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THE GENERAL SITUATION OF WATER SUPPLY IN THE EASTERN CAPE

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Abstract:Water in general is a fundamental human need. Without water plants and animals would not survive. Basically, withoutwater, there would be no life on planet earth. It is characterized as a substance that is found everywhere on earth, as it is anticipated to cover about two thirds of the earth. The fact that it isfound everywhere, makes peopletake it for granted and ultimately misuse it.However, not just any water is suitable for human uses and needs, but clean potable water.When looking at other countries around the world such as Haiti, Ethiopia that have been hit by water related sicknesses such as Cholera, diarrhea and many more, those sicknesses are traced back to the quality of water they using for drinking and cooking purposes. It is evident that not just any running water is good for use but clean potable water, so as to guarantee good health to people, plants and animals.

Communities, industries, different production companies and agricultural sector, largely depend on dam water and boreholes (underground water) for their daily activities and running of businesses. Due to climatic conditions around the world, these dams have shown signs of drying up. According to Hill (2016), one of the largest dams in the world, The Kariba Dam, water level has decreased severely that it threatened the closure of power plants that use this dam to generate energy for Zambia and Zimbabwe.
Similarly to other countries, the South African dams have experienced a major decline in terms of their water levels.Drought has hit approximately all the provinces of South Africa, to an extent that some of these provinces were declared a disaster area (Essop, 2016). The on-going drought, which is traced back to the beginning of 2015, is one of a kind since 1982 (Fuzile, 2016).

Taking a closer insight to the Eastern Cape Province which was one the provinces declared a disaster area. This is the second biggest province in the South Africa. The climate within the Eastern Cape has notbeen consistent, which made the drought not to be felt by the entire province but various areas within the province. Due to no interventions put in place for such natural disaster, the severity of such disaster became fatal to human, plants and animals. This was associated to poor planning and incompetency by relevant water officials. Even after good rain poured consistently for couple of months, the taps still remained dry showing the impact done by the drought, and water restriction were still being applied in different areas within the Eastern Cape province.
Key words: Water, Drought, Health, Security and Life

1. INTRODUCTION AND BACKGROUND

Eastern Cape is dominantly made up of rural areas, small towns and few cities. These small towns barely occupy the status of cities or urban areas, and are surrounded by townships due to the fact that they have businesses and factories. The fact that it is dominated by rural areas makes it one of the poorest and under developed provinces in South Africa. The general infrastructure i.e. roads, water and electricity in these areas is at a very poor state or does not exist at all. One of the reason for that is associated with apartheid government which gave preference to the urban areas when it came to development of any kind, way before the early 90s where government of democracy came in.

Moving away from the apartheid era, the present government has been in the battle of addressing the water backlog particularly in the rural areas within the Eastern Cape. Even so, the process has been extensively slow due to never ending problems that are embroiling the governmental water departments responsible for

supplyof water to the communities, industrialfirms and agricultural industries.According to Naidoo (2016), about 24% of the Eastern Cape dwellers have no access to purified water which is supplied through proper water infrastructure, and these are mainly rural areas. Urban areas have always been networked with water infrastructure, but their rapid development is proving to be a strain to this already installed water infrastructure. That has major contribution to slow supply to other few percentage of people that does not have access to clean water at all, particularly rural areas and townships dwellers.

2. AIMS AND OBJECTIVES TO THE STUDY

The main purpose of the study was to identify problems contributing to poor supply of water in the urban and rural areas of the Eastern Cape. In doing so, the study will be looking at addressing these problems, so as to improve the supply of water to the people of Eastern Cape as a whole.

In improving the situation of water supply, the study will be focusing on following:

- Promoting water conversation and ways to preserve water
- Educating people about water/ promoting water awareness
- Practicing different strategies to manage water schemes

3. WATER RELATED PROBLEMS IN THE EASTERN CAPE

The gap in standard of water supply between rural areas and urban areas is marginally high. This could be identified when it comes to the convenience of collecting water, where in urban areas people have house connections but in rural areas they have to walk long distances.

Even though people in the urban areas have to pay for their house connection of water, and the fact that they enjoy a much better purified water compared to their rural counterparts, they still have their own issues as well pertaining to water supply.

The general attitude of people towards water is exceptionally poor, be it, the end-user (consumer), or the relevant water sector official. Either individual between the end user and the water supply officials could make a significant contribution if theirattitude could change towards water and understand the importance and the difficulties behind the supply of clean water. Taking into consideration the efforts being done in order to ensure that everybody has access to the clean potable water.

Lastly, the problem of water quality is a common problem between rural and urban areas, but even so the level of the quality at a certain level differs between these two areas.

Table 1: Calculated Water Losses for the Eastern Cape

Town	**Population**	**Water Consumption**	**Unaccounted for Water**	
		Million m^3/a	**Million m^3/a**	**Percentage (%)**
Adelaide	12191	0.73	0.43	60
Bedford	8769	0.53	0.12	22
Alice, Middledrift	52000	3.67	1.15	57
Sutterheim	24672	1.29	0.56	44
Mthatha and Surrounds	137589	22.10	~12	55

Table 1 above is an illustration, based on data obtained from 2011 statistics within random towns of the Eastern Cape (Statistics SA, 2011). It illustrates in percentage, the water loss calculated in the towns indicated. According to the table 1, the results show that over 50% of water obstructed does not even reach the end-user.The issue of water loss was also raised by the Minister of Water and Sanitation, Nomvula Nonknyane, where she reflected in her report that there'sa staggering 37% of water was loss through leaks alone (Watson& Moloi, 2015).

3.1 Rural Areas

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Rural areas have long been dominated by un-educated people, with no reasonable jobs or not working at all. Such circumstances that they couldn't afford paying for water, resulted in a low standard of water being supplied to them. The quality and convenience were the major factors that were compromised.

Figure 1: Reservoir within the houses in a flat area of Bhalasi in Idutywa, Eastern Cape

Looking at the oldenday's water infrastructure, where a reservoir was placed in the middle of the village (see figure 1) and a wind pump would be the supplier of water to that reservoir. That meant all people in the village would have to walk to the reservoir to find water of better quality. This water was not being treated, the contamination of soil or pollution of underground and surface water could have affected the water and no measures would have been done. The collapse of those water infrastructure was never attended and many villages in the Eastern Cape are still standing with those reservoirs in the middle of the village not working whatsoever.

Poor design, that disadvantaged people in the rural areas, is seemingly happening even today. Today, access to education has improved and lives of people in the rural areas are slowly changing for the better, with level of affordability improving, be it through governmental grants or sustainable jobs. Even though the standard of water being supplied to rural dwellers has improved, it's still far less from that of standard supplied in urban areas. In today's design standards for rural areas, a number of 25 to 50 dwellers/homes is combine to one tap, where a total number of 300 people is presumed to use that tap, within an anticipation of 200m walking distance (CSIR, 2005).

With the current construction method of water infrastructure, there is a high rate of illegal connection. This is an indication of undermining the level of service being supplied to people in the rural areas. These illegal connections are poorly done, by unskilled people, resulting in leaks in the pipes.The water supply related problems are going around circles due to never endingmaintenance, without water reaching other people who do not have it all. A staggering 24% of people in the Eastern Cape still donot have access to potable clean water (Naidoo, 2016). They are therefore forced to share raw water from running rivers and dams with animals.

3.2 Urban Areas

Under the apartheid government urban areas were given preferential when it came to development of any kind, hence they had water infrastructure put in place decades ago. Generally, all urban areas (cities) in the Eastern Cape have access to water.

Due to the fact that urban areas had water infrastructure put in place years ago, made people flock in and around these areas. That resulted in massive strain and ultimately collapse of the infrastructure.

The water situation in vast urban areas of Eastern Cape is generally at an acceptable state in comparison to their rural areas. Even so it has its own problems. It is a general perception by people in the rural areas that, there are no major challenges in the urban areas when it comes to water supply. The truth is that there are water related problems in urban areas as well, but the difference is that, in comparison to rural areas, they are far less.

The maintenance of the water infrastructure within the cities is very poor and takes time to be attended to.Also, even though the quality of water is generally acceptable in South Africa, looking into different cities within the Eastern Cape, there is some level of inconsistency within the province.

3.2.1 Townships

Townships are partly falling under urban areas due to the integration strategies being implemented by the current government. The fact that they are generally located close-by urban areas makes them benefit from the same services that are meant to supply these urban areas.

The development of these townships around the cities is still a continuous practice being done in various cities of the Eastern Cape. This is part of eradicating informal settlements surrounding these cities. The only problem the officials do not consider when they developing these areas is, they do not pre-plan for services to supply these townships. Accommodating them in urban areas close-by is a temporary solution, as the water reservoirs quickly run empty, and pipe burst and leaks are all over the place.

With the integration strategy beginning to be implemented within various places in South Africa as a whole, the standard of water supply provided for townshipdwellers is still below that of urban areas.

4. FACTORS CONTRIBUTING TO WATER PROBLEMS

Problems affecting rural areas and urban areas might be different but factors contributing to those problems are in a way similar or precisely the same. Following are some of the factors contributing to water problems affecting both rural and urban areas:

- Infrastructure Failure
- Poor management
- Incompetence and lack of professionally skilled engineers
- Lack of awareness bythe water users
- Rapid population growth and migration
- Climate changes

5. CONCLUSIONS AND RECOMMENDATIONS

Drought is one of the unseen natural disasters. Considering the climate change which is at times influenced by human activities, prediction of drought are not really consistent when looking at a longer period. But when looking at the high percentage of water lost versus water that has been abstracted, drought could not be severe as it usually is, if these volumesof water lost were stored for use purposes.

The poor management is the key factor that could play a pivotal role in changing the situation and influence all other parties involved or affected by water supply to change their attitudes in relation to water. If the management of water sector from national to local spheres could improve, it would start by appointing competent engineers that will provide good quality of work that will be able to last its life span as designed. A day to day attendance of infrastructure damage would be of organized nature, where leaks are attended on time and dealt with by skilled artisans.

It is the duty of the relevant water sector official to look at a long term plan of improving water supply and consider its adequacy for a particular area, considering migration and population growth. Hence the person sitting at higher chair could have the greater influence, and delegate all others below to act responsible.

Most areas, both urban and rural areas opt for water restriction when they have water shortage problems, but it is evidently enough that the water restriction could be avoided though proper management of the existing scheme.Perhaps the relevant officials could thereafter be able to look at supplying those who do not have access to clean portable water.

In practice, good management would require:

- Effective implementation of water conservation and water demand management measures to reduce losses and wastage
- Properly set up Operational and Maintenance unit with allocated budget
- Refurbishment of existing infrastructure to reduce losses and wastage through leaks

The current water situation in the province is dire, making the means impossible to change the situation as quick as everyone would have preferred. Hence too many protests for service delivery, where people have lost patience with the government who made promises of water delivery, but due to other developments that promise is unable to be fulfilled.

Below are some of the recommended interventions that could be considered to address the situation:

- Practice rainwater harvesting

- Water re-use
- Ground water development
- Small-scale surface water development

The most importance of these interventions is, they buy time for a proper upgrading of existing infrastructure while the water users have not really felt the shortage of water.

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