having a forum to share plans and implementation of projects. Most of the LGAs are in the process of formalizing settlements in squatter areas whereby the citizens are given land ownership after fulfilling the requirements. This has affected TANESCO that the citizens went to ask shifting/move/change of the

electric poles which are in their premises. This was claimed to be a challenge for the authority as explained;

"...We are not involved or even informed of the ongoing formalisation, but we were shocked to receive letters from the citizens asking to remove our poles in their plot. When we go there we realise that it is a result of formalisation, we expected to be involved by the LGA at least to discuss on how we should address the challenge but we were not...TANESCO, Mwanza

The issue of formalisation seems to affect not only TANESCO, but also water utility in Mwanza. After formalisation some citizens asked to be connected to water services and some of them are in areas where water connection is difficult. This is because some wards in Mwanza are located in areas with mountainous terrain which is difficult and expensive for water distribution. This was reported to be difficult for some citizens to understand and so they still claim to be given water service.

4. Discussion

The provision of utilities in urbanised cities is one of the areas that require attention due to rapid increase of population in urban areas. Most of the challenges facing urban dwellers ascend from utilities that revolve around old and inadequate infrastructure, surge in service demand and the weakened coordination between the utilities and the LGAs. This reflects [1] that excess population forced access to services and therefore blamed for running down the infrastructures. Good relationship between the LGAs and the utilities responsible for providing water and electricity may bring alternative ways to meet the increased demand of the services. Largely, there is an existing relationship between the LGA and the SOUs in providing water and electricity services in the cities although the relationship is not well described. The study reality shows that both the LGAs and the SOUs meet at DCC and RCC meeting where stakeholders at the district and region respectively share what they call 'plans'. However, the presentation focused on the implementation report of planned activity whereby other stakeholder may not have opportunity to know the detail of the plan or change the same. Despite the fact that the Executive Director of the LGA is a board member of water utility and some LGAs invites the SOUs to attend their meeting, still the sharing of the action plan between the two is questionable. The study results indicate that the LGA and SOUs meet mainly on demand basis to discuss issues related to service delivery.

With the rapid increase of population in urban areas and the increase of service demand that have created a massive demand of water and electricity services. For instance the increased electricity demand from industry, agriculture, commerce and the general population is expected to triple during the next twenty years [20]. This requires significant investment to be made and the Authorities to cooperate in planning, budgeting and implementing the plans to satisfy demand for the next few years. This is in line with the Water

Sector Development Programme (WSDP), for the period 2006–2025 implemented by the Government of Tanzania, through the Ministry of Water. The Programme has four components, among them being Urban Water Supply and Sewerage and Institutional Development where water utilities and the LGAs are mandated to collaborate in implementing water projects to avoid duplication of projects. The study further noted that although the Executive Director and the mayor are the board members of water authority, still they are not given a chance to give their opinion. This reflects the experience shared in one of the LGA that they informally cooperate with SOU, but each part does not have an opportunity to turn around the plans of the other parties. This might be a result of not having a formal forum for LGAs and SOUs to meet and discuss their action plans. This has resulted into a number of deficiencies including formalising settlements in mountainous and rocky areas where it is difficult to install infrastructures for electricity and water, duplication of water projects and misuse of resources. This concurs [11] that weak institutional coordination prohibits efficient use of resources and often leads to duplication of efforts on the same projects. It is an intention of the Ministry of water, as highlighted in WSDP, to eliminate duplication and overlaps of water projects [20]. The WSDP follows a Sector Wide Approach to Planning (SWAP), with an emphasis of eliminating overlaps and duplication of efforts in the delivery of water supply and sanitation services. The national government is a sole investor of huge water project; however, they still believe that the LGAs and water authorities are incapable to manage provision of water services. Water sector activities were implemented through discrete projects and sub-programmes in selected areas, but there is a political move to centralise the provision of water [20].

The provision of electricity is completely and officially assigned to a public corporation (TANESCO) and it is expected to operate commercially. The findings indicate that the electricity is connected in the areas where people have settled and only when the possibilities of return is higher. The actual power supply is not stable due to frequent and uninformed blackouts despite the improved connection of electricity. This is seen as an obstacle to the growth of sustainable cities and residents' basic needs [11] [6]. Again unstable power supply is likely to affect the industrialisation move in Tanzania and raise questions as to whether the increased population will continuously access the service as highlighted in 'The country's Five Year Development Plan'. Water and electricity are not only vital for the wellbeing of the people, but also a cornerstone of social and economic development of the country. To achieve sustainable cities, the interaction between the institutions of water and electricity in urban areas must be improved in addition to the involvement of the private sectors in electricity generation, transmission and distribution [20] to meet the projected growth in demand.

This will not only improve the planning process and its implementation but also reduce duplication of activities and projects and improve the quality of the services and roads which are commonly affected by the infrastructures of water

and electricity. If the interaction of SOU and the LGAs will be sustainable then the likelihood of improving reliability, accessibility and stability of services in urban areas and enhancing the institutional capacities through team working will be high.

5. Conclusion

This paper concludes that there is aloof and weak relationship between LGAs and SOEs. There is no any formal platform where the two can meet and share their action plans and conglomerate their efforts to improve the services. No common action plans exist between the SOU and the councils with exceptions in the preparation of urban development master plans. This has often caused a mismatch between the LGA and SOE plans, overlaps of projects and misuse of resources. In fact, lack of water and electricity services in public areas such as hospitals and schools is a result of a detached relationship between LGAs and SOEs. If there is an effective collaboration in planning and during the implementation of those plans between the utilities and respective LGAs this may not happen. This paper recommends that although the SOU are semi to fully autonomous institutions that are controlled by their respective parent ministries there is a need to have a formal platform to converge and share their action plans. This will stimulate multilevel governance where the cities and the SOUs will formally interact in ensuring that Tanzanian cities drive economic growth and sustainable development.

Acknowledgements

The Authors acknowledge the financial support from VLIR-UOS Research & Outreach Grant P3 (2018) 'Governance of social service delivery and management of natural resources'.

References

- [1] United Nations, Department of Economic and Social Affairs, Population Division (2019). World Urbanization Prospects: The 2018 Revision (ST/ESA/SER. A/420). New York: United Nations.
- [2] Masika, R., & Baden, S. (1997). *Infrastructure and poverty: a gender analysis*. Sussex: Institute of Development Studies.
- [3] Muzondi, L. (2014). Urbanization and service delivery planning: Analysis of water and sanitation management systems in the city of Harare, Zimbabwe. *Mediterranean Journal of Social Sciences*, 5 (20), 2905.
- [4] Dao, M. Q. (2012). Population and economic growth in developing countries. *International Journal of Academic Research in Business and Social Sciences*, 2 (1), 6.
- [5] Bull-Kamanga, L., Diagne, K., Lavell, A., Leon, E., Lerise, F., MacGregor, H., & Satterthwaite, D. (2003). From everyday hazards to disasters: the accumulation of risk in urban areas. *Environment and Urbanization*, 15 (1), 193-204.

- [6] Capps, K. A., Bentsen, C. N., & Ramírez, A. (2016). Poverty, urbanization, and environmental degradation: urban streams in the developing world. *Freshwater Science*, 35 (1), 429-435.
- [7] Sakijege, T., Lupala, J., & Sheuya, S. (2012). Flooding, flood risks and coping strategies in urban informal residential areas: The case of Keko Machungwa, Dar es Salaam, Tanzania. *Jàmhá: Journal of Disaster Risk Studies*, 4 (1), 1-10.
- [8] Van Vliet, W. (Ed.). (2001). *Cities in a globalizing world: global report on human settlements 2001*. Earthscan.
- [9] Lourenço-Lindell, I. (2002). *Walking the tight rope: Informal livelihoods and social networks in a West African city* (Doctoral dissertation, Acta Universitatis Stockholmiensis).
- [10] Kombe, W. J., & Kreibich, V. (2000). Reconciling informal and formal land management: an agenda for improving tenure security and urban governance in poor countries. *Habitat International*, 24 (2), 231-240.
- [11] Worrall, L., Colenbrander, S., Palmer, I., Makene, F., Mushi, D., Mwijage, J., Martine, M., and Godfrey, N. (2017) Better Urban Growth in Tanzania: Preliminary Exploration of the Opportunities and Challenges. Coalition for Urban Transitions, London and Washington, DC. Available at: <http://newclimateconomy.net/content/cities-working-papers>.
- [12] Muzzini, E., & Lindeboom, W. (2008). The Urban Transition in Tanzania: Building the Empirical Base for Policy Dialogue (166 p). Washington, DC: The World Bank.
- [13] Msuya, S., Mosha, P., & Mtili, R. (2017). The Challenges of Development Control of Informal Settlements in Arusha City: A Case of Ngaranaro Ward. *International Journal of Innovation and Scientific Research*, 32 (1), 166-172.
- [14] Akyoo, A. M., Makoye, G. R., Kilima, F. T. M., Coles, C. F., Nombo, C., Mvena, Z. S. K., & Ngetti, M. (2016) Chain Governance in Urban Dairying in Tanzania: A Cross-Learning Study on Value Chain Development.
- [15] Andrews, D., Sánchez, A. C., & Johansson, Å. (2011). Housing markets and structural policies in OECD countries.
- [16] Philip, R., B., & P. Steen, (2011). Integrated urban water management in the city of the future: *Module 1 Strategic planning, ICLEI, Freiburg*.
- [17] Swai, I. L., Anasel, M. G., & Masue, O. S. (2018). Designing and Managing Public-Private Partnership in the Water Sector in Big Cities of the Developing World. In *Handbook of Research on Urban Governance and Management in the Developing World* (pp. 101-117). IGI Global.
- [18] Swai, I. L. (2016) Community Participation as a Strategy to Address Water Shortage: A Tale of Bigwa and Lukuyu Wards in Morogoro.
- [19] UNICEF. (2012). UNICEF Water, Sanitation and Hygiene Annual Report 2012. *UNICEF WASH Section, Programme Division, UNICEF New York*.
- [20] URT (2003) The National Energy Policy, Tanzania. Government Printer.