

An Evaluation of the Water Tariff Policy: A Case Study of the Thulamela Local Municipality

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Abstract: The main purpose of this paper was to evaluate the water tariff policy in Thulamela Municipality. The study had four objectives to answer the research question which were: To evaluate the effectiveness of water tariffs in Thulamela by examining the three locations of Tswinga, Dididi and Thohoyandou Block K; To determine the effectiveness and acceptability of the water cost recovery policy; To determine the attitudes of the community towards water tariffs and non-payment and to determine the challenges encountered in the provision and supply of water in the Thulamela Municipality. A mixed method approach was used for this study combining structured questionnaires and open ended interviews. This allowed both qualitative and quantitative analyses to be done and to draw out conclusions from the community responding to the survey carried out. The findings of the study have showed that there are different opinions and perspectives on the issue of the water tariff policy. More than 50% of the populace interviewed noted that they do not view tariffs as a burden, unaffordable and unsustainable phenomenon while others found the whole water tariff policy to be a burden, unaffordable and unsustainable. Despite these few hiccups the water tariffs have been widely accepted in rural communities though more need to be done for every household to embrace and acknowledge the need to play their part in the maintenance and repairing of water services. The results also show that the sample households have a strong willingness to pay for water tariffs as indicated by 76% of respondents who agreed to have a strong attitude towards willingness to pay. Communities acknowledged that it is helpful to pay for water as this will aid the municipality in meeting the maintenance and repairing costs of providing the supply of water. In addition, the sampled households exhibited that they had a strong attitude in approving the appropriateness of water tariffs and accuracy of the water billing system. Lastly, it was noted that there are challenges encountered in the provision and supply of water; the unavailability of proper facilities for accessing water services, inability to afford to use the water services, unreliability and inconvenience of services and lack of awareness and knowledge on the need to pay for water.

Keywords: Adequate supply, Facilities, Water tariff policy, water resources, Thulamela Municipality

1. Introduction

The South African Constitution provides that every household in the country should have access to clean drinking water as a basic human right. However, drinking water supply in South African rural areas is not sustainable. There are still millions of people without access to an adequate supply of safe drinking water. The quantity of water available for drinking purposes is seriously impacted upon by global climate changes which contribute to severe droughts in certain areas of Southern Africa such as South Africa, Malawi and Botswana, while increased frequency and the extent of flooding are causing considerable damage in other areas, population growth and urbanisation. The quality of existing water resources is also deteriorating, resulting in ever

increasing problems with finding suitable and sustainable treatment technologies to produce adequate quantities of safe water for household use (Swartz, 2009:1). Southern Africa generally remains threatened by water shortages (Sebola, 2000). In a warmer and drier future, the competition for fresh water will increase sharply and the equitable sharing of the water resource will demand considerable skill. With the current rates of urbanisation and population growth in the country, new sources will have to be developed, including the use of aquifers and desalination (Midgley, Chapman, Hewitson, Johnston, De Witt & Ziervogel, 2005:56). The study focused on different areas in the Thulamela Local Municipality specifically Tswinga, Dididi and Thohoyandou Block K, with specific reference to quality water supply in these areas in Thulamela. The major problem the

study investigated was the reliability of access to and supplying of quality water by the Thulamela Local Municipality to its residents. There is a lack of specific information with regard to the reliability of access to and supplying of quality water in Thulamela rural areas. It is within this context that the study was undertaken to investigate the reliability of the supply of and access to quality water in the Thulamela Local Municipality so as to provide solutions that can be helpful to the municipality and the academic community. This paper therefore provides literature review on water related issues and problems as well as results for the study conducted at Thulamela local municipality.

2. The Right to Water

McGraw (2011:10) state that in July 2010, 122 countries formally acknowledged the human right to water and sanitation law and it is now incorporated into the Formal International Human Rights Law. Following this development, the United Nations Human Rights Council adopted a binding resolution recognising that the human rights to water and sanitation are a part of the right to an adequate standard of living. The human right to water places certain responsibilities upon government to ensure that people can enjoy sufficient, safe, accessible water (McGraw & George, 2011:10). The South African Constitution states that all citizens have the right to an adequate amount of safe water. The Free Basic Water Policy (FBW) was implemented to ensure that these rights are fulfilled and addresses the inequalities in service provision, which were established during the apartheid era, are reduced. The goals of water supply in South Africa are outlined in 1997 National Water Service Act. The government aimed to have implemented FBW at these standards by 2014 in line with the World Health organisation's millennium goals.

The national water and sanitation programme in South African is premised on the right to water and sanitation. The policy aims to ensure that everybody is provided free basic water which is affordable and does not restrict anyone to water access. Devolution of responsibility from national to local government has also enhanced the implementation process. Reservations on the capacity of local government to implement the programme have been raised with its sustainability in the long run in mind. The Department of Water Affairs and Forestry (DWAF) is

tasked with the responsibility of ensuring equitable access to water supply and sanitation and the development of the water policy. According to Rogers, Peter *et al.* (2001) the Dublin Principles have been influential in shaping of the water sector reforms. At the United Nations Conference on Environment and Development (UNCED) held at Rio de Janeiro in 1992, when the principles were concluded, they provide that:

- Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment;
- Water development and management should be based on a participatory approach involving users, planners and policy-makers at all levels;
- Women play a central part in the provision, management and safeguarding of water;
- Water has an economic value in all its competing uses and should be recognised as an economic good.

3. Legislative Framework and Water Policy

Various legislative frameworks in relation to water exists in South Africa and are discussed below:

3.1 The Water Services Act

The Water Services Act, 1997 (Act 108 of 1997) is the first act of Parliament in the post-apartheid era that gives effect to the right of access to a basic water supply and basic sanitation as required in terms of the 1996 Constitution. This Act is wide ranging in its scope and confirms the National government's role as custodian of the nation's water resources, as well as confirming the key role of municipalities in directly delivering water and sanitation services. The Act further provides for national and provincial monitoring, oversight and intervention in municipal water services delivery, and calls upon all spheres of government to work together in the spirit of inter-governmental and co-operative government to ensure clean, safe and affordable water for all. In terms of the debate over public or private provision of basic water supply and sanitation, this Act provides a regulatory framework for the operations of water services institutions and water services intermediaries, and also prescribes the manner

in which national norms and standards for tariffs will be set.

Consideration is given to fact that municipalities have an obligation to ensure that consumers of water in their jurisdictions receive efficient, affordable, economical and sustainable access to water (section 11(1)). This, however (in the case of private providers), must be balanced against the need of providers to earn a reasonable profit (i.e. return on capital invested) (section 10(3) (f)).

3.2 The National Water Act, 1998 (Act 36 of 1998)

The National Water Act, 1998 (Act 36 of 1998) takes a broader view of the water policy for South Africa than does the Water Services Act. The National Water Act gives further effect to constitutional principles and prescripts to which the Water Services Act falls short of effectively addressing. In this regard, the aim of the Act is to provide for fundamental reform of the law relating to water resources and as well to provide for matters connected therewith. Areas of water policy addressed by the National Water Act include, among others, the protection of the quality of water resources; public provision and user pricing strategies; the establishment of bodies to implement international agreements; and safety of dams.

3.3 Reconstruction and Development Programme 1994 and Growth Employment and Redistribution Strategy 1996

According to the Reconstruction and Development Programme (RDP) (Parker & Saal, 2003:295-6), the process of commercialisation and privatisation of parastatals must be reviewed to the extent that such processes might not be in the public interest. The democratic government will reverse the privatisation programmes that are contrary to the public interest. The RDP served to affirm and signal the new direction in which post-apartheid policies would go. Although there is no specific mention of water supply, it is significant that the RDP sought to redress uneven development and its associated lack of access to basic services for the majority of the population. It is also worthwhile to note the sceptical approach towards the privatisation programme of government (started in the late 1980's under the apartheid government). After the RDP programme two years later the Growth,

Employment and Redistribution (GEAR) strategy document of 1996 was introduced that clarified the government's new policy direction vis-à-vis privatisation. The CEO, Water Mandate (2010:2) defines a water policy as a legal structure that underpins water management and governance that encompasses all government efforts to define the rules, intent, research and instruments for managing water resources.

The Department of Water Affairs and Forestry (DWAF) in 1990 produced a policy on community water and sanitation after stakeholder consultation that provided the foundation for the legislative and regulatory framework, which was later enacted in the Water Services Act of 1997. Peters and Oldfield (2005:5) state that water policy reflects tensions between addressing water as a basic need and the insistence that users pay for their access and use. There are four policy documents which currently underpin the national water legislation of South Africa, these are intended to overcome challenges in the water sector and to provide for improved access to water, equity and sustainability. The four policy documents are the White Paper on Water Supply and Sanitation (1994), White Paper on a National Water Policy for South Africa (1997), White Paper on Basic Household Sanitation (2001), and Strategic Framework for Water Services (2003). In addition to the above mentioned four policy documents, Goldin (2010:17) states that the Water Services Act, Act 108 of 1997 and the National Water Act, Act 36 of 1998 provide for the establishment of institutions that are given responsibility for the management and distribution of water. Goldin (2010) further states that the National Water Act rests on the concept of Integrated Water Resource management (IWRM) on a catchment basis and the National Water Resource Strategy must promote the management of catchment within a water management area in a holistic and integrated manner.

The estimated average cost of providing water per person is high for rural water supply. The reason for this includes high capital intensive design standards that local governments may find difficult to operate and maintain which also could be expensive for users to fund. According to the Constitution, within every 200m of every person's house water must be available. This entails high costs to rural communities that are scattered. The South African government in water and sanitation programmes carry the full cost of capital. For operation and

maintenance, the basic level of water of 25 litres per person per day is free, but higher levels of service should be paid for by the users. The operation and maintenance of the free basic water is paid by a subsidy from the national budget. In spite of this, there is evidence of many users who are failing to pay for the higher levels of service and thus leaving the operation and maintenance costs wholly on the national subsidy.

4. Water Supply in South African Rural Communities

Providing water to rural communities in South Africa is achieved mainly through small community water systems. These systems deliver a defined level of service referred to as 'basic' water supply service. The criteria defining a basic water service are: communal taps or standpipes as the abstraction technology; maximum distance of 200 m from each household; minimum quantity of 25 litres per capita per day; minimum flow rate of 10 l/min and a minimum reliability of 98%. Water supply systems that do not comply with these criteria are considered 'rudimentary' (DWAF 2000). These rudimentary systems are then upgraded to small 'package' water treatment plants where water is abstracted on-site, usually from groundwater or surface sources such as rivers, treated (where required), stored and then distributed to communal taps (Momba *et al.*, 2008:23). Households collect the water from the taps in a variety of containers and carry it home for domestic requirements. A water service in this study is defined by three attributes: access, availability and portability.

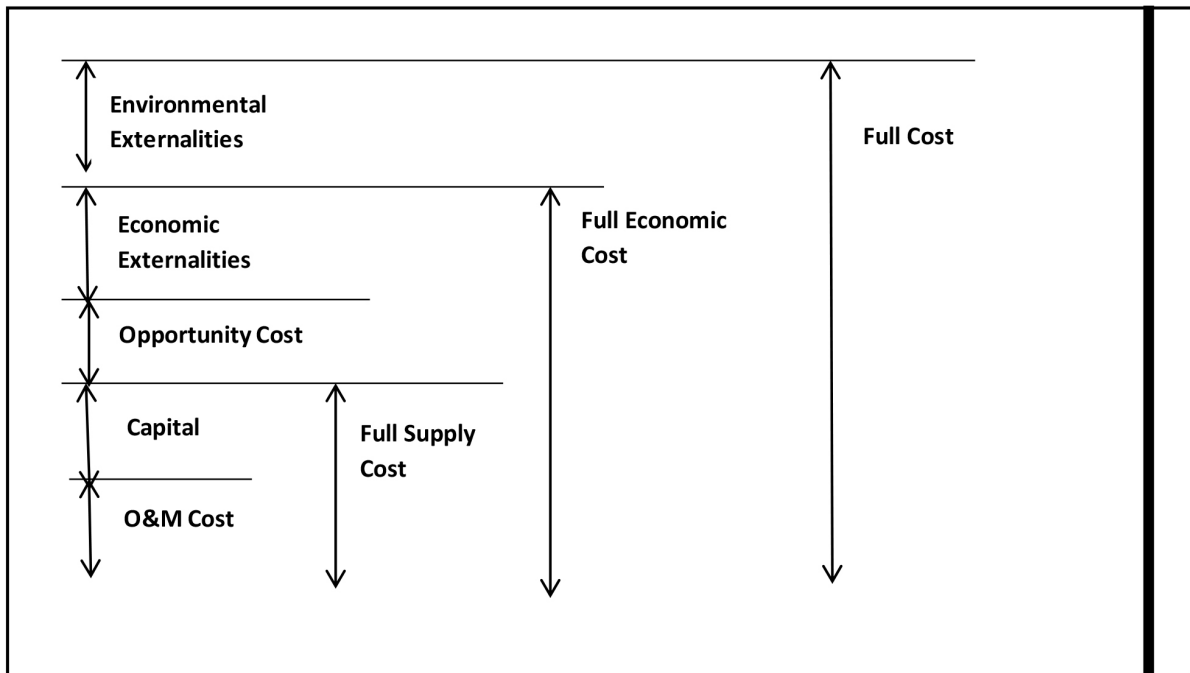
The reliability of a water supply service is generally defined as the proportion of time that the service functions to its prescribed level (Moriarty *et al.*, 2010). Therefore, a reliable service should deliver water of sound health-related quality (potable) that is physically obtainable with appropriate technology (e.g. tap) within a reasonable distance from the household (accessible), while being constantly obtainable at the source in quantities sufficient for daily household demands for domestic use, including personal hygiene (available). One of the important services that the environment provide to humanity is a continuous supply of clean and fresh water from the natural resources. From the environmental point of view, the decline in water supply has had a bad effect on humans as well as animals as water is used for various purposes. The

most important drivers of water use are population and economic development, and also changing societal views on the value of water. Some people still travel long distance with wheelbarrows to collect water from taps which are limited in the human settlement. The challenges in getting water to the people in the rural setting are that they are usually located at remote points from the infrastructure and as a result getting water to them may be an expensive task.

Water supply issues cannot be solved by simply building more dams into the infrastructure, but they rely on rehabilitation, maintaining and conserving the natural area which forms the critical catchment for the country. There must be a way of reducing water demand and making water available and the water that is supplied must be clean and potable. The water availability is one of the factors that affect the economic, social and well-being of South Africa and its supply is already limited. South Africa is an arid country with only 8.6% of rainfall available as surface water (Walmsley & Mzuri, 1999:14). The water scarcity situation in South Africa is exacerbated mostly by mismanagement of available freshwater resources and by the deteriorating water quality as a result of pollution (Blignaut & Van Heerden, 2009:123). Pollution of water resources (rivers, wetlands, reservoirs, lakes and groundwater) by toxic mine wastes has been identified as a problem in South Africa. Water shortages are mostly experienced in rural communities that are fully linked to the water reticulation network. Most of these communities are located in mountainous areas of the province, for example the homelands. Only 8% of Limpopo province has water on site, 50% have access to communal taps, 32% draw water from the source distant from their home (Water research Commission 2005). In urban areas 9% do not have piped water, either in their home or communities. In rural areas 5% rely on communal water points and 39% have to make their own provision (Oliver & Van Heerden, 1999:121). In the northern region of Limpopo 6% have water on site and 34% do not have access to tap water.

According to this United Nations World Water Development report 2 (2006) as shown in Figure 1, financial costs are defined as operating costs, maintenance cost, capital cost for new investments, depreciation, opportunity costs for capital costs, administrative costs and other direct costs for

Figure 1: Cost Structure



Source: UNESCO (2006)

supplying water or treating wastewater. Resource costs are defined as the costs of foregone opportunities that other users suffer due to the depletion of the resource beyond its natural rate of recharge or recovery (for example, the excessive exploitation of underground waters or over use of surface waters). Environmental costs are defined as the costs of damage that water uses impose on the environment, ecosystems and those who use the environment (e.g. a reduction in the ecological quality of the aquatic ecosystems). It also includes economic externalities such as the loss of employment in the services sector in rural areas due to the social impacts that result from the degradation of the water resources.

5. Cost Recovery

According to the definition of cost recovery espoused by Boyle (2012:1) in the Local Government Research Series, cost recovery is concerned with recouping a portion of or all costs associated with a particular service provided by the local authority to the public. He identifies two critical factors for the proposition of cost recovery methods at local state level as being revenue enhancement to improve efficiency and maintaining equity considerations in regard to the provision of public services. Cost recovery is a controversial topic among water supply and sanitation professionals. This controversy dates

back to long ago and two major viewpoints have emerged. The first one suggests that, based on the health and social benefits, valid reasons for public and donor investment to deliver services for all, while operations and maintenance should be sourced from within to avoid wear and tear of the structures.

Table 1 on the next page shows that a proper user fee and charge is to promote efficiency, effectiveness, transparency and accountability between service providers and consumers of the services. However, a major drawback of this is that it makes a fallacy of composition that everybody is able to pay, yet we live in an environment characterised by people who have different lifestyles. Therefore, there is a danger of pricing the service out of the reach of the marginalised people in the communities.

5.1 Cost Recovery Policy and Methods

The applicability of the free basic water (FBW) being implemented in a cost recovery mandate in sustainable use and adequate access to water is still a deeply contested issue as reported by Reuters and Stein (2002:27). Peters and Oldfield (2005:6) argue that incorporating FBW in the policies of cost recovery creates a paradox in which low income poor household debts, and at the

Table 1: Merits and Demerits of User Fees and Charges as a Form of Cost Recovery

Merits	Demerits
There is a clear link between the payment of the charge and the consumption of the service	The perception of 'double taxation'
Fosters an element of Transparency and Accountability.	Charges are not always easily linked to the ability to pay
Conservation on the part of both the consumer and the local authority is encouraged.	Sometimes it is difficult to assess the true cost of the service or the actual level of consumption
Charges can be linked to national policy in such areas with the environment	Some charges can be difficult to collect

Source: Local government research series, 2012

Table 2: Arguments for and Against Cost Recovery Initiatives

For user fees and charges	Against user fees and charges
Creates equity by charging user directly	Monopoly supplier may over charge leading to inefficiencies
Increases economic efficiency	Administrative complexity
Generates revenue to offset costs and protect services	Potential exclusion of those who cannot pay
Increases direct accountability by providing a link between services and fees charged	Impacts on competitiveness and economy of charges on businesses and individuals
Not charging or under-charging can result in over consumption and subsidisation from other revenue sources	Potential appearance of double taxation
	Fee collection process usually not as efficient as tax based financing

Source: Local government research series, 2012

same time small municipalities, face increasing financial losses in the delivery of services such as water. McDonald (2002:13) points out that strategies such as progressive block tariffs, free basic services and policies directed towards the indigent are not incompatible with a policy of full cost recovery. He furthermore suggests that these merely depend on the nature of the price structure in relation to consumption levels and the point at which consumers are expected to pay for the full cost of water provision.

5.2 Principles for Consideration and Adoption of Cost Recovery Fees

Carnegie and Baxter (2006) state that prices can deviate from cost, because public sector organisations may want to gain some margin on the services delivered, for example in order

to be able to renew underlying facilities utilised. Furthermore, they distinguish six principles that may guide price setting practices (Carnegie & Baxter, 2006:107):

- **Efficiency:** The fees are simple and are not cumbersome to administer.
- **Transparency:** The nature and use of the service are understood by users.
- **Effectiveness:** The fees provide value for money for users.
- **Clarity:** Users are clear about when and how fees apply.
- **Equity:** The fees are fairly applied across a range of users.

- **Ethics:** users with special service needs (for example, due to temporary or permanent disabilities) are not charged exorbitant fees directly in accordance with the cost of higher servicing requirements

5.3 Cost Recovery Mechanisms

According to Kumar (2011:10), a water tariff policy is one of the possible tools available for cost recovery. It stipulates a basic charge that is payable by each household connected to water services. The charge is based on the consumption of water attributable to each household that can access the water service. In determining a tariff structure, the following needs have to be taken into account such as that costs should be a true reflection of the water used thus the billing system should ensure it is accurate for cost effectiveness, should ensure fairness and equality across the whole spectrum regardless of gender, race or ethnic background, the tariff should be practical and appropriately implemented, the tariff should be understandable to the general citizenry and that it is necessary that the tariff also takes into account the ability of consumers to pay.

In the determination of a tariff the following factors should be considered, financial factors, socio-economic factors, credit control, minimum service level and historical and future user patterns. The main objective of a tariff is to recover costs of rendering water services covering aspects such as administration and service costs and other overheads. A Minimum service level is usually determined to calculate the appropriate tariff package; this will ensure sustainable service delivery.

6. Research Design and Methodology

The study adopted mixed research approach. Because of the diverse nature of data required for the study both qualitative and quantitative research designs were adopted. The study required that data be obtained through questionnaires and through interviews. The usage of both assisted in avoiding biasness of the results to be obtained from the study.

6.1 Population and Sampling Procedure and Method

The population of the study consists of three communities falling within the Thulamela Local

Municipality being Thohoyandou Block K, Dididi and Tswinga. The total population of the study is 11 833, which comprises of 5 573 residents of Thohoyandou Block K, 2 312 residents of Dididi and 3 948 residents of Tswinga (Stats SA, 2011).

6.1.1 Sampling Method

The sampling strategy in this study involved both purposive and random stratified sampling. Respondents were purposefully selected from the chosen three locations in Thulamela. Stratified random sampling was ensured through questionnaires directed to the general community members in the study area where a substantial number of respondents had the potential to participate in the study. Sample cannot be specific, in some instances certain members may have no chance at all of being included in such a sample, and for example, in this study this was relevant for Tswinga Village, Dididi and Thohoyandou Block K. The western side of Tswinga was chosen as a population sample.

6.1.2 Data Collection and Data Analysis

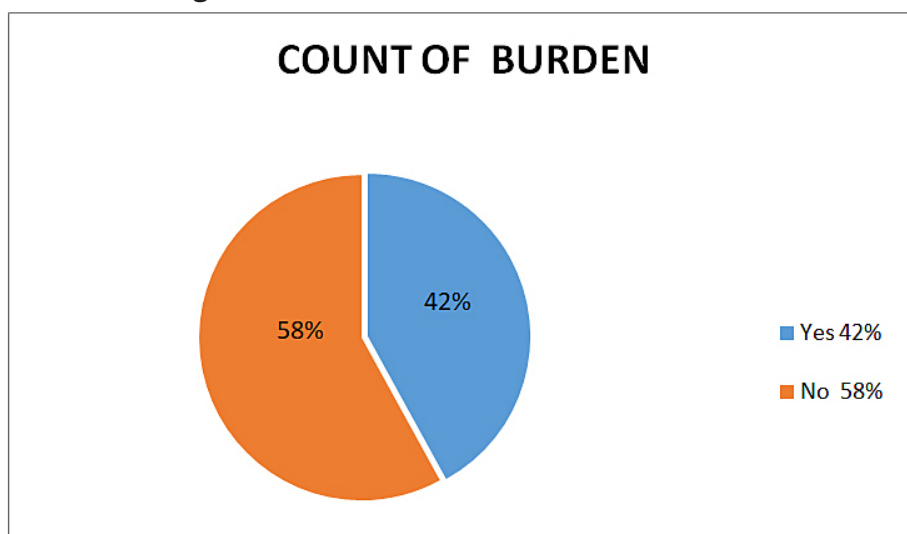
In this study a questionnaire was used to collect quantitative data while interview schedule was used to collect qualitative data. During the collection of qualitative data field notes were also used. The data was analysed through the use of descriptive statistics making use of tables, graphs and pie charts.

7. Results and Discussions

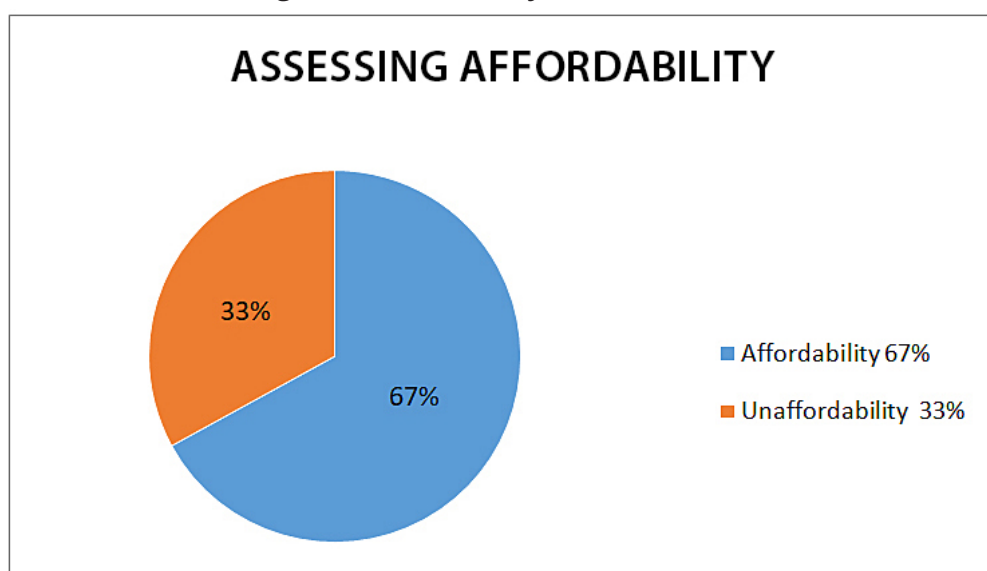
The discussions of the findings of the results are hereunder discussed in line with the objectives of the study conducted.

7.1 Determination on the Effectiveness of the Water Tariffs

As indicated in the first chapter of this study the first objective was to determine the effectiveness of the water tariffs in Thulamela Municipality. In order to assess whether the water tariffs have been effective, three main variables were identified that sought to capture the views and opinions of the households with regard to this subject. Primarily the target was to determine whether the communities accept these tariffs and how they view them. The first variable wanted to identify how communities view these tariffs, as a burden or not. Figure 2 on the next page depicts the views of the communities in relation to the perceived burden of tariffs.

Figure 2: The Burden Nature of Water Tariffs

Source: Authors

Figure 3: Affordability of Water Tariffs

Source: Authors

Figure 2 shows a very interesting outcome of the opinions of the communities with 58% of the sampled households suggesting that they do not think that water tariffs are a burden thus meaning they actually support and understand the need to pay for accessing the water services while 42% of the households believe that it is a heavy burden upon them to pay for water services. This result confirms the assumption made in the study that some communities are not happy about the idea of being forced to pay for water services due to several reasons such as low income or no income at all. This then actually leads to the next question to ascertain the community's perceptions on the affordability of water tariffs. Figure 3 above shows the view on affordability as expressed by households.

7.1.1 Views on Assessing Affordability of Water Tariffs

In regard to how the residents view the water tariffs, they responded as follows as depicted by Figure 3.

Figure 3 shows that 67% of the households believe that the water tariffs are affordable while 33% say that they are unaffordable. The results confirm that mixed feelings exist about the reaction to water tariffs in Thulamela Municipality. However, a substantial majority agree that the tariffs are affordable and a third of the population disagree on this arguing that the tariffs are unaffordable. The results show the divergence of views with regard to water tariffs within Thulamela

Municipality and which leads to the next issue that has to do with whether the tariffs are sustainable in rural communities. The figures depict the views with regard to sustainability of water tariffs in Thulamela Municipality.

7.1.2 Assessing the Sustainability of Water Tariffs in Thulamela Municipality

The results in Figure 3 shows the divergence of views with regard to water tariffs within Thulamela Municipality and which leads to the next issue that has to do with whether the tariffs are sustainable in rural communities. The figures depict the views with regard to sustainability of water tariffs in Thulamela Municipality

Figure 4 shows that 54% of the sampled households agree that the water tariffs are sustainable while 46% are of the opinion that the water tariffs are not sustainable. The result shows that there is a division in the water tariffs issue amongst the households with those in favour of tariffs arguing that they are sustainable and others refusing this claim. However, there is no denying the fact that the majority of households have acknowledged the water tariffs in Thulamela Municipality with an average of approximately 66% in support of water tariffs.

7.1.3 Assessing Willingness to Pay

In determining the effectiveness of the water tariff policy in Thulamela the research also investigated

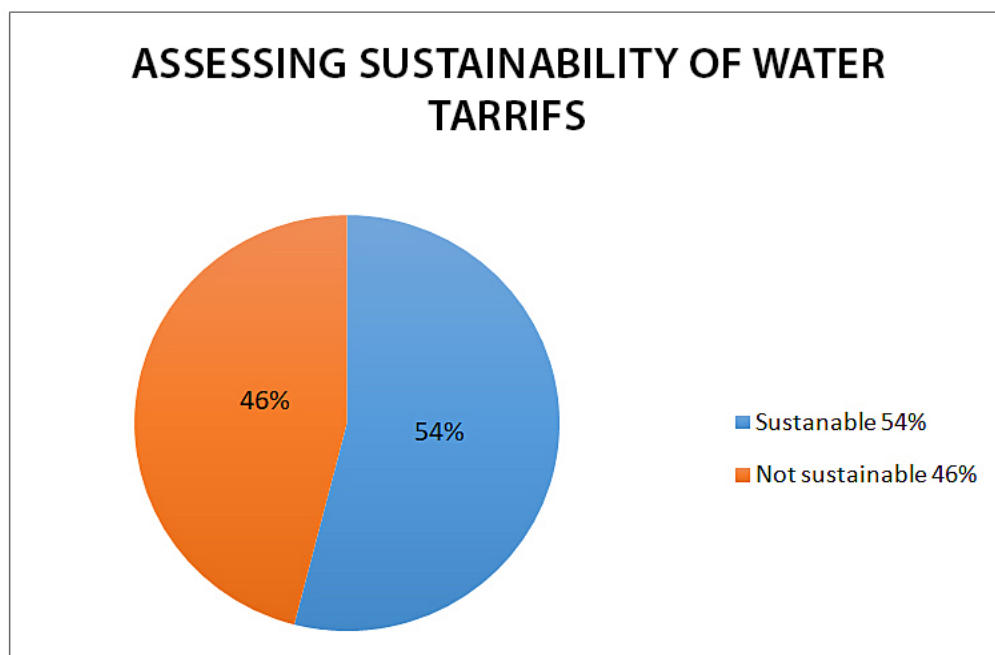
the willingness of households to pay for their dues as they come. Table 3 on the following page shows a summary of the views of the sampled households on their willingness to pay.

In Table 3, 5% and 10% of the sampled population indicated their unwillingness to pay for water by either stating that they strongly disagree or disagree on being willing to pay for water services. The table captures the portion of the sample that was not sure about its willingness to pay which is represented by 9%. From the table we can deduce that 76% had a high willingness to pay. This is the sum of those that either agree or strongly agree on being willing to pay for water services). Therefore, in a nutshell one can conclude and summarise that households in the Thulamela Municipality have acknowledged the water tariffs policy and hence the policy has been effective.

7.2 Effectiveness and Acceptability of the Water Cost Recovery Policy

To determine whether the water cost recovery policy has been effective, the households were asked if the water tariffs were helpful in improving the water delivery in their communities. To add, the researcher further interrogated whether, in their own opinion, the water delivery process has been improved as a result of water cost recovery

Figure 4: Sustainability of Water Tariffs in Thulamela Municipality



Source: Authors

Table 3: Willingness to Pay

Willingness to pay		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	5.0	5.0	5.0
	Disagree	10	10.0	10.0	15.0
	Not Sure	9	9.0	9.0	24.0
	Agree	55	55.0	55.0	79.0
	Strongly Agree	21	21.0	21.0	100.0
	Total	100	100.0	100.0	

Source: Authors

Table 4: Assessing Whether it is Helpful to Pay for Water

Helpfulness		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.0	2.0	2.0
	Disagree	7	7.0	7.0	9.0
	Not Sure	10	10.0	10.0	19.0
	Agree	54	54.0	54.0	73.0
	Strongly Agree	27	27.0	27.0	100.0
	Total	100	100.0	100.0	

Source: Authors

measures. Table 4 above shows a summary of their views:

The results show that 2% of the households strongly disagreed with the motion that the tariffs were helpful and also an additional 7% also disagreed. 10 % of sampled population were not sure whether paying for water was helpful or not, however this despite the fact that the majority as shown in Table 4 above either agreed or strongly agreed that the tariffs are indeed helpful. With 54% and 27% of them stating they strongly agree or agree respectively that paying for water is helpful. Therefore, the results indicate that the Thulamela Municipality water tariff policy has managed to win the acceptance of the residents since the majority perceive the water cost recovery to be helpful. Having noted that households perceived that the water cost recovery was helpful the next question sought to assess whether it has led to improved service delivery (water). The below bar graph shows 28% of households were not sure if water cost recovery had improved efficiency in water delivery while 11% disagreed with the notion that it had improved efficiency and lastly, and a major highlight was that 44%

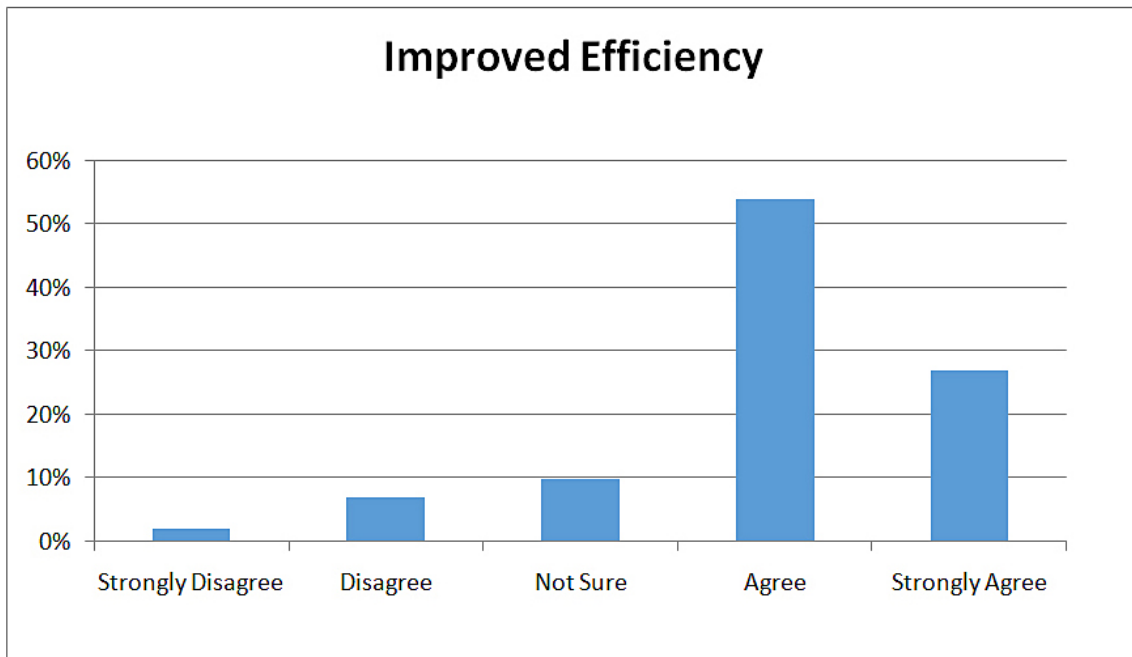
and 17% of the households agreed or strongly agreed that they noted an improved efficiency in the delivery of water. Thus the results show that a large number of households had witnessed notable changes in the delivery of water attributable to the water cost recovery implemented by the Thulamela Municipality.

7.3 Attitudes Towards Water Cost Recovery

To get a better understanding of this phenomenon of water cost recovery the questionnaire also sought clarity and insights from the households on their ideologies towards the appropriateness of tariffs. Figure 6 on the next page shows the results from sampled households.

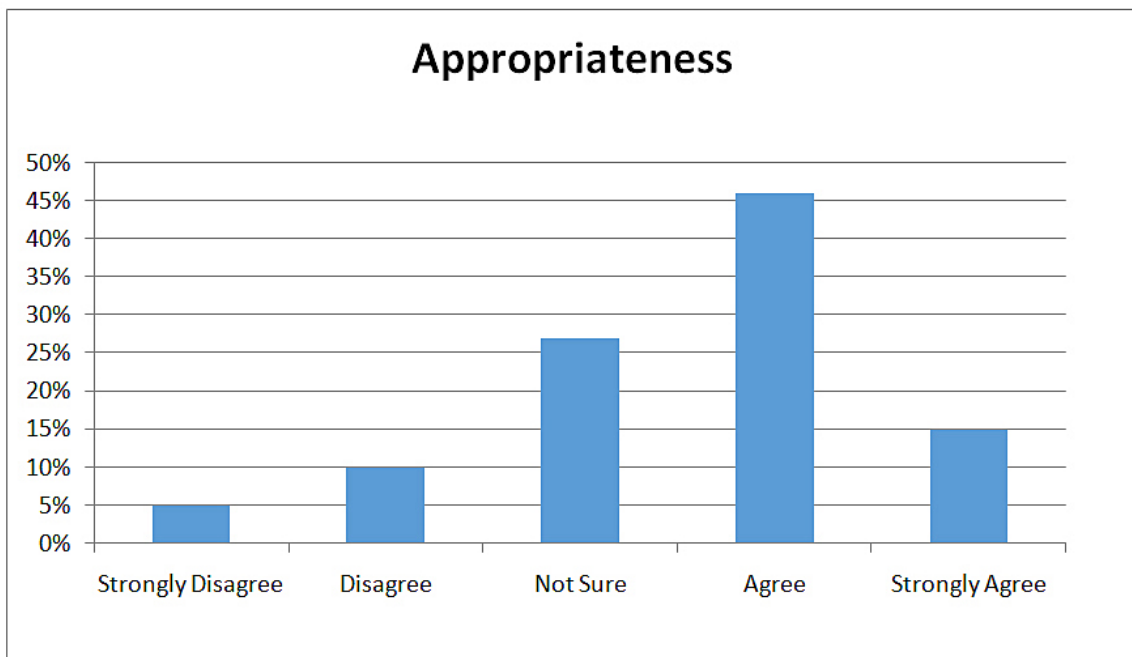
Figure 6 shows that a smaller portion of the sampled households disagree with the appropriateness of the water tariffs in Thulamela Municipality with 15% (5% strongly disagree and 10% disagree) registering their disapproval while 25% of them were not sure whether the tariffs were appropriate. However, what was remarkable was that more than half of the total sampled households were of the opinion that

Figure 5: Improved Efficiency as a Result of Paying Water Tariffs



Source: Authors

Figure 6: Appropriateness of Water Tariffs



Source: Authors

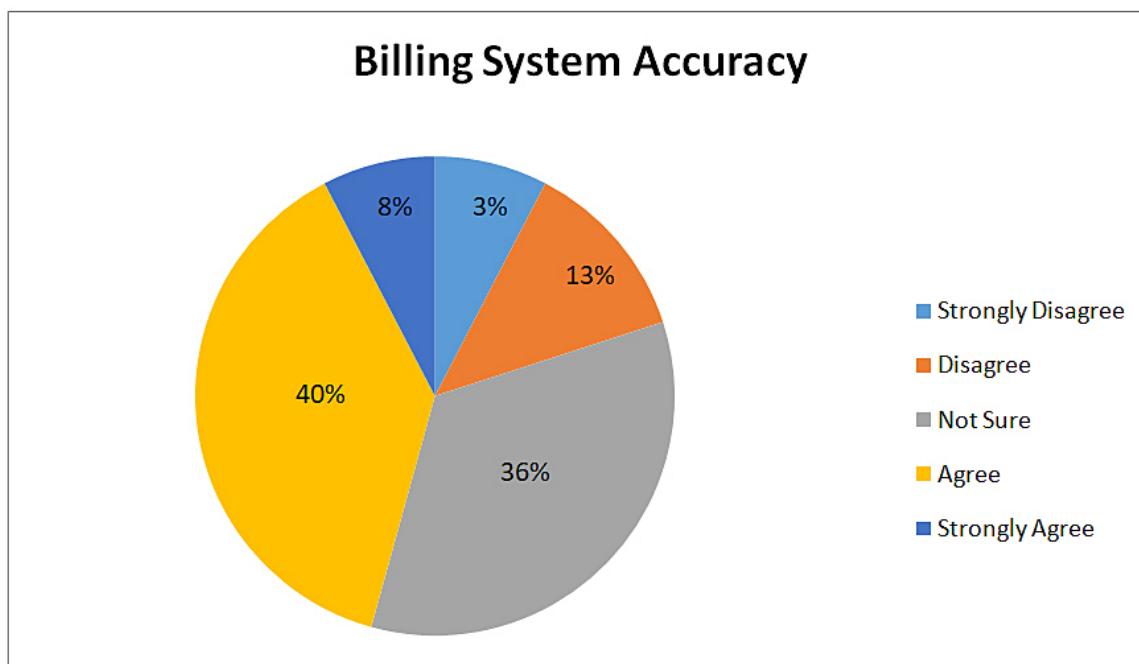
the tariffs were appropriate as seen by 58% (46% indicated that agree and 12% that strongly agree) approving of the tariffs.

7.3.1 Accuracy of the Water Billing System

Figure 7 on the next page is the follow up to the question on assessing the accurateness of the billing system by interrogating the households. Figure 7 shows the perceived opinions.

The different views with regard to the water billing system accuracy. From the results 40% of households interviewed agree and additional 8% strongly agreed with the assertion that the water billing system was accurate while 36% were not sure about the accuracy of the billing system. In the figure those that indicated their disapproval either by disagreeing or strongly disagreeing were 13% and 3% respectively. This can be caused by

Figure 7: Accuracy of the Water Billing System



Source: Authors

Table 5: Challenges

Challenges		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unavailability of facilities	9	9.0	9.0	9.0
	Unable to use services	2	2.0	2.0	11.0
	Unreliable and inconvenient	24	24.0	24.0	35.0
	Lack of awareness and knowledge	21	21.0	21.0	56.0
	All of the above	44	44.0	44.0	100.0
	Total	100	100.0	100.0	

Source: Authors

lack of knowledge and awareness on the part of the households on how the meter readings have been arrived at. In addition, the households may have experienced some challenges in the provision and supply of water.

7.3.2 Encountered Challenges

The next section centres on the challenges that are faced by households in Thulamela municipality in the supply and provision of water. Four main challenges were identified in Thulamela Municipality that were hindering the provision of water. These were as follows: Lack or unavailability of facilities; Inability to afford to use the water services; Services

are not reliable and convenient and Lack of awareness and knowledge on the need to pay for water. The households were asked to identify the challenges they considered to be affecting the provision and supply of water. Table 5 above gives a picture of the respondents' views on what are some of the major challenges they encounter.

Table 5 shows that 9% of the sampled households identified that the major challenges encountered was the fact that they do not have the facilities to access water services from the Municipality hence forcing them to rely on other sources of water which are often unhealthy and polluted. 2% of them

identified that they were unable to use services (water) since they cannot afford them, hence are denied access while 24% were of the opinion that the services were unreliable and inconvenient and would prefer their natural sources of water which have zero cost, and 21% having Lack of awareness and knowledge on the need to pay for water services. The most notable fact of these results was that 44% of the sample households felt that the combination of all the challenges was a major hindrance to the provision and supply of water in Thulamela.

8. Conclusion

The findings of the study have showed that different views exist on the issue of the water tariff policy. More than 50% of the households noted that they view water tariffs as affordable and sustainable, however a percentage of households finds the whole water tariff policy to be a burden, unaffordable and unsustainable. In Thulamela Municipality the challenge lies in trying to persuade them to buy into the tariffs. Deducing from this, it can be concluded that the water tariffs have been widely accepted in rural communities though more need to be done for every household to embrace and acknowledge the need to play their part in the maintenance of water services. The results also show that the sample households have a strong willingness to pay for water tariffs as indicated by 76% of respondents who agreed to have a strong attitude towards willingness to pay.

A large number of households also recognised that it is helpful to pay for water cost as this will help the municipality in meeting the maintenance and repairing costs of providing for water services. Paying for water also had a direct relationship in the improvement in water delivery and quality of water in Thulamela. In addition, the sampled households exhibited that they had a strong attitude in approving the appropriateness of water tariffs and accuracy of the water billing system.

Lastly, it was noted that there are challenges encountered in the provision and supply of water. The challenges range from unavailability of proper facilities for accessing water services, inability to afford using the water services, unreliability and inconvenience of services and lack of awareness and knowledge on the need to pay for water. These challenges have forced households to rely

on unhealthy and polluted water sources. This presents the Thulamela Municipality and its residents the opportunity to engage with each other and find common ground in combating the challenges they face. The results indicated that households in Thulamela have generally accepted the water tariffs and recognise their usefulness in the repair and maintenance of the water infrastructure. In addition, the results suggest that the community does have a strong willingness to pay. However, challenges identified such as unavailability of proper facilities for accessing water services, unreliability and inconvenience of services, lack of awareness and knowledge on the need to pay for water and inability to afford to use the water services dictates that Thulamela Local Municipality needs to pay attention to such anomalies and improve the status quo.

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