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Water Supply and Sanitation Services for the Urban Poor: A Case Study of Epworth, Zimbabwe

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Abstract: ***While access to adequate water supply and sanitation is crucial to hygiene, human health and poverty alleviation, unplanned peri-urban areas are usually neglected in water policies and programmes and hence no formal arrangements of water supply and sanitation provision are made to that effect. Despite the challenges associated with slums, they have always played a role in accommodating the urban poor who are faced with the harsh realities of urban life. This paper sought to assess Epworth's water supply and sanitation challenges. A case study approach was employed for the study and respondents were selected using purposive and convenience sampling. Data were collected using questionnaires, field observations and key informant interviews. The results indicated that the residents of Epworth lack access to adequate and sustainable safe drinking water and sanitation. This study recommends that governmental and non-governmental institutions operating in the area should continue to promote low cost sanitary facilities and hygiene education so as to encourage hygiene at and beyond the household level.***

Keywords: water supply, sanitation, slums, peri-urban, unplanned settlement

1. Introduction

About 2.6 billion people in the world lack access to adequate sanitation and over one billion lack access to clean water (UNDP, 2006). This is despite the fact that water is an absolute necessity for life and adequate sanitation contributes to a tolerable life situation for the exposed and vulnerable people. Clean water and sanitation hinder the occurrence of diseases like diarrhea, intestinal worms, typhoid, and cholera among others. UNDP sees a clear connection between a major lack of clean water and sanitation and the ability to step out of poverty. In fact, one of the targets of the UN Millennium Development Goals was to halve the number of people without access to water and basic sanitation by 2015.

Despite the efforts by Non Governmental Organisation (NGOs), local and national governments to provide clean water and sanitation facilities; proper sanitation facilities are rare in unplanned peri-urban settlements and residents of such settlements often lack access to these basic needs. Rapid and rampant urbanisation in most African cities has led to increased growth of the informal settlements in peri-urban areas. These peri-urban interfaces are however, often neglected or forgotten in water and sanitation policies and programmes as governments often have no obligation to provide these areas with essential services like water supply and sanitation. Hogrew and Perez (2001) point out that there are no clear cut policies which favor them (unplanned settlements).

Informal settlements usually lack adequate infrastructure and other community services which make planning of sustainable water and sanitation systems in these areas an important and challenging issue. Many people in these areas are dependent on poor quality water from sources which may be far from their homes such that children and women spend hours fetching water. The problem of sanitation in such areas is both critical and complex, because within them many people live in sustained poverty in cramped conditions without infrastructure, or any form of secure tenure, and at the mercy of those more powerful than them (UN-Habitat, 2008).

In Zimbabwe like many other countries, little attention has been given to water and sanitation policies on peri- urban and informal settlements. While water and sanitation and other household surveys have in most cases focused on urban and rural areas (for example the key findings of the 2014 Zimbabwe Multiple Indicator Cluster Survey); the situation of peri urban settlements is usually different and therefore requires special attention. Zimbabwe does not have policies that cover urban informal settlements; Chirisa (2011), as they (informal settlements) in Zimbabwe are still considered to be illegal.

This study was carried out to assess the water and sanitation challenges in peri-urban and informal settlements focusing on Epworth. The influx of people in this area dates back to Zimbabwe's liberation war when people were fleeing war and is still continuing today due to rampant urbanisation, the unavailability of low cost accommodation, job losses as well as increased cost of living has forced people to settle in this area.

2. Statement of the Problem

Peri-urban settlements have forward and backward linkages with their nearest urban areas. Their water supply and sanitation situation (and general welfare) impacts on the welfare of the nearby urban areas, yet their water supply and sanitation situation is generally neglected. One of the Millennium Development Goals' (MDG) targets was to halve the proportion of people without access to safe drinking water and basic sanitation by 2015. As the world enters the post MDG era this study sought to assess the water and sanitation challenges that are faced in Zimbabwe's Epworth suburb.

2.1 Research Questions

1) What are the main sources of water for domestic uses in Epworth?
2) Which sanitary facilities are used by the residents of Epworth?
3) Which water and sanitation challenges are being faced by the residents of Epworth?
4) Which factors are militating against the provision of adequate water supply and sanitation services in Epworth?

3. Description of the Study area

Epworth is a high density, informal and peri- urban settlement which is located about 15kilometres south east of Harare the capital city of Zimbabwe. Epworth covers about 3600 hectares in extent and is divided into 7administrative wards. The 2012 census indicated that 167 462 people lived in Epworth and the average household size was 3.6 (CSO, 2012). A greater percentage of residents in Epworth live in informal settlements. The affairs of Epworth are administered by the Epworth Local Board (ELB), a local authority which was created by the Government of Zimbabwe in 1986.

Epworth is easily accessible from the city centre and the eastern industrial employment Nodes of Msasa and Ruwa. The area lies between 1,500 -1,600 meters in altitude. Relief consists of gently undulating ground interrupted by granite outcrops and balancing rocks that are very popular with tourists. The study was done in Ward 1(Maguta). Epworth District is situated in agro ecological region 2 of Zimbabwe and is characterised by rainfall averaging between 825mm and 855mm which is received from October to March. The temperature ranges from 13^0 c to 30^0C.

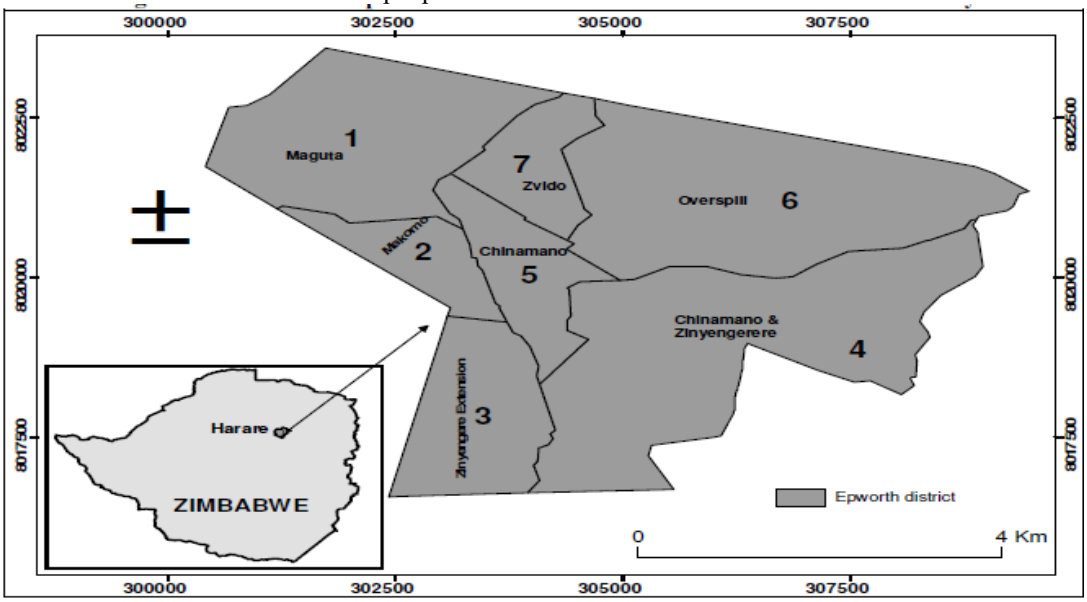

Figure 1: Administrative Wards in Epworth
Source: Chirisa (2012

4. Research Methodology

A case study approach was employed for the study and respondents were selected using a combination of convenience and purposive sampling. The researchers had to use convenience and purposive sampling because of the unplanned nature of the area. Data was collected from the residents and key informants using questionnaires, field observation and interviews. Baseline information about Epworth District was done through review of relevant documents such as the National Census. A physical field visit to the district was made to inform the key stakeholders about the study and on convenient dates and times for data collection were agreed upon. Field observations of water points and sanitary facilities were made during the household visits and surveys; documentation of the conditions of the water points and sanitary facilities and conditions of the households were done during the process. A total of 50households heads were given the questionnaires to fill in. Specific information was drawn from 'Key Informants' through face to face semi-structured interviews. The key informants were mainly those considered to be knowledgeable enough to be able to provide relevant information relating to the water and sanitation situation in Epworth and they included well-informed community members, representatives from NGOs and development committee members.

5. Results and Discussion

5.1 Socio-Economic Characteristics of the Respondents

Age and Gender of the Respondents
During the household surveys 98% of the respondents were women and only a few men (2%) were available as men were generally said to be doing productive work (away from home) to generate income for their families a situation which is culturally acceptable in most African countries. A greater proportion (43%) of the respondents (household heads) were in the 31-40age group.

Household Source and Amount of Income

87% of the respondents indicated that they are informally employed. This figure was confirmed by the information obtained from key informants who revealed that people in Epworth have no reliable sources of income and most of them are self and informally employed. There has been rampant growth of the informal sector in Zimbabwe owing to low industrial growth and generally poor economic performance and hence Epworth has not been spared. Observations revealed that most people are involved in vending of food stuffs, vegetables, as well as clothes; tuck shops and carpentry shops were also observed among other things. Wood vending, sand extraction and brick molding are common livelihood activities in Epworth. Interviews with key informants also revealed that the residents of Epworth are highly donor depended, this was also echoed by the residents themselves during surveys who felt that the situation in Epworth could be improved if more donors were introduced in the area. 68% of the respondents indicated that their average monthly income was less than 200USD.

Level of Education

All the respondents indicated that they had attained some level of education with 38% and 30% of the respondents indicating that they had attained 'O' Level and Grade 7 qualifications respectively. Education is a necessary tool in community empowerment and in ensuring the implementation of sustainable water and sanitation strategies.

Accommodation Status

The type of dwellings for the people in Epworth were observed to range from urban, modern type of housing to highly old and dilapidated houses, thatched round huts (traditional) and shanty make shift type of accommodation. The sizes of the stands and the houses (or shelter) varied from one household to the other, this is a legacy of the unplanned development of the settlement. The type of dwelling also gave an indication of the household's poverty level or amount of income.

5.2 Main Sources of Water for Domestic Uses

Residents were asked to identify their main source of water for domestic uses and the responses shown in Table 1 were obtained.

Table 1: Main Sources of Water for Domestic Uses in Epworth

Source of domestic water	*Number of respondents*	*Percentage*
Tapped water	2	4
Closed (Protected) well	48	96
Open (Unprotected) well	-	-
Dam	-	-
Spring	-	-
Total	50	100

Only 4% of the respondents indicated that tapped water was their main source of water. Though the area has a tapped water supply connection, this evidently low percentage is a result of the fact that tapped water was said to be unreliable and as a result residents had to resort to other sources for their domestic water supply. Residents and key informants revealed that though most houses or residence were connected to the tapped water system but the water was not reliable as it could be available once or twice a week. Lack of reliability of tapped water promotes poor sanitation and can also lead to contamination of the water pipes thus putting the households at risk of contracting water borne diseases. Water from both open and closed wells was said to be available throughout the year. Tapped water was however unavailable and unreliable such that all the respondents who indicated that they use tapped water also depended on water from wells.

Though 96% of the residents indicated that they use water from protected wells, interviews with key informants revealed that people in Epworth still make use of water from unprotected wells. The key informants also indicated that protected wells are shared by an average of ten households which comprised of forty water users (8-10 people per household on average) though their use of the water was not permanent (not on daily basis) but depended on the availability of tapped water as well as the use of water from open wells for other uses. No respondent indicated that they use bottled water.

5.3 Sanitary Facilities in Epworth

Disposal of Human Waste

Pit latrines were the most common and only 14% of the respondents indicated that they use flush toilets. The results are shown in Table 2 below.

Table 2: Type of Toilet Facility for the Residents of Epworth

Toilet type	*Number of respondents*	*Percentage*
Flush toilet	7	14
Pit Latrines	41	82
No facility	2	4
Total	**50**	**100**

The houses with the flush toilet facility were also observed to be modern thus indicating the influence of income of the owner on the type of sanitary facility. The unavailability of tapped water however made the use of the flush toilets difficult and a health hazard as residents are forced to fetch water from open and closed wells to use in the toilets. This also increases the work load for the residents particularly women and children. 82% of the respondents indicated that they use pit latrines (both ventilated and unventilated); all the respondents (4%) who indicated that they do not have a toilet facility at their house or homestead showed that they share the toilet with their neighbours. Sharing of toilet facilities is a common phenomenon in many urban areas in developing countries. This is probably a result of the fact more than one household share one house.

Though 96% of the respondents indicated that they had a toilet facility at their homes, it was however observed and also revealed through interviews that toilets in Epworth are generally in bad state and that some residents still resort to open defecation. The study also revealed that there are no separate toilets for men and women in Epworth and that the same toilet facilities are also used for bathing purposes

though in some 'bathing rooms' made of cheap material such as plastic papers were also observed.

5.4 Disposal of Solid Household Waste

All the residents in Epworth indicated that they make use of rubbish pits for the disposal of solid domestic waste. All the respondents indicated that no waste management (collection and disposal) services were offered by the responsible authority; household waste management is done at household level. Like many other areas in Zimbabwe which offer some form of urban functions, Epworth is characterised by uncontrolled and illicit disposal of domestic waste in open spaces. Illegal dumping of waste has become a challenge in Zimbabwe's urban areas such that it would be perhaps unreasonable to expect such a scenario not to exist in a settlement like Epworth.

5.5 Water Supply and Sanitation Challenges

On being asked whether they had any water supply and sanitation challenges, 89% of the respondents indicated that they did have some challenges and on being asked to identify the challenges respondents identified the issues that are shown in Table 3.

Table 3: Problems Associated with the Water Supply and Sanitation Facilities in Epworth

Water supply and sanitation facility challenge	Number of respondents	Percentage
Bad odour emanating from the traditional latrines	33	66
Traditional pit latrines also used for bathing purposes	15	30
Poorly constructed	22	44
No separate toilets for men and women	43	86
Toilets too close to the wells	33	66

Distance to the water source was not identified as a challenge by the respondents but bad odour emanating from traditional pit latrines, the vicinity of toilets to the wells and lack of separate toilets for men and women were identified as the main water and sanitation challenges. The results are shown in Table 3. There is therefore possible contamination of well water or ground water in general as no expert is involved in the construction of the toilets and wells. While some of the toilets were conveniently located, observations also showed that the majority of the toilets were not and some were observed to be too close to the water sources. 86% of the respondents indicated that lack of separate toilets for man and women was a challenge. The researchers also discovered that though sanitation facilities were in place, there was no permanent place for hand washing after use of the toilet yet hand washing is an important strategy for preventing diarrheal diseases.

5.6 Constraints to Sustainable Water Supply and Sanitation in Epworth

Poor economic Performance and Population Increase
93% of the respondents indicated that population increase in Epworth was the main constraint to the attainment of sustainable water supply and sanitation in Epworth. Population continues to increase in Epworth due to natural increase and in-migration. As economic challenges continue to mount in Zimbabwe; increasing urbanisation rates for Harare and poverty in the urban areas continue to force people to resort to cheaper accommodation thus exacerbating the water supply and sanitation situation in Epworth. Harare's problems have continued to have spillover effects on Epworth and other surrounding areas.

Poor Implementation of Land (Stand) Allocation Policies
Though policies and procedures relating to land buying and issuing of stands are in place, it was revealed that political figures in some cases issue out stands in return for political favors thus leading to overcrowding in some cases thereby worsening the water and sanitation problems in Epworth. 33% of the respondents indicated that corruption by some leaders has perpetuated the unplanned growth of Epworth. To support political interference in the implementation of policies and programmes Musindo, Gutsa and Choguya (2013) indicated that the victims of the controversial Clean Up (Operation Murambatsvina/ Operation Restore Order) were forced to find refuge in Epworth where some places were not affected due to political reasons.

Lack of secure tenure
78% of the respondents showed that lack of secure tenure was one major constraint to sustainable water supply and sanitation in Epworth. According to the UN Habitat (2007) lack of secure tenure is a primary reason why slums persist. Without secure tenure, slum dwellers have few ways and little incentive to improve their surroundings. According to the same source secure tenure is often a precondition for access to other economic and social opportunities, including credit, public services, and livelihood opportunities. Many studies have confirmed that, in slums where residents enjoy secure tenure to land and housing – whether formal or informal – community-led slum improvement initiatives are much more likely to be undertaken and succeed (UN Habitat, 2007).

5.7 Solving the Water Supply and Sanitation Problems in Epworth- Residents' Views.

While NGOs are applauded for their efforts in Epworth, the community has become highly donor-dependent a situation that the key informants confirmed to be true. On being asked of their views of what needed to be done to improve the water supply and sanitation situation in Epworth, 83% of the respondents indicated that NGOs should increase their involvement in the provision of water supply and sanitation services. Various NGOs continue to play a major role in the provision of safe drinking water and sanitation services in Epworth through educating and training the community on sanitation, hygiene and other issues as well as constructing the protected wells, provision of aqua tablets for water purification as well as buckets for drinking water storage. NGOs have been crucial in Zimbabwe as a whole for instance during the cholera outbreak that hit the country in late 2008. Volunteers (mainly women) in Epworth were trained by the NGOs in issues relating to health and hygiene, gender issues, child counseling, HIV/AIDS and home based care among other things. Key informants revealed that non-governmental organisations have played their part in the welfare of the people though they also indicated that

sometimes there was little involvement of the community in the implementation of NGO projects; a situation which tends not to empower the community but create donor dependency. This tends to worsen the situation as the residents may continue to depend on foreign assistance instead of coming up with their own solutions.

6. Conclusions and Recommendations

Water supply and sanitation facilities in Epworth are in bad shape; residents lack access to adequate water supply and sanitation services as they continue to rely on both protected and unprotected sources of water. Despite the work done by NGOs to improve the situation in the area, there is still need for improvement in as far as access to safe drinking water and safe means of excreta disposal is concerned. Poor economic performance and lack of secure tenure as well high poverty levels stand as major constraints to the provision of sustainable water supply and sanitation services in Epworth. Based on the above conclusions, the following recommendations are made:

- Unplanned settlements need special recognition in as far as water supply and sanitation issues are concerned. Policies and strategies should be made with the unplanned settlements in mind. The ELB needs to ensure that policies and procedures relating to land allocation in the area are adhered to so as to avoid the continued unplanned expansion of the settlement.
- NGOs and other donors should come up with projects that economically empower the community.
- The responsible authorities should work towards ensuring that new houses that are built are planned and conform to set standards. This will help in the implementation of water supply and sanitation strategies in the area.
- NGOs should continue to promote low cost sanitary facilities and hygiene education so as to promote hygiene at and beyond the household level.

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