ISSN: 2277-3754
ISO 9001:2008 Certified
International Journal of Engineering and Innovative Technology (IJEIT)
Volume 9, Issue 2, August 2019

THE IMBALANCE OF WATER SUPPLY IN THE EASTERN CAPE

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Abstract: ***The Issue surrounding water imbalance is a common scenario around the globe. The superiority of affordability plays a major part when it comes to water supply. The fact that, the higher class of community happens to pay higher water rates than middle or lower class has an influence on how they respectively supplied with water. This scenario escalates to a level of countries, where countries with good looking economy have better access to water of good quality, same applies to countries with unstable to poor economy.The supply of water is exceptionally inconvenient with much poor quality than what is expected by World Health Organization (WHO). It is often the case where the economy of acountry is relatively good, but that country turns to be the biggest freshwater polluter, due to large industries and agricultural firms within it, for instance China, Russia, and India [6]. The extent of pollution done by factories, agricultural industries and oil spills is unmeasurable. They release toxic chemical which are carried away by running surface water through rivers and lakes. Rural areas, at the bottom of the so called good economic countries,like China and India become the unfortunate victims to the drinking of this contaminated water. Same applies to the release of water from the Waste Water Treatment plants, the water from the plant is let off to run down the rivers and ultimately drank at the bottom by the rural community who do not have access to water treatment plants. Like other countries, South Africa is divided into urban and rural areas. Between these two areas, there is a huge gap when it comes to water supply, the way it is supplied to the end users of each area and the quality of water being served to each area is of different standard. South Africa is a country with nine (9) provinces. According to reference [7], Eastern Cape is the second poorest province in South Africa after Limpopo. Considering the fact that Eastern Cape has bigger population that Limpopo. Reference [7] reckons that there is more poor people in the Eastern Cape than in Limpopo. One of the obvious reasons for that is the fact that Eastern Cape is largely dominated by rural areas. These rural areas are under developed and mostly do not have water infrastructure, hence they have no clean potable water, and are fully dependent on river, dam, springs, weirs, and rain water.***

Keywords: **Water Imbalance, Eastern Cape, Urban Areas, Rural Areas, Water Standard.**

I. INTRODUCTION AND BACKGROUND

South Africa is regarded as the most diverse country in Africa generally, boosting with many and different tribes, cultures, languages etc.It consists of nine differentprovinces. One of those provinces is the Eastern Cape. Eastern Cape is situated in the South-East of South Africa, bordering Free-State and Lesotho in the North, KwaZulu-Natal in the North-East, the Indian Ocean along its South-Eastern borders.

Northern Cape in the West [1] the province was named Eastern Cape Province after 1994, before then it was divided into Transkei and Ciskei [1]. It is a province with massive history when it comes to politics, hence, iconic political heavy weight like Nelson Mandela, Oliver Tambo, Thabo Mbeki to name the few come from the province.

Even with such political greats and powerful leaders, Eastern Cape has in a number of occasions identified as one the poorest provinces in South Africa [1] The Apartheid government which ruled the country before 1994 prioritised the urban areas when it came to development of service delivery. With Eastern Cape dominated by rural areas that meant even with the takeover by the new government,the setting to the same standard of infrastructure and service delivery between urban and rural areas within the Eastern Cape is still a long way to be achieved.Prior 1994, urban areas had proper infrastructure installed for services such as sewer and water. The problem today is, even though the current government is trying to provide the same infrastructure in the rural areas that was put in the urban areas years ago, in trying to create a balance society in South Africa generally. That is not happeningquickly enough due to some external factors such as:

- People in the rural areas are too poor to pay rates that will ultimately maintain the infrastructure afterwards.
- The Infrastructure in the urban areas is currentlytoo old and deteriorating, meaning it needs more attention as urban areas are the center of attention when it comes to economy focus.
- The funds get exhausted in operation and maintenance of existing infrastructure, which isdominantly in the urban areas.

The rural areas of the Eastern Cape have long been under developed. In addition to these rural areas, there has been a constant growth of townships around the small town of the Eastern Cape. All these areas have never managed to be at the same standard as urban areas as there has never been a proper infrastructure installed in years.

II. AIM OF THE STUDY

Eastern Cape is a province that has massive history of inequality due apartheid government that ruled the country prior 1994. The ruling government has been preaching integrating the country of South Africa since

Manuscript received: 24 July 2019
Manuscript received in revised form: 18 August 2019
Manuscript accepted: 05 September 2019
Manuscript Available online: 10 September 2019
DOI:10.17605/OSF.IO/ZT9E3

ISSN: 2277-3754
ISO 9001:2008 Certified
International Journal of Engineering and Innovative Technology (IJEIT)
Volume 9, Issue 2, August 2019

1994. It is the aim of this study to identify factors that contribute to the imbalance of water supply between urban and rural areas of the Eastern Cape.

The study identifies the imbalances surrounding water supply between these two areas within the Eastern Cape and ultimately bring about the recommendations and suggestion to remedy the situation in order to achieve the goal of the government to create an integrated society.

III. THE INDIFERENCES SUROUNDING WATER SUPPLY IN THE EASTERN CAPE

The spatial indifferences in water supply in the Eastern Cape Province is marginally bigger.The affordability scale between these areas determines the kind of supply of water that is ultimately supplied to each respective area. The table 1 below is the breakdown of some of the indifferences between these two areas:

Table 1: Differences surrounding water supply in urban and rural areas

Urban Areas	Rural Areas
*There is house connections	*There is either no water or there is standpipe connection
**Water is sourced from either a dam or river then purified in a water treatment plant to meet required health standards before supplied to the end users.	**Water is sourced from either borehole, weir or springs to a storage reservoir. It is at times chlorinated then supplied to the end users.
***Quality of Water is accurately monitored before supplied to the end users	***Water quality not purely evaluated before supplied to the end user
Well-constructed and maintained infrastructure	Poorly constructed and maintained infrastructure

* The house connection versus the standpipe or no water situation between urban and rural areas respectively determines the degree of convenience of each respective area to access water for daily activities. In urban areas they do not leave the house in collection of water whilst the rural areas dwellers have to walk meters to fetch water.

**It is suggested by some researchers that water in urban areas is more polluted than that in rural areas due to high level of development and factories found in the urban areas [5].Therefore it requires thorough purification before it could be made available to end users, hence it undergoes many stages of purification in the water treatment plants before it is used.Whereas in rural areas there are no water treatment plants to purify the water adequately.

*** The final purified water that is made available, is first taken for tests to see if it's meets the minimum health standards before it is consumed by end users. In the rural areas on the other side, there is not proper testing of water before is made available to the end users. At times they do a once off test particularly during construction due to the fact that, they often use underground water which is regarded safe and clean, but chemicals and hazardous substances could infiltrate the soil over a long run and will not be picked up until they have caused some illness due to non-frequent quality checks being done in water supplied in rural areas.

Fig 1: Drinking water from the kitchen sink

Fig 2: Fetching water from a standpipe point using a donkey kraal

Figure 1 and 2 is a typical illustration of the indifferencesbetween urban and rural areas with regards to access to water. In figure 1 drinking water is accessed in a kitchen sink, whereas in figure 2 people (in the village of Hewu Butterworth) have to make means to collect water from the local standpipe collection point using a donkey kraal to collect enough water for sometime.

The indifference shown by both figures highlight the issue of convenience, hence rural people have resorted into illegal connections, or otherwise they need to find some sort of transport to collect enough water for a day or two.

A. Townships

In between rural areas and urban areas, there are townships. According To reference [4]many townships can be categorised as middle class as they consist of people who have access to jobs in the cities. These

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townships are built in the surroundings of the urban areas/cities, and when it comes to service delivery like water supply they are made part of the city or the urban areas they closer to. Due to the standard of affordability of these people, their rates are however lower than the rates paid by people in the urban areas.

IV. CHALLENGES

The imbalance of water supply between urban and rural areas, with townships included come with challengesthat ultimately affect everyone in the respective areas they reside in.

Urban Areas

The convenience experienced by urban area dwellers with regards toaccess to water is perhaps one of the reasons leading to movement of people from rural areas to urban areas. Some of these rural dwellers assemble informal settlements particularly nearby the townships as a means to get closer to better life which is experienced in the urban areas.

Once they are close by the urban areas, the government is compelled to supply them with basic services, such as water, as water is regarded as one of basic human rights in South Africa [2].The water supplyingthe urban area ultimately suffers extensive strain to cope with the supply of increased population.

Once the townships start growing larger, thegovernmental funds get exhausted quicker as the maintenance no longer becomes as before, as the area to be attendedbecome even bigger. A lot of money ends up being spent on maintenancerather than going to those people without water at all particularly in the rural areas, hence the imbalance is never achieved or is dragging to be achieved.

Rural Areas

The government has improved the supply of potable water in the rural areas particularly in Eastern Cape since the end of apartheid government. However the process has been slow and there are large number of other villages who still share dam and river water with animals.

Reference [2] quotes that "Department of Provincial and Local Government states that, municipalities are to spend their funds on infrastructure necessary to supply 25 litres of potable water per person per day within a distance of 200m from each household, and with a minimum of 10 litres per minute (in the case of communal water points/standpipes), or 6000 litres of potable water supplied per formal connection per month (in the case of yard or house connections)".

The 200m distant of standpipe comes with its own disadvantage particularly if the community is developing further away from the standpipe, there are no means done to accommodate the new developments who will now have to walk over 200m distance. The scheme of water at that stage is being monitored by municipal operational and maintenance unit, which does not do any further construction, rather fixes problems that arises while the water scheme is in operation.

On the other hand, the illegal connections are the major challenge to the government as they battle with water scarcity, maintenance of infrastructure and excessive water pollution. The sources supplying water in these rural areas become under pressure as they now work overtime due illegal house connections, which end becoming a trend in rural villages.

V. CONCLUSSIONS AND RECOMMENDATIONS

The aim of South African government of integrating rural areas and urban areas will never succeed if similar way of doing things is not applied on either area. If there are no plans whatsoever to put same facilities found in the urban areas in the rural areas, there is still going to be massive migration of people from rural areas to urban areas.

The government needs to open doors for people in the rural areas to apply for house connections as a standard rate of their affordability, as it is done in the townships. There are large volumes of water lost through leaks not done adequately by local people to bring water into their houses, additionally, that water is misused due to the convenience that it's in the house and it's free. According to findings of reference [3] where payments are being made for consumption of water, the attitude of people towards using of that water automatically changes as they know they will pay for their wasting afterwards.

It is the truth that not everyone in the rural areas would afford to pay for house connections; matter of fact government provided the RDP standard of water which is free to the rural areas due to the fact that they actually did not have access to any kind of potable water. The problem is even with that kindness the government is trying, everyone is going to end up with no water, as these illegal connection and water misuse done by house connections is drying up the water sources supplying the villages, taking into consideration that in rural areas water resources are frequently boreholes, weirs and springs which do not hold too much water.

The government/municipalities also need to take drastic measures in ensuring that they invest on skilled workers to do their water project and infrastructure maintenance.

It is a fact that proper planning was never done with regards to development of some townships. The government built the so called RDP houses for people who stayed in informal settlements around the urban areas, and never considered precisely if there was going to be enough water to service them. The government was then compelled to share the water supplied to urban areas to these townships, hence the urban water supply ends up getting strained. The usage of tanks where rain harvesting would be prioritised in those townships would be the solution to such a situation.

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Generally speaking, to reduce the migrating of people from rural areas to urban areas would take a mutual effort of different departments within government. It would not take only water sector to improve but, also many sectors such as transport and electricity. Some of these rural dwellers, particularly those who have own transport avoid moving to the cities permanently as the rate for water, electricity and solid wastes are extensively high and they prefer daily travelling from rural area to the cities for work and groceries.

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