

Factors Affecting the Provision of Sustainable Water Services in the Mopani District Municipality, Limpopo Province

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ABSTRACT

In July 2003 the Minister of Water Affairs, now known as Water and Sanitation appointed the Mopani District Municipality in the Limpopo Province as the Water Service Authority for their area of jurisdiction as determined by the Municipal Demarcation Board. According to section 11 of the *Water Services Act* 108 of 1997, every Water Service Authority has a duty to all consumers or potential consumers in the area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services. In response to this obligation the Mopani District Municipality appointed all five local municipalities as water service providers. In addition, the Mopani District Municipality has signed a bulk water supply agreement with the Lepelle Northern Water Board in the area of the Ba-Phalaborwa and Greater Letaba municipalities based on the fact that the board has the abstraction license and the bulk infrastructure for purifying water. This article examines the manner in which the Mopani District Municipality provided water services and the factors affecting the provision of sustainable water services. The findings suggest that the provision of water in the Mopani District Municipality is not sustainable owing to the ageing infrastructure, inadequate water resources, poor planning, limited capacity in municipalities and the non-payment of water services by the households. The results show that it will take considerable time for the service to be sustainable, especially in the rural areas unless the upgrading of the infrastructure as well as effective and efficient conservation management is prioritised.

INTRODUCTION

Following the establishment of local government through the provisions of the *Constitution of the Republic of South Africa, 1996* the role of local government was redefined to be responsive to the needs of the community and more developmental in nature. Municipalities are expected to conduct the business of providing services to the communities in line with what is required by legislation. The same applies to the manner in which municipalities plan to provide services to the community wherein there are specific legislative requirements that must be fulfilled in this regard.

The provision of services to communities in a sustainable manner is a constitutional obligation and this implies that municipalities must render services to communities continuously without failure but at the same time the service must be paid for in order to have adequate resources to employ staff and to maintain the infrastructure meant to deliver the service. It is against the spirit of the Constitution of 1996 to find communities still without services and that is a matter that requires urgent attention by municipalities.

In the context of the Constitution of 1996 it can be argued that the word sustainable is used to put an emphasis on increasing the provision of basic services to the communities such as water, while ensuring that there will be adequate resources to ensure that the service will continue to be provided in the future. In this regard, these resources will include among others financial resources used for the production of goods and services and the adequacy of water from for example, the river system. If there is limited water from a particular catchment area that supplies a particular river system, any development initiative must take that reality into consideration. Secondly the service must be paid for in order to ensure that it is continuously available without any interruptions as a result of infrastructure that is not reliable or not able to cope with an increasing demand.

For the provision of the Constitution of 1996 to be realised when it comes to sustainable services, section 12 of the *Water Services Act 108 of 1997* requires a Water Service Authority to draft a water service development plan. The sole purpose of the plan is to define the area of jurisdiction in terms of the size of the population in order to determine the extent of access to water service in order to plan on how to extend the water services to all consumers. In simple terms the water services development plan assist to assess the access to water services and to plan for the future.

CONTEXTUALISING WATER SERVICES

The *Water Services Act 108 of 1997* and the *National Water Act 36 of 1998* were promulgated, to provide for improved equity, sustainability, efficiency

and integrated water resources management. According to section 1 (xix) of the *Water Services Act* 108 of 1997 water services include water supply services and sanitation services. In this regard this implies that the usage of the word “services” when referring to water incorporates both water supply and sanitation. Section 1 (xvii) of the *Water Services Act* 108 of 1997 defines sanitation services as the collection, removal, disposal or purification of human excreta, domestic waste-water, sewage and effluent resulting from the use of water for commercial purposes. In this regard, the existence of A sewage treatment plant in urban settlements represent sanitation services while in the rural areas sewage treatment are in the form of the Ventilated Improved Pit (VIP) toilets.

Furthermore, the above mentioned Act also states that water supply services means the abstraction, conveyance, treatment and distribution of potable water; and it is done through a water services work infrastructure system. In terms of the *Water Services Act of 1997* a reservoir, dam, well, pump house, borehole, pumping installation, purification work, access road, electricity, pipeline, meter, fitting or apparatus built. For water supply to be realised, the above mentioned infrastructure are key hence some of them are also regarded as water resources. A simple example of a water resource is a dam, a well or a borehole. If in any nearby distance to a community such resources are not available to provide water as a service, water provision then becomes an unaffordable exercise if not a difficult mission to accomplish. This issue is also important for a municipality’s Integrated Development Plan (IDP) which must consist of sectoral plans for water services. There is thus a direct relationship between spatial planning, environmental management and water services provision.

MOPANI DISTRICT MUNICIPALITY IN CONTEXT

The Mopani District Municipality is situated in the North-eastern part of the Limpopo Province, 70 km and 50 km from Polokwane, along provincial roads R81 and R71 respectively. It is located, on global view, between the Longitudes: 29 52’E to 31 52’E and Latitudes: 23 0’S to 24 38’S, with 31 E as the central meridian (IDP 2013/14:30).

It is bordered in the east by Mozambique, in the north, by the Vhembe District Municipality through the Thulamela and Makhado municipalities, in the south, by Mpumalanga province through Ehlanzeni District Municipality (Bushbuckridge, Thaba-Chweu and Greater Tubatse) and, to the west, by Capricorn District Municipality (Molemole, Polokwane and Lepelle-Nkumpi), in the south-west, by the Sekhukhune District Municipality (Fetakgomo). The

district spans a total area of 2 001 100 ha (20 011 km²), inclusive of the portion of the Kruger National Park from Olifants to Tshingwedzi camps or Lepelle to Tshingwedzi rivers. There are 16 urban areas (towns and townships), 354 villages (rural settlements) and a total of 125 wards (IDP 2013/14:30).

The Mopani District Municipality consist of five local municipalities, namely Ba-Phalaborwa Municipality (BPM), Greater Giyani Municipality (GGM), Greater Letaba Municipality (GLM), Greater Tzaneen Municipality (GTM) and Maruleng Municipality (MLM). The municipalities within the Mopani District Municipality have developed, approved and implemented their IDPs which are aligned in accordance to the legislative and regulatory framework governing local government.

According to the IDP (2013/14:48) of the Mopani District Municipality, the majority of households in Ba-Phalaborwa (77.3%) have access to RDP standard water, Greater Tzaneen at 53.6%, Greater Letaba at 60.7%, Greater Giyani at 57.3% and Maruleng the lowest at 49.9%. However, reviewing the households access to the various sources of water per local municipality as a percentage of the district, it becomes clear that the level of services are higher in Ba-Phalaborwa with 35.3% of the households within the district with access to water inside their dwellings, especially when taking into consideration that only 12.9% of the households in the district reside in Ba-Phalaborwa.

The IDP (2013/14:50) of the district states that most people use pit latrines, followed by those without any sanitation services at all. The situation is worse in Greater Giyani with 54% of the households not having access to sanitation. Greater Letaba has the highest usage of pit latrines at 51.5%, while flush toilets are more prevalent in Ba-Phalaborwa with 39.8%, which correlates with the availability of piped water within the houses.

In terms of the provisions of energy the IDP (2013/14:51) confirms that two local municipalities are providing electricity and they are Ba-Phalaborwa Municipality (BPM) and Greater Tzaneen Municipality (GTM). In the areas of the Greater Giyani Municipality (GGM), the Maruleng Municipality (MLM) and the Greater Letaba Municipality (GLM) electricity is still provided by ESKOM the Mopani District Municipality has a role of providing bulk electricity to the local municipalities. However, this function is yet to be fully undertaken.

The debt book of the district municipality in terms of water services over a period of five years is R555 million while the total debt book inclusive of other services in the entire district is R1,1 billion. The municipality will receive an amount of R 375 million for the Municipal Infrastructure Grant and the district municipality does not have any reserves to augment the grant for purposes of infrastructure investment. In this regard, the district municipality seems to be doing well in terms of the eradication of backlogs but that does not seem to have an influence on the socio-economic status of the area, given the Mopani

District Municipality's dependency on grants, the high debt book and the required funding for future infrastructure investment.

According to the IDP (2013/14:29) the government sector is the largest employer in the district with 39% of those that are employed in the Greater Giyani working for various government departments. The second largest employer is the farming sector employing 25.9%. This is however, not the case when considering the municipalities separately with the mining sector employing the second largest portion of the Ba-Phalaborwa population (19.5%). Greater Giyani has the highest level of unemployment with 47% of the population not being employed. The number of people unemployed as a percentage of the total employable population of the district (287 405) is 39%. It should be noted that of the unemployed people in the district, approximately 60% are women.

In terms of the IDP of the Mopani District Municipality, a notable percentage of people in the district have no income. The labour force alone, 89.1% of the population in the Greater Giyani Municipality earns less than R800 per month, in Greater Letaba it is 92.2% which is the worst situation while it is much better in Ba-Phalaborwa with only 75% of the labour force earning less than R800 per month (IDP 2013/14:30).

The IDP (2013/14) of the Mopani District Municipality has confirmed that access to basic services by the communities since the year 2000 has improved to an extent that the service that still seems to be a challenge is the waste management. While access to basic services seems impressive, the same cannot be confirmed when it comes to the financial viability of the municipalities within the Mopani District Municipality.

WATER SERVICE DELIVERY MECHANISMS IN THE MOPANI DISTRICT MUNICIPALITY

As the Water Services Authority the Mopani District Municipality has a constitutional obligation to ensure that all citizens within its jurisdiction have access to safe, reliable, affordable and sustainable water services. In achieving the constitutional obligation the Mopani District Municipality conducted a capacity assessment of all the local municipalities in the district in order to determine proper and effective water services delivery mechanisms as envisaged by section 78 of the *Local Government: Municipal Systems Act* 32 of 2000. The Section 78 assessment, undertaken in 2005/06, recommended the creation of a municipal water services entity as the most efficient institutional arrangement to achieve this objective. The benefits of this recommendation are therefore outlined below.

The legal basis for the establishment of the water entity

Section 78 of the *Local Government: Municipal Systems Act 32 of 2000* requires municipalities to undertake a detailed assessment of its resources, capacity and performance in respect to particular municipal services when there are fundamental changes to the scope of these services. The assessment in terms of section 78 of the *Local Government: Municipal Systems Act 32 of 2000* was later called the section 78 process or assessment within the municipal circle. In the case of the Mopani District Municipality, the Section 78 assessment was triggered by two events, namely the allocation of the Water Services Authority function to the District Municipality and the imminent transfer of the water services infrastructure from the then Department of Water Affairs and Forestry.

The Section 78 process was undertaken by the National Joint Response Task Team (NJRTT) through their appointed consultants within the Mopani District Municipality. The NJRTT was a national government coordinating committee whose membership included the National Treasury, the then Department of Water Affairs and Forestry now referred to as the Department of Water and Sanitation, the then Department of Provincial and Local Government, now known as the Department of Cooperative Governance and Traditional Affairs (CoGTA) and the South African Local Government Association (SALGA). The sole mandate of this committee was to effect improvements to service delivery through supporting municipalities in addressing their institutional challenges. The Section 78 recommendation therefore carries the full support of all of the national departments as well as SALGA that were involved in the process.

The Section 78 assessment for the Mopani District Municipality was concluded in February 2005. The findings revealed that the status of water services provision was inadequate and that the three local municipalities being Greater Giyani Municipality (GGM), Greater Letaba Municipality (GLM) and Maruleng Municipality (MLM) did not have sufficient internal capacity to provide water services effectively. The Section 78 process was a fairly consultative process that used clearly defined criterion in drawing the above conclusions. The representatives of the NJRTT spent a considerable amount of time engaging each of the local municipalities to obtain information on service delivery and then again in presenting their findings to the officials and other affected stakeholders.

According to the Mopani Section 78(3) Report (2005:10), the recommendation for a regional approach to water service provision, in this case the consolidation of service provision to the three local municipalities, were supported by national policy. In this respect, the Strategic Framework for Water Services and the Institutional Reform Policy (both developed by the then Department of Water Affairs and Forestry) promote the merits of a

regional approach to service delivery as being the most efficient, affordable and sustainable service delivery mechanisms. The framework argued that in the case of poor municipalities, pooling of resources would provide economies of scale and would allow for the resources to be leveraged for the benefit of the region. The choice of a municipal entity is again supported by section 86 (c) and (h) of the *Local Government: Municipal Systems Act* 32 of 2000.

Benefits for the establishment of the water entity

The Mopani Section 78(3) Report (2005:11) highlighted that it was difficult to produce a quantitative assessment of costs and benefits of a municipal entity, however the compelling qualitative motivations that support the concept of the municipal entity as a service delivery mechanism were identified as outlined below. The Mopani Section 78(3) Report (2005:15–17) further acknowledges the existence of some drawbacks such as the costs for setting up the entity and the integration of staff dealing with water services. However these are far outweighed by the benefits as highlighted in the report and presented below.

Optimisation of resources

Most of the local municipalities have limited technical capacity to operate and maintain water services infrastructure. A case in point is the continuing water supply problems that were encountered in Greater Giyani Municipality as highlighted in the Mopani Section 78(3) Report (2005:23). Water supply was erratic and unreliable and there were high levels of water loss through leakages in the infrastructure. The report further acknowledges that it is not acceptable that half of the town did not have water supply most of the time. This example of the Greater Giyani Municipality was used as an example however the situation was similar even in the other local municipalities.

Despite the transfer of personnel from the former Department of Water Affairs and Forestry, the human resource skills shortage still persisted thereby negatively affecting service delivery. Pooling together the limited technical skills that existed, will give the municipalities an opportunity to leverage on the skills gap and will provide opportunities for greater knowledge sharing between those that are experienced and those that are less experienced.

Another critical benefit as outlined in the Mopani Section 78(3) Report (2005:17) is that there will be no losses of jobs through the creation of the municipal entity and in fact there was an expectation to create additional jobs in the short to medium term. In terms of jobs requiring lower levels of skills, staff that are deemed surplus through the former Department of Water Affairs and Forestry transfer process, will be retrained to support service delivery processes.

It has been argued the Mopani Section 78(3) Report (2005:16) that a municipal entity will be able to attract and recruit skilled staff more easily than would be the case for a municipality. Municipalities are often perceived as bureaucratic given the extensive policy and legislation to be held accountable to its citizens, not only in process but also in culture. In this regard according to the Mopani Section 78(3) Report (2005:16) a municipal entity is perceived as being more professional and will therefore be able to recruit personnel more easily. This phenomenon is evident in the case of water boards that despite their rural location (in some cases) are still able to attract skilled personnel.

Accordingly, the Mopani Section 78(3) Report (2005:15) stated that the consolidation of the water services function will also allow the municipal entity to better negotiate with suppliers to drive down prices thereby facilitating a more affordable service to consumers. The entity will have more leverage and a more capacitated team than the individual municipalities.

Accountability for service delivery

In terms of the Mopani Section 78(3) Report (2005:15-16) the creation of a ring fenced entity will allow for greater transparency and accountability in managing water services provision. Ring fencing ensures that the focus of the entity will be solely on water services provision and as such it would not be competing with other municipal services for funding and resources. It also facilitates better management and decision making and will allow for improvement through comparison and benchmarking with other water services institutions.

The Mopani Section 78(3) Report (2005:16) further stated that the creation of a separate municipal entity as a benefit will allow for the separation of the water services authority and water services provider functions thereby allowing for more effective regulation of water services provision. The argument presented by the Mopani Section 78(3) Report (2005:16) states that while a municipal entity is wholly owned by the municipality the operations will be separate from that of the municipality. Accordingly the assessment report also highlights that the water services authority is essentially the regulator and if the municipality fulfils both the service provider and the regulator role it is likely that the objectivity and the independence of the regulatory function will be compromised. In terms of the model recommended in the assessment report, it allows for the establishment of a contract management unit to fulfil the role of the water services authority which will include regulating tariffs and tariff increases, reliability of water services provision, water quality, negotiating with bulk suppliers and ensuring compliance with the water services development plans.

Financial sustainability

The creation of a municipal entity will provide opportunities for cross subsidisation according to the Mopani Section 78(3) report (2005). The Mopani Section 78(3) Report (2005) highlighted the fact that some municipalities have bigger commercial centres and hence a more stable revenue base than others and the ability to pool together the resources will ensure that water services provision becomes more sustainable for the entire region.

In terms of the Mopani Section 78(3) Report (2005:61), the subsidies for water services were provided on a sliding scale, decreasing over a 3 year period by the former Department of Water Affairs and Forestry. In this regard, the water services provider was expected to make up the shortfall of the subsidy by increasing revenue collection of water services. According to the Mopani Section 78(3) Report (2005), it was envisaged that a ring fenced municipal entity will be more focussed on revenue collection and thus facilitate sustainability and self-sufficiency of the municipal water services.

The Mopani Section 78(3) Report (2005:15) concluded that it is common that revenue collected or surpluses generated for a particular municipal service are used to cover costs associated with other municipal functions, often to the detriment of that particular municipal service. In this respect funds that could have been used to operate and maintain the infrastructure are used to cover other operational or administrative costs of the municipality. In this regard, the assessment report confirmed that creating a ring fenced municipal entity will ensure that funds collected for water services provision will be used to cover costs associated with water services provision.

Improvement in service delivery

The last benefit as identified by the Mopani Section 78(3) Report (2005:47–49) is the improvement in service delivery. The Mopani Section 78(3) Report (2005) has alluded to the fact that the creation of the municipal entity can facilitate considerable improvements in water services delivery. In terms of the Mopani Section 78(3) Report (2005), the municipalities have a political mandate to ensure a better life for all but as matters stand, the levels of service that are provided to those with access to water is inadequate and there are a substantial number of households without access to water services. The Mopani Section 78(3) Report (2005) further acknowledges that the creation of the municipal entity itself does not guarantee an improvement in service delivery, though is expected that it will create a fertile environment and platform for service delivery improvement.

According to the Mopani Section 78(3) Report (2005), the fragmentation of service provision does not allow for effective coordination, resulting in inefficient

use of resources, duplication of effort and infrastructure and in some cases over capitalisation in infrastructure. In this regard there is a need according to the report for effective integration of planning activities and institutional structures and the creation of a municipal entity will facilitate this objective.

THE INSTITUTIONAL ARRANGEMENTS FOR THE PROVISION OF WATER SERVICES IN MOPANI DISTRICT MUNICIPALITY

The recommendation of the Mopani Section 78(3) Report (2005) as presented and approved by the municipal councils were never thoroughly implemented due to the fact that the Mopani district municipality placed the process on suspension through a Council Resolution Number 684/2008 dated 12 December 2008 and later decided to completely withdraw the establishment of a water entity through the Council Resolution Number 9/2009 dated 13 March 2009. In this regard, the two decisions meant that the assessment report as required by section 78 of the *Local Government: Municipal Systems Act 32 of 2000* was no longer effective and as a result a different mechanism had to be developed.

Given the financial resources already utilised in the report by the municipality, the former Department of Water Affairs and Forestry, National Treasury and SALGA against the Council Resolution of 12 December 2008, given the political environment at the time, due consideration of the financial impact was not considered despite several recommendations to the Council by the administration. As a result another report dated June 2009 was then submitted to Council for the establishment of an internal directorate for water services in the Mopani District Municipality. After the establishment of the directorate all local municipalities were then appointed as water service providers despite the previous recommendation by the National Joint Response Task Team. In this regard water service providers agreements were signed between the district municipality as a water service authority and the five local municipalities as the water service providers (Mopani District Municipality IDP: 2009/10).

In terms of the content of the signed agreements, the local municipalities were to provide water services within their area of jurisdiction and thereafter collect revenue for water and utilise it for water services with a surplus sent to the district municipality. As envisaged by the assessment report, such arrangements were not honoured by all local municipalities in the sense that money collected for water services was used to subsidise other services within the municipalities with nothing sent to the district municipality as highlighted in the June 2014 Auditor-General's report for Mopani District Municipality (Auditor-General's Report for the Mopani District Municipality 2014).

Table 1: Conditional assessment of the water services infrastructure

Water Treatment	Class	Design capacity	Summer Daily Demand	WWTW (Sewerage)	Class	Design capacity	Average flow
Nondweni	D	1 000kl/day	1 300kl/day	Lulekani	C	3.5Ml/day	1.53Ml/day
Nkuri/Mapuve	C	3 600kl/day	3 950kl/day	Namakgale	C	6.31Ml/day	3.5Ml/day
Zava	D	444kl/day	7 07kl/day	Phalaborwa	C	8Ml/day	4.3Ml/day
Giyani	C	29 400kl/day	21 600kl/day	Giyani	C	2.1Ml/day	4.89Ml/day
Middle Letaba	C	36 000kl/day	6 675kl/day	Kgapane	C	2.4Ml/day	1.32Ml/day
Leitsiele	D	1 400kl/day	1 297kl/day	Modjadiskloof	E	1.1Ml/day	Not measured
Thabina	C	6 900kl/day	8 684kl/day	Senwamokgope	D	Not known	Not measured
Thapane	C	4 500kl/day	3 729kl/day	Dr CN Phatudi	E	Not known	Not measured
Tzaneen	C	9 000kl/day	8 943kl/day	Lenyenye	E	0.4Ml/day	0.8Ml/day
Tzaneen Dam	C	6 000kl/day	8 364kl/day	Nkwankowa	C	4.5Ml/day	5Ml/day
The Oaks	C	1 500kl/day	454kl/day	Tzaneen	B	8Ml/day	5Ml/day

Source: (Mopani District Municipality Conditional Assessment Report 2012)

THE FUNCTIONAL ASSESSMENT CONDUCTED ON THE BULK WATER INFRASTRUCTURE

The Department of Water and Sanitation appointed Thandabatho Managers, an engineering firm, on behalf of the Mopani District Municipality to conduct a status quo assessment of all the water infrastructure facilities within the district in 2013. In terms of the report by Thandabatho Managers, the district municipality has approximately 44 surface- and groundwater schemes and these schemes comprise 1,930km of bulk pipelines, 416 reservoirs and 46 pump stations. Table 1 outlines the design capacity and the level of utilisation of the scheme thereof as reflected in the report.

In terms of Table 1, three of the water schemes are class D while eight of them are class C and with regard to the waste water treatment works (WWTW), three are class E, one class D, six are class C and only one is a class B. In terms of the Regulations Relating to Compulsory National Standards for Process Controllers and Water Services Works (2013), a water scheme is classified in accordance to the points awarded based on factors such as the population supplied, design capacity, operating procedures, operating processes, control processes and special processes. According to the Regulations Relating to Compulsory National Standards for Process Controllers and Water Services Works (2013), class A has over 90 points awarded, class B between 70 – 90 points, class C between 50 – 69 points, class D between 30 – 49 points while class E has less than 30 points. According to the Blue Drop Framework (2014:101) there is a minimum class (Works Class) required for process controllers per shift, supervision and operations and maintenance support services requirements. Table 2 outlines the works classes and the human capital required.

According to the Table 2, for a class E water scheme a Process Controller with a Class I is required to be at the plant all the time while a supervisor at Class V can

Table 2: Minimum Class of Process Controller requirements–2014

Works class	Class of Process Controller per shift	Class of Process Controller for Supervision	Operation and maintenance support services requirements
E	Class I	Class V	Electrician Fitter Instrumentation technician
D	Class II	Class V	
C	Class III	Class V	
B	Class IV	Class V	
A	Class IV	Class V	

Source: (Blue Drop Framework 2014)

be a fulltime employee or a contracted person with the requisite requirements who does not have to be fulltime but must visit the plant on a weekly basis. For a Class D, there is a need for a Class II Process Controller to be at the plant per shift while the supervisor arrangements are the same with that of a Class E plant. A Process Controller with a Class III must be on the plant for a Class C plant per shift with the supervisor coming once per week as per the previous explanation.

According to the Regulations Relating to Compulsory National Standards for Process Controllers and Water Services Works (2013), a process controller is “any natural person who has achieved the relevant competencies to effectively operate a unit process at a water services work or who is qualified and authorised to design and supervise the construction, installation, operation and maintenance of any water services work and who is employed by a water services institution”. In this regard, any person who must work in the water works for purposes of designing, installing, supervising, operating and maintaining any water services work must be qualified and authorised to do so.

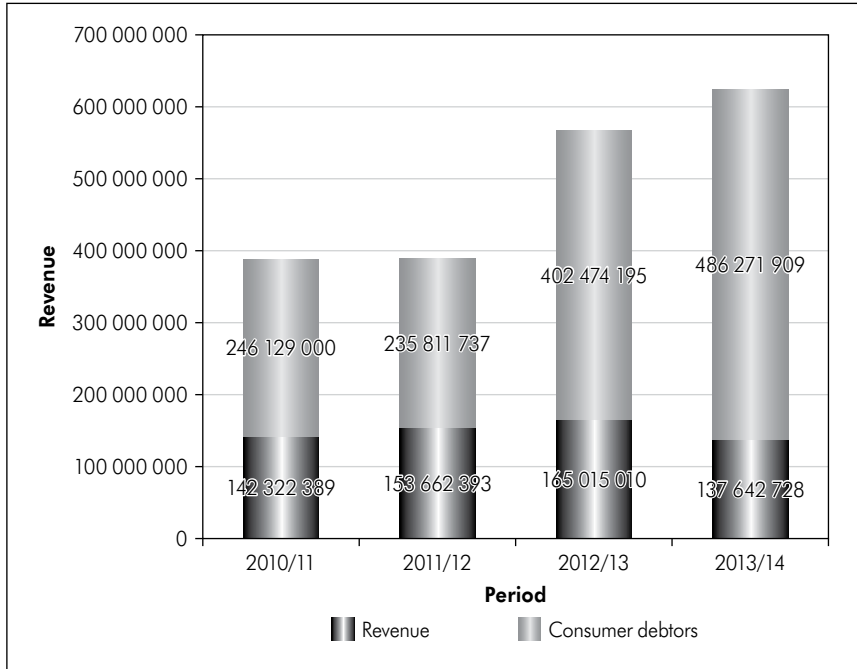
When it comes to Class B and A plants, there is a need for a Class IV Process Controller per shift at the plant and a supervisor at Class V on a fulltime basis. This is the only instance wherein for these classes of plants, a supervisor must be fulltime whether outsourced or a water service institution. In simple terms the lower the class, the less risks that require high level skills while a higher class demand more focused attention. However the water quality either for a class E or class A must meet with the requirements set for water quality. Again in all the plants irrespective of the class, there must be an electrician, fitter and instrumentation technician at all times according to the Blue Drop and No Drop Handbook (2013:101).

According to the Blue Drop and No Drop Handbook (2013:97–100) the educational requirements range from Grade 8 to B Tech or four year BSc both in appropriate field. The situation in terms of the qualified and authorised process controllers as employed by the water service authority and the water service providers in the waste water treatment does not differ with what is outlined above on the number of process controllers per a classification of the water works. In other words the situation is the same with regard to the employment of process controllers within the water works (purification plants) and the waste water works (sewerage plants).

REVENUE COLLECTION ON WATER SERVICES

According to the signed water service provider agreement (Mopani District Municipality IDP: 2009/10) between the district municipality and the five local municipalities, the responsibility to bill and collect revenue for water services lies with the five local municipalities who should in turn provide the cash and

Figure 1: Revenue versus consumer debtors



Source: (Mopani District Municipality Audited Financial Statements 2010/11 – 2013/14)

the financial reports to the district as a water service authority. In simple terms this means that the local municipalities were expected to collect the money and pass it over to the district and for the district to reimburse the municipalities for all the expenditures incurred. The graph above outlines the revenue collected for water services against the consumer debtors from the 2010/11 to the 2013/14 financial years as audited by the Office of the Auditor-General of South Africa.

During the 2010/11 financial year, the municipality received a total of R 142,322,389 for water services and the debt for water services was R 246,129,000 at year end. In this regard the municipality collected less money than it is owed by the household consumers which implies that the municipality will have a shortfall to run the service in the next financial year. In 2011/12 financial year, the revenue collected for the water services increased by almost 7% to R 153,662,393 whilst the consumer debtor also dropped by almost 4.2% to R 235,811, 737. For the financial year 2012/13, the revenue collection for water services was R 165,015,010 while for the same year the consumer debtors entailed R 402,474,195. The revenue collected has increased and the consumer debtors almost doubled as compared to the previous financial year. In 2013/14 financial year, revenue collected for water services was

R 137,642,728 while the consumer debtors were standing at R 486,271,909 (Mopani District Municipality Audited Financial Statements 2010/11–2013/14).

Comparatively speaking, there was a drop in revenue collected and an increase in the debtors at year end as compared to the previous financial year. In a nutshell the situation above clearly demonstrate a financial position that does not assist in rendering a sustainable service and in business terms it could be argued that the service is run at a huge loss. For the service to be sustainable the revenue collected must be higher than the expenditure but given the consumer debtors, it is quite clear that the municipality was not able to recover the production cost. As previously outlined the municipality is also receiving grants which were not included in the revenue received so as to correctly determine the performance of the trading services which in this case was water services.

COST TO BRING THE SCHEMES IN GOOD OPERATIONAL CONDITIONS

Given the fact that majority of the schemes within Mopani District Municipality were transferred from the former Department of Water Affairs and they seem to be ineffective and inefficient in providing water services, the Department of Water and Sanitation and the Department of Cooperative Governance and Traditional Affairs appointed consulting engineers through the Municipal

Table 3: Water service provision

Class	Description	Total number of settlements	Total number of households	Total number of population	Total needy households
1	Communities having no formal water infrastructure	0	0	0	0
2	Communities requiring extension to existing infrastructure	54	25 699	107 851	2 490
3	Communities with access to infrastructure but no access to water because of functionality problems	268	237 678	1 013 682	38 783
4	Communities with access to infrastructure but no access to water because of source problems	7	6 317	27 696	1 703

Source: (Water Master Plan for Mopani District Municipality 2014)

Table 4: Budget allocation for water provision

Municipality	Existing/ new projects	Total project cost	2010/11 Budget allocation	2011/12 Budget allocation	2012/13 Budget allocation	Total budget allocation
Ba-Phalaborwa	Existing	92,491,259.00	36,500,000	18,000,000	0	54,500,000
	New	9,009,000.00				
Greater Giyani	Existing	169,443,652.59	24,000,000	77,000,000		101,000,000
	New	85,064,000.00				
Greater Letaba	Existing	251,429,840.57	61,500,000	49,000,000		110,500,000
	New	110,508,000.00				
Greater Tzaneen	Existing	1,452,636,904.91	241,000,000	275,000,000	315,000,000	831,500,000
	New	65,628,000.00				
Maruleng	Existing	321,791,747.00	27,000,000	88,000,000		115,000,000
	New	25,619,000.00				
Totals		2,583,621,404.62	390,000,000	507,500,000	315,000,000	1,212,500,000

Source: (Water Master Plan for Mopani District Municipality 2014)

Table 5: Short term, medium term and long term costing for water provision

Municipality	Short term costing	Medium term costing	Long term costing
Ba-Phalaborwa	1,635,000	2,358,000	5,016,000
Greater Giyani	12,026,000	52,840,000	20,198,000
Greater Letaba	7,507,000	61,093,000	41,908,000
Greater Tzaneen	7,250,000	47,259,000	11,119,000
Maruleng	1,262,000	14,773,000	9,584,000
Totals	29,680,000	178,323,000	87,825,000

Source: (Water Master Plan for Mopani District Municipality 2014)

Infrastructure Support Programme (MISA) to undertake a further study to determine the cost of refurbishing and upgrading the schemes (Water Master Plan for Mopani District Municipality 2014).

In order to get to the costing of the services required, the report depicted four classes of communities with the different levels of services. Table 3 highlight the state of water service provision per class:

In terms of the Water Master Plan for Mopani District Municipality (2014), a total of 327 settlements have water related problems which affected a total of forty two thousand nine hundred and seventy six (42 976) households out of the two hundred and sixty nine thousand six hundred and ninety four (269 694) households. Majority of the affected households is as a result of the functionality problems of the schemes as alluded to previously. What is encouraging emanating from the report is that there are no communities within Mopani District Municipality without a formal water infrastructure.

The Water Master Plan for Mopani District Municipality (2014) then further determined what it will cost the government to make sure that all households are at the same level when it comes to water provision. In this regard the following financial projections were highlighted by the Water Master Plan for Mopani District Municipality (2014) in Table 4.

Emanating from the same report, there are new projects which have been identified in terms of the different levels of service in each local municipality. These new projects were then grouped into short term, medium term and long term costing. Table 5 gives a reflection of the costing per municipality.

In order for the district municipality to improve the water service provision, there is a need to deal with the short term problems that were identified in the report such as the normal operation and maintenance and these will require an additional amount of R 29,680,000 while for the medium term the amount of

money required is R 178,323,000 and for the long term problems R 87,825,000 is required. The observation is that the water service provision in Mopani District Municipality has not as yet reached a sustainable stage hence the need for additional funding over and above the Municipal Infrastructure Grant and the Municipal Water Infrastructure Grant.

FACTORS AFFECTING THE PROVISION OF WATER SERVICES IN A SUSTAINABLE MANNER

The focus of this article is mainly on exploring and identifying the factors that affect sustainable water service provision within the Mopani District Municipality in the Limpopo Province in order to assist in developing a long term solution. These factors are not exhaustive and should be read in conjunction with other legislative requirements dealing with development within communities.

Poor planning and intergovernmental relations

The value chain for the provision of water services starts with the identification and development of the source whereby a certain amount of allocated water will be abstracted to be purified at the plant. The design capacity versus the level of demand or usage of the plants as outlined above is a clear indication of poor planning and weak intergovernmental relations. According to the transfer agreement signed in August 2008 between the Mopani District Municipality and the then Department of Water Affairs and Forestry, it was stated that a joint conditional assessment of the scheme will be conducted which will then lead into both the department and the district municipality approaching the National Treasury for funding of the upgrade and refurbishment programme of the schemes. If indeed proper planning was done prior transfer, the process would have involved making financial and human resources as required by the standards to be made available for the municipality. In this regard, the municipality continued to operate an infrastructure which does not meet with the required operating standards (Mopani District Municipality IDP: 2011 – 2016).

Despite the poor planning, the intergovernmental relations in managing the water services were very minimal if not non-existent. This is evident in the process towards approving the upgrade for the Tours Water Plant which is located within the Greater Tzaneen Municipality. According to the public participation report dated 2010 and the door-to-door report of the African National Congress as the ruling party within the district municipality, the inadequate water supply in Tours village was one of the critical services which also prompted the community to intend boycotting voting during the 2011 Local

Government elections. The municipality then identified the need to upgrade the scheme in order to improve the water supply and the project was finally included in the 2011/12 IDP and the MTEF Budget. As part of funding this type of projects under the Municipal Infrastructure Grant, the designs were done and as such a technical report was also needed for the final approval of the Department of Water before the project can commence. The process for approving the technical report dragged up to a point whereby meetings between the department and the district municipality were held to deal with the submission (Mopani District Municipality IDP: 2011 – 2016).

According to the correspondences and minutes between the Mopani District Municipality and the Department of Water and Sanitation, the approval was delayed because one section of the department wanted an abstraction licence of the water prior approving the technical report whereas the other section in the same department required the approved technical report before issuing the licence (Minutes of the meetings held during 2014). This is one typical example of instances wherein the weak intergovernmental relations have a negative effect on sustainable water provision. The technical report was finally approved in the 2014/15 financial year and now the project can commence. This implies that the sustainable provision of water in the area was delayed by almost five years just for the implementation of the project which might still take another two years.

In decisive leadership

One of the critical factors in successful institutions is the role played by the leaders and this is equally important in local government which includes both political and administrative leadership. The implementation of decisions taken determines how serious an organisation is towards achieving the set goals and it has been observed that within the district municipality decision making particularly on water service provision has affected the successful provision of the service to the communities (Council Resolution Number 684/2008:2008).

The decision taken by the Council of the municipality to establish a water entity as a way of improving the provision of the service was the most appropriate one given the human and financial constraints within the district. As it stands the municipality does not have borrowing capacity whereas with the entity the situation could have been much better. The withdrawal of the decision to establish the water entity has led to the infrastructure continuing to be in a state of decay owing to the poor operation and maintenance and insufficient funding to even do preventative maintenance (Mopani District Municipality IDP:2011 – 2016).

Similarly, the relaxation of the credit control and debt collection policy by various municipal councils is not doing local government any good. In this

regard the municipalities are losing possible revenue while the cost of running the service is increasing annually. In most municipalities within the district there are no longer reports submitted to municipal councils on the implementation of credit control and debt collection whereby even the cut-off list will be attached to the report. This assisted members of the Council to measure the effectiveness of the policy and the implementation thereof so as to make informed decisions (Auditor- General's Report for the Mopani District Municipality 2014).

Service delivery model

The current water services delivery arrangements are not effective and efficient as anticipated by the section 78 Report (2005). The findings of the report revealed the lack of capacity in three of the municipalities plus the district municipality hence the establishment of a water entity. The chosen model to appoint all the local municipalities as the water service providers did not yield any better results than the establishment of a water entity except the increase in service delivery protests by different communities. This resulted in the challenges for water services being attended on an urgent basis given the community pressure and in this regard the services will not be sustainable.

Inadequate water resources

There could be effective planning, good intergovernmental relations and effective leadership and appropriate service delivery model but if the water source is inadequate, the implementation will be slowed down. The current water sources within the Mopani District Municipality are the streams, wells, rivers and boreholes of which the water from the rivers becomes the main source.

According to the data available at the website for the Department of Water and Sanitation (2015), the status of the dam levels within the Mopani District Municipality clearly demonstrates a dire need for more rainfall in order to have consistent and adequate water to abstract from the rivers. Only three dams are between ninety 94 and 100% full. The lowest dam level is experienced in Middle Letaba which is at 37% full as at the week of the 28 June 2015. If this situation continues, the underground water will also begin to feel a strain thereby either running dry or highly stretched (Department of Water and Sanitation State of Dams 2015).

Capacity of the water infrastructure

Majority of the water infrastructure within the district municipality were designed almost more than 30 years ago. At that time there was no anticipation of

connecting rural settlements to the infrastructure but now with the dawn of a new democracy, every citizen has got the right to access to clean water. This implies that for an infrastructure that was planned to services a few households must not cover a higher number of households hence the water infrastructure is highly stretched as outlined above. Majority of the water infrastructure in the district is operating above the design capacity whilst the bulk pipeline are either very old or highly invested with illegal collections which then make it difficult for water to be stored in the reservoirs prior distribution. Even if it might rain accordingly, there will still be a greater challenge to ensure that both the water and waste water treatment plants are upgraded to meet with the consumer demand let alone also replacing old pipes (Department of Water and Sanitation 2015).

Financial management

For the upgrade and replacement of old water infrastructure to take place, more money is required but it is very unfortunate to note that proper financial management is not in place. As indicated above, the municipality is being owed substantial amounts of money by consumers and that makes it very difficult to plan for the proper management of the water services.

Financial management includes issues such as budgeting for water services which also caters for the tariffs to be applied. In the case of the Mopani District Municipality, it was observed that the tariffs charged to the consumers seem not to be cost reflecting in the sense that when the municipality plans the budget, it does so guided by the threshold increase as determined by National Treasury (Mopani District Municipality IDP:2011–2016). However when parastatals such as Eskom increases the tariffs, it becomes more than what was planned. In simple terms the municipality is struggling to ensure that when costing is done, it has taken into consideration all the factors that can create a financial problem.

Poor implementation of water service by-laws

As outlined above regarding the households that receive water supply and sewage within the district, some of the settlements are in the rural areas where there are no controls over the usage of water despite the existence of the water service by-laws. In order for water to be sustainable within the district, there must be measures to conserve and control the demand for water whether surface or underground. The fact that water in rural areas is not metered, is a clear indication of the lack of the water conservation and demand management plans (Water Master Plan for Mopani District Municipality 2014).

The second aspect to be concerned of is the high levels of illegal connections particularly on the bulk pipeline as a result of poor implementation of water

services by-laws. Once illegal connections are allowed on the bulk pipeline, this implies that water will not be in a position to reach the storage tanks and reservoirs from where they must be distributed to the consumers. When communities do not receive water, they ultimately resort to protests. A typical example is the service delivery protest that took place in 2013 in an area called Petanenge Village within the Greater Tzaneen Municipality which was televised on national televisions. Members of the community particularly women, marched to the municipality and took off their clothes in protest of the lack of water. Members of that community did not want to critically analyse aspects that make them to be without water which amongst them is illegal connections but instead chose to ignore focus only on what they want which is water. This is as a result of the failure by the municipal councils to enforce the by-laws as indicated above.

FINDINGS AND CONCLUSIONS

The article has provided some of the key factors that affect sustainable provision of water services within the Mopani District Municipality. Some of the factors are more of a natural cause and there is too little that can be done to reverse or correct it. This refers to instances where the dam levels are gradually dropping as a result of the rainfall patterns within the area. However issues such as the leadership and decisiveness can be attended to by the policy makers.

It is important to ensure that at the policy level there is a better understanding of what is required and expected out of the institutions they are leading. Once there is a better understanding, elected representatives will be able to pick up any deviations from the legal framework thereby engaging with the respective authorities in good time. There are certain matters that require the attention of elected representatives to work together is removing the bottlenecks. Currently the majority of the elected representatives do not understand the importance of sound intergovernmental relations.

Planning for water services will not practically take place without the availability of appropriate resources. The lack of capacity to operate the water infrastructure clearly becomes a serious limitation to achieve the constitutional mandate. There is a need to match the human capital with the task at hand and also to do likewise with the financial allocations. There are certain water infrastructure that are getting more allocation but bring too little income or at the worse even nothing. This situation requires the policy makers to ensure that the allocation of resources must be commensurate with the desired goals. Unless the Mopani District Municipality confront these factors urgently, the provision of water services in a sustainable manner will just remain a dream for its community. Whilst there is a need to upgrade and or refurbish the water

infrastructure within the district, such must be done in full understanding of the level of impact and the quick return on investment.

BIBLIOGRAPHY

- Ba-Phalaborwa Municipality. 2011. *Local Government: Ba-Phalaborwa Municipality Integrated Development plan, 2011–16*. Phalaborwa.
- Department of Water and Sanitation. 2015. *State of the dams*. Available online at: <https://www.dwa.gov.za/hydrology/weekly/province>. (Accessed on 30 June 2015).
- Department of Water and Sanitation. 2014. *Blue Drop Framework*. Available online at: https://www.dwa.gov.za/dir_ws/dwqr/subscr/view. (Accessed on 30 June 2015).
- Department of Water and Sanitation. 2013. *Blue Drop No Drop Handbook*. Available online at: https://www.dwa.gov.za/dir_ws/dwqr/subscr/view. (Accessed on 30 June 2015).
- Greater Giyani Municipality. 2011. *Local Government: Greater Giyani Municipality Integrated Development plan, 2011–16*. Giyani.
- Greater Letaba Municipality. 2011. *Local Government: Greater Letaba Municipality Integrated Development plan, 2011–16*. Modjadjiskloof.
- Greater Tzaneen Municipality. 2011. *Local Government: Greater Tzaneen Municipality Integrated Development plan, 2011–16*. Tzaneen.
- Maruleng Municipality. 2011. *Local Government: Maruleng Municipality Integrated Development plan, 2011–16*. Hoedspruit.
- Mopani District Municipality. 2008. *Mopani Section 78 Assessment Report*. Giyani. Mopani District Municipality.
- Mopani District Municipality. 2009. *The Council Resolution register, 2008/09*. Giyani. Mopani District Municipality.
- Mopani District Municipality. 2011. *Local Government: Mopani District Municipality Integrated Development plan, 2011–16*. Giyani.
- Mopani District Municipality. 2013. *Conditional assessment report of the water services*. Giyani. Mopani District Municipality.
- Mopani District Municipality. 2013. *Water Master Plan for Mopani District Municipality*. Giyani. Mopani District Municipality.
- Office of the Auditor-General. 2011. *Mopani District Municipality Final Audit Report, 2010/11*. Polokwane.
- Office of the Auditor-General. 2012. *Mopani District Municipality Final Audit Report, 2011/12*. Polokwane.
- Office of the Auditor-General. 2013. *Mopani District Municipality Final Audit Report, 2012/13*. Polokwane.
- Office of the Auditor-General. 2014. *Mopani District Municipality Final Audit Report, 2013/14*. Polokwane.

- South African Government. 2011. *South African Statistics, 2011*. Pretoria: Statistics South Africa.
- South Africa (Republic). 1994. *The Water Service Act*, 108 of 1997. Pretoria: Government Printer.
- South Africa (Republic). 1996. *The Constitution of the Republic of South Africa*, 1996. Pretoria: Government Printer.
- South Africa (Republic). 1998. *National Water Act*, 36 of 1998. Pretoria: Government Printer.
- South Africa (Republic). 2000. *Local Government: Municipal Demarcation Act*, 27 of 1998. Pretoria: Government Printer.
- South Africa (Republic). 2000. *Local Government: Municipal Systems Act*, 32 of 2000. Pretoria: Government Printer.
- South Africa (Republic). 2013. *Regulations relating to compulsory national standards for process controllers and water services work*. Pretoria: Government Printer.

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