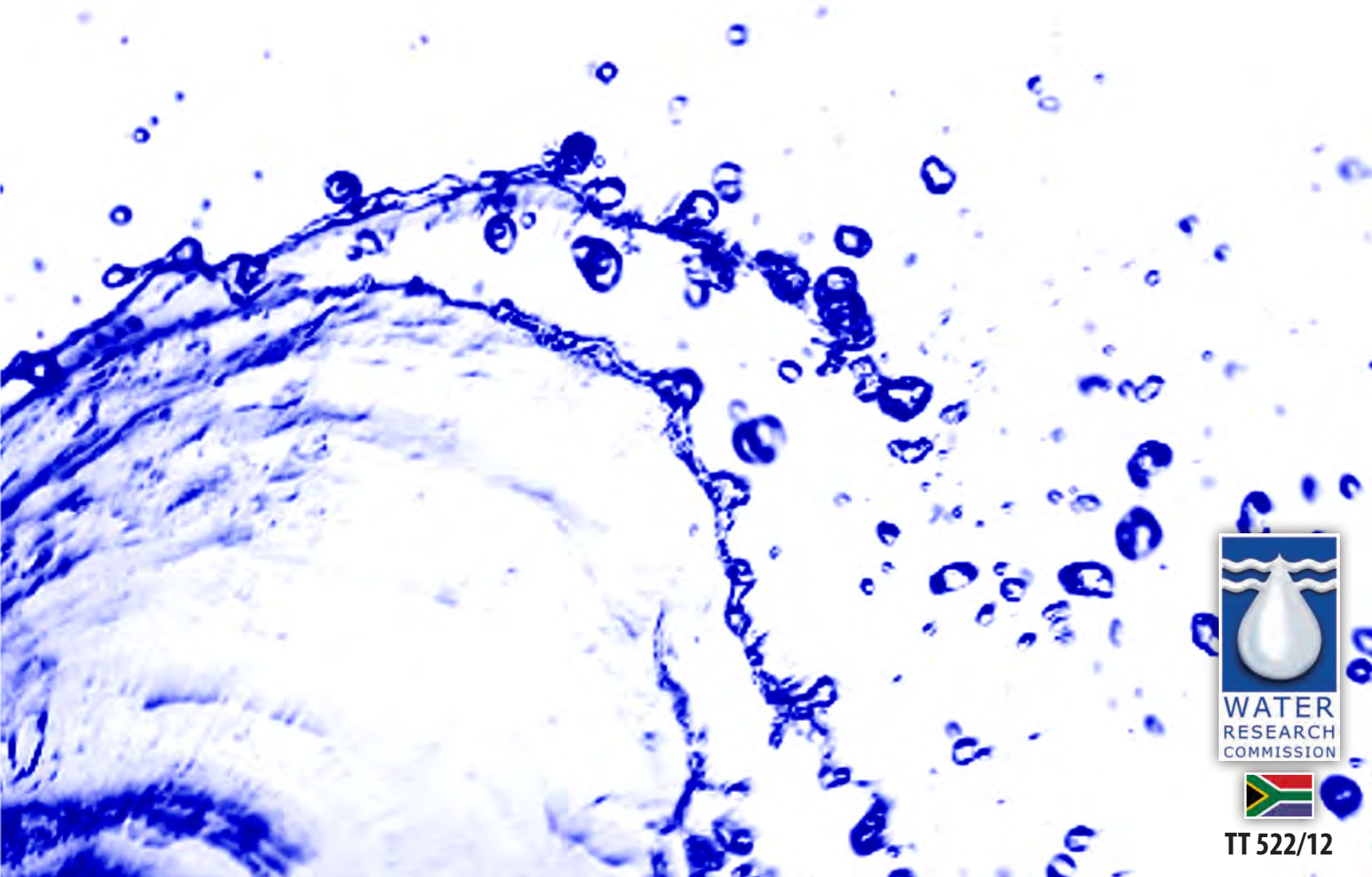
# The State of Non-Revenue Water in South Africa (2012)

R Mckenzie, ZN Siqalaba & WA Wegelin



WATER RESEARCH COMMISSION

TT 522/12

# THE STATE OF NON-REVENUE WATER IN SOUTH AFRICA (2012)

**R MCKENZIE, ZN SIQALABA & WA WEGELIN**

Report to the
**Water Research Commission**

by

**WRP Consulting Engineers (Pty) Ltd**

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The publication of this report emanates from a project entitled Assessment of Non-Revenue Water in South Africa, (WRC Project No. K5/1996//3)

This report incorporates information gathered through municipal contacts, DWA Ministerial reporting on Non-Revenue Water, the StatsSA Non-Financial Census data as well as the DWA Regulatory Performance Measurement System. The project was funded primarily by the Water Research Commission with additional support from the Department of Water Affairs: Directorates Water Use Efficiency and Water Services. This study was based substantially on the work undertaken in the previous 2007-Assessment of Non-Revenue Water in South Africa (WRC Report TT 300/07), which made significant strides in the benchmarking of water losses in the country.

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# *EXECUTIVE SUMMARY*

## OVERVIEW

In his 2010 State of the Nation Address, His Excellency JG Zuma, President of the Republic of South Africa, stated

***"We are not a water-rich country. Yet we still lose a lot of water through leaking pipes and inadequate infrastructure. We will be putting in place measures to reduce our water loss by half by 2014".***

Although the target for reducing our water losses has been set, there is still no clear indication of what the actual water losses are and how they are split between Physical Leakage (Real Losses) and Commercial Losses (Apparent Losses). The need for monitoring and measurement of water supplied by Water Services Authorities is therefore crucial to gain a better understanding of the nature and extent of the challenges faced by the water sector. The Assessment of Non-Revenue Water in South Africa in conjunction with the Ministerial reporting on Non-Revenue Water were therefore initiated to reinforce the importance of water management as well as developing the knowledge base that will allow for proper planning and informed decision-making.

**Data gathered from 132 of the possible 237 municipalities throughout South Africa representing over 75% of the total volume of Municipal water supply show that the current level of Non-Revenue Water estimated for the country as a whole is 36.8%. Of this 25.4% is considered to be losses through physical leakage (real losses).**

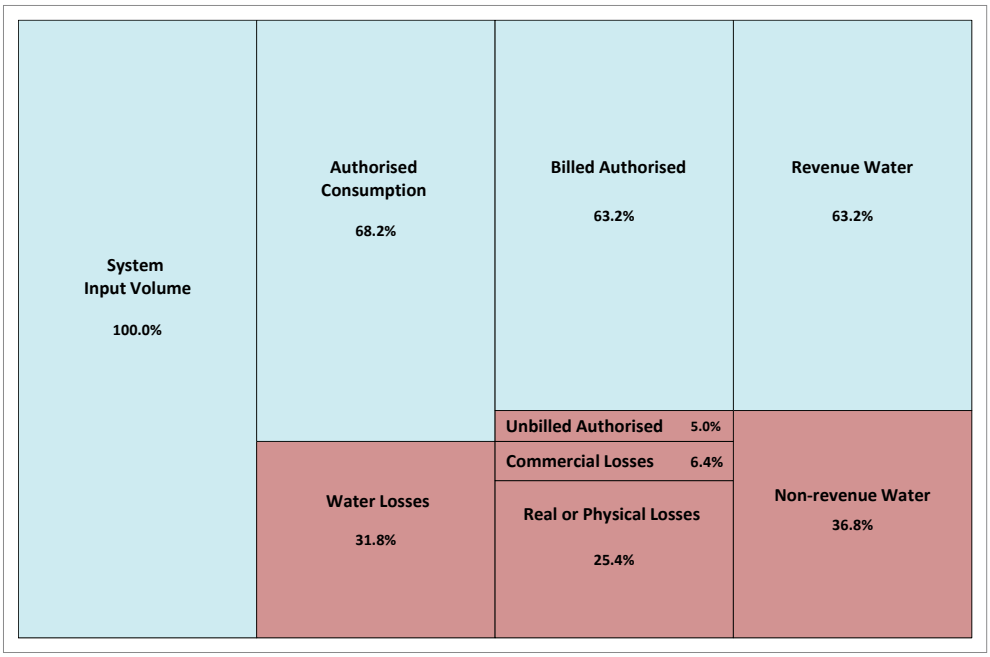



**Figure 1: National Water Balance (2009/10)**

The Non-Revenue Water figure is similar to the estimated world average of 36.6% but is considered high in comparison to other developed countries and low when compared to other developing countries.

The urban and rural water demand in 2000 was estimated at 3 471 million $m^3$/annum based on the National Water Resource Strategy (DWA, 2004). Applying the national population growth rate plus 1% provides an estimated current urban demand of 4 372 million $m^3$/annum in 2010. Extrapolating the Non-Revenue Water data for the country, provides an estimated urban consumption of 4 292 million $m^3$/annum and a national Non-Revenue Water volume of 1 580 million $m^3$/annum. The extrapolated input volume compares well with the expected urban and rural demand. The results are summarised in **Table 1.**

**Table 1: National extrapolated Non-Revenue Water**

| Category | Population (2010) | Input (mcm/a) | NRW (mcm/a) | RW (mcm/a) | % NRW | l/c/d |
|---|---|---|---|---|---|---|
| A | 17 420 512 | 1 849 091 117 | 634 192 022 | 1 214 899 095 | 34.3% | 291 |
| B1 | 7 756 187 | 683 667 320 | 282 585 164 | 401 082 156 | 41.3% | 241 |
| B2 | 3 882 070 | 325 623 095 | 99 407 207 | 226 215 889 | 30.5% | 230 |
| **Urban Total** | **29 058 769** | **2 858 381 532** | **1 016 184 393** | **1 842 197 140** | **35.6%** | **269** |
| B3 | 3 845 279 | 230 642 568 | 85 229 869 | 145 412 699 | 37.0% | 164 |
| B4 | 4 245 736 | 101 138 956 | 73 334 514 | 27 804 442 | 72.5% | 65 |
| **Rural Total** | **8 091 015** | **331 781 524** | **158 564 383** | **173 217 141** | **47.8%** | **112** |
| **National Total** | **37 149 784** | **3 190 163 056** | **1 174 748 776** | **2 015 414 281** | **36.8%** | **235** |
| **Extrapolated** | **49 988 373** | **4 292 650 981** | **1 580 730 012** | **2 711 920 969** | **36.8%** | **235** |

The national non-revenue water is estimated to be 1 580 million $m^3$/annum which is approximately one-third of the water supplied and almost equal to the total Rand Water supply per annum. Using different production rates, it was possible to estimate the financial value of the Non-Revenue Water as summarised in **Table 2,** from which it can be seen that the estimated value is more than R7 billion annually.

**Table 2: Estimated value of Non-Revenue Water per Municipal Category**

| Municipal Category | Production Rate (R/kl) | Estimated cost to supply water (R million/a) | Estimated value of NRW (R million/a) |
|---|---|---|---|
| A | R5.00 | R9 245.46 | R3 170.96 |
| B1 | R4.50 | R3 076.50 | R1 271.63 |
| B2 | R4.00 | R1 302.49 | R397.63 |
| **Urban Total** | | **R13 624.45** | **R4 840.22** |
| B3 | R3.50 | R807.25 | R298.30 |
| B4 | R3.00 | R303.42 | R220.00 |
| **Rural Total** | | **R1 110.67** | **R518.30** |
| **National Total** | | **R14 735.12** | **R5 358.52** |
| **Extrapolated Total** | | **R19 827.42** | **R7 210.38** |

It should be noted that the use of percentages is not recommended by the International Water Association when referring to water losses or leakage levels, since they can often be misleading. The Infrastructure Leakage Index (ILI) is often used as an alternative to percentages when quantifying the real or physical leakage. The ILI indicator is a simple index which typically ranges from 1 in very well managed systems to over 100 in very badly managed systems. The average ILI value for all of the South African Municipalities was estimated to be 6.8 which again is in line with the world average and would be above average (i.e. bad) when compared to most developed countries and well below average (i.e. good) when compared to most developing countries. Effectively, the ILI value of 6.8 tends to support the perception created from the percentage Non-Revenue Water figures for South Africa (36.8%) where there is clearly a high level of wastage or water losses in the country and considerable scope for improvement.

It is clear from the results of this assessment, that water losses in South Africa are currently in line with world norms but have significant scope for savings which is an important consideration in such a water scarce country. Reducing water losses therefore represents an important issue when balancing future water requirements with the available resources.

This study is not the first of its kind, and follows on from the three previous assessments undertaken through the WRC in 2007, 2005 and in 2001. This study is the most comprehensive and detailed study of its type to date and expands on the knowledge acquired previously and through collaborative efforts with the DWA Regional Offices in the data gathering process.

Through the joint efforts of the DWA and WRC, it was possible to capture a larger number of Municipalities and to enhance the reliability of the resulting data. Where possible, the water balance data utilised in the study were obtained for the six years up to financial year ending 2010. This effectively established the most comprehensive non-revenue water data set available to date and the multiple consecutive years of data allow for greater error checking. As a result of the extended database, it was possible to establish more accurate and meaningful extrapolations where required which, in turn, creates a more reliable estimate of the Non-Revenue Water for the country as a whole. In addition, all 237 local municipalities were targeted for the study in contrast to the 60 to 80 data sets initially proposed from which 132 acceptable data sets were obtained. It should be noted, that the 132 data sets used in the analyses represent over 75% of the total municipal water demand for the country with the result that the extrapolation component represents the remaining 25% of the water use.

## RESULTS

### National water balance

The Non-Revenue Water for municipal water use in South Africa is estimated to be 36.8%. While it is clear that there is significant room for improvement, it is also important to recognise that the South African figure is in line with the World average value of 36.6%.

When considering the figures presented in **Table 1**, the Non-Revenue Water calculation is based on the “Billed Authorised” information as provided by the Financial Departments in each municipality. The issue of payment for the services is not addressed in this assessment and is considered to be a separate, albeit important, issue. Once a bill for water has been issued, it is considered to be part of the “Billed” consumption whether or not payment is ultimately received by

the municipality. This important issue often leads to some confusion over the issue of "Revenue Water" and "Non-Revenue Water"

It is also important to note that in South Africa, the recommendations from the International Water Association have been adopted with regard to the use of the term "Non-Revenue Water" (NRW) in preference to the term "Unaccounted-For-Water" (UFW). The UFW is effectively represented by the "Water Losses" term in **Figure 1**, which at 31.8% is significantly lower than the NRW figure of 36.8%. The UFW-term is open to interpretation and can easily be manipulated during the audit process, which is the main reason that Non-Revenue Water is currently the internationally recognised term.

Levels of payment are very low in some parts of the country and this inadvertently has a major influence on the Non-Revenue Water since there is little incentive to save water when the user has no intention of paying for it. The cost recovery aspect is not part of the Non-Revenue Water calculation either in South Africa or elsewhere in the world and must be addressed through a social and community education programme.

Very limited information exists on the unbilled authorised consumption that was estimated at 5% of the input volume. The apparent or commercial losses were also estimated at 20% of the total water loss but vary considerably between municipalities due to the different ages of the infrastructure and the various meter replacement policies adopted by each municipality. It is estimated that apparent losses could be as high as 80% of the water loss in some municipalities and as low as 5% in others.

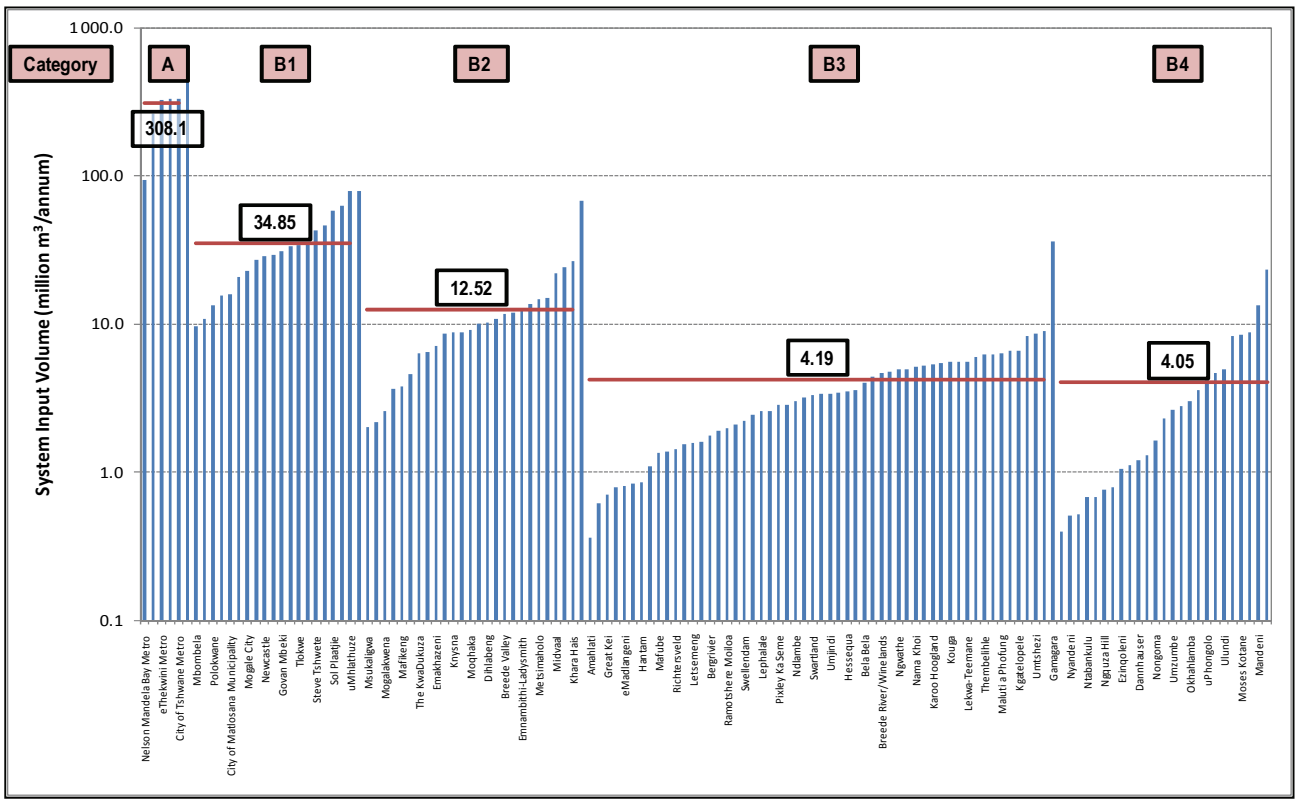



**Figure 2: System Input Volume per municipal category (note log scale)**

## Key Performance Indicators

The percentage Non-Revenue Water per municipal category, based on usable data sets, is shown in **Figure 3.** Also, it should be noted that the national water balance is highly influenced by the metros and municipalities with large cities as shown in **Figure 3.**

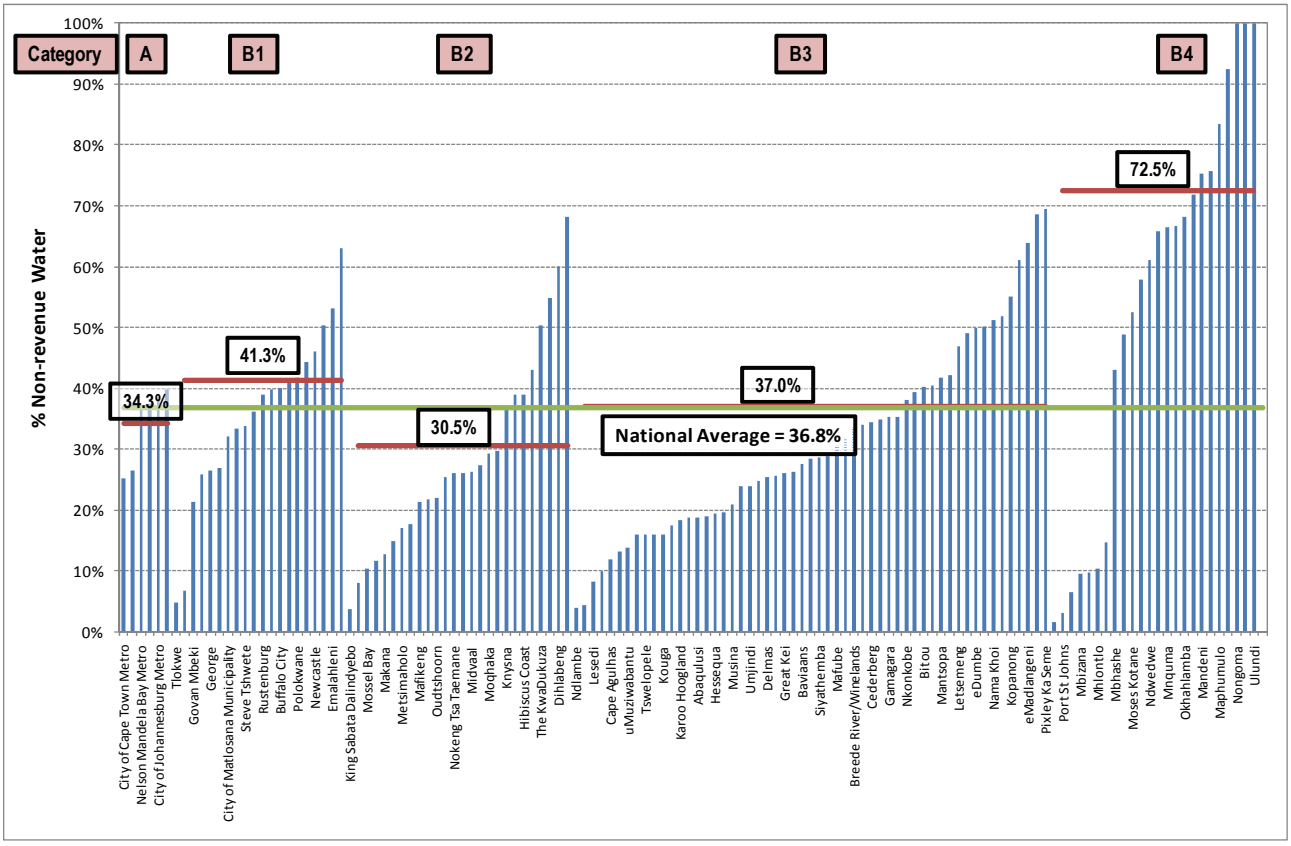



**Figure 3: Percentage Non-revenue Water per municipal category**

The Non-Revenue Water for municipalities in categories A, B1, B2 and B3 are all within 5% of the national average. Category B1 municipalities are characterised by high population growth, deteriorating infrastructure and lack of capacity and is possibly the reason for the above average Non-Revenue Water. The lower Non-Revenue Water in category B2 could be ascribed to the belief that these towns are easier to manage with the result that the Non-Revenue Water is under control. The data for municipalities in category B3 varies considerable whereas the Non-Revenue Water for Category B4 municipalities is very high due to the level of service and low cost recovery. Fortunately, the volumes of water used in these areas are relatively small with the result that the errors do not have a significant influence on the overall national Non-Revenue Water estimate.

The national Non-Revenue Water figures compare well with international trends as shown in **Figure 4.** The average Non-Revenue Water over the past 5 years for various countries across the world was 36.6%, ranging from over 70% in developing countries such as Albania and Armenia to below 10% in highly developed countries such as Australia and New Zealand.

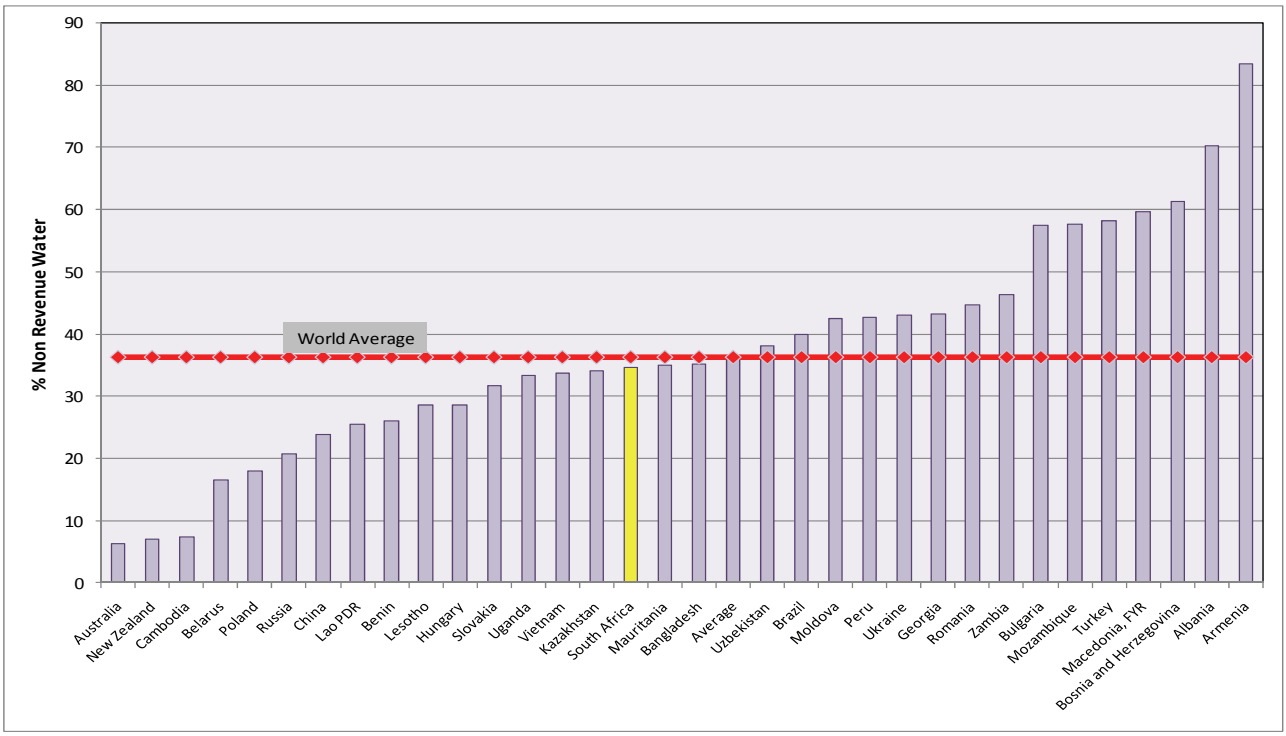



**Figure 4 : International % Non-Revenue Water data set**

The litres/capita/day per category, based on usable data sets, is shown in **Figure 5.** This figure was based on the total water supplied and the total population served in each Municipality. The water use therefore includes all losses as well as all commercial and industrial use supplied from the municipal system, which can be significant in some areas.

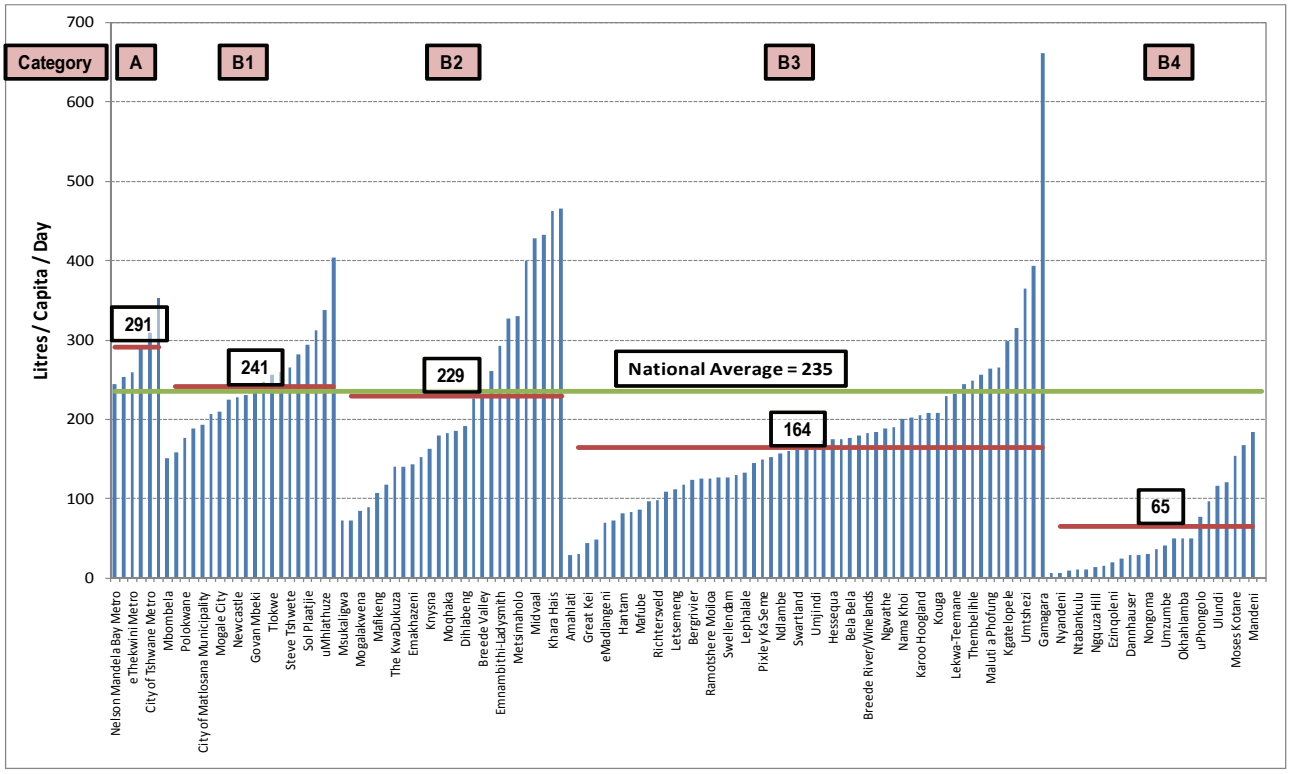



**Figure 5: Average litres/capita/day (2005 to 2009)**

The average ℓ/c/d for the Metros are the highest, but this is to be expected since the total water demand includes the industrial water use and this tends to be relatively high in most Metros which support the highest number of wet industries in the country. Although the datasets for categories B3 and B4 are much smaller, the average per capita consumption seems significantly lower than for the bigger municipalities.

The average per capita consumption for South Africa is high compared to most other countries as shown in **Figure 6.** The international gross average consumption is 173 ℓ/c/d.

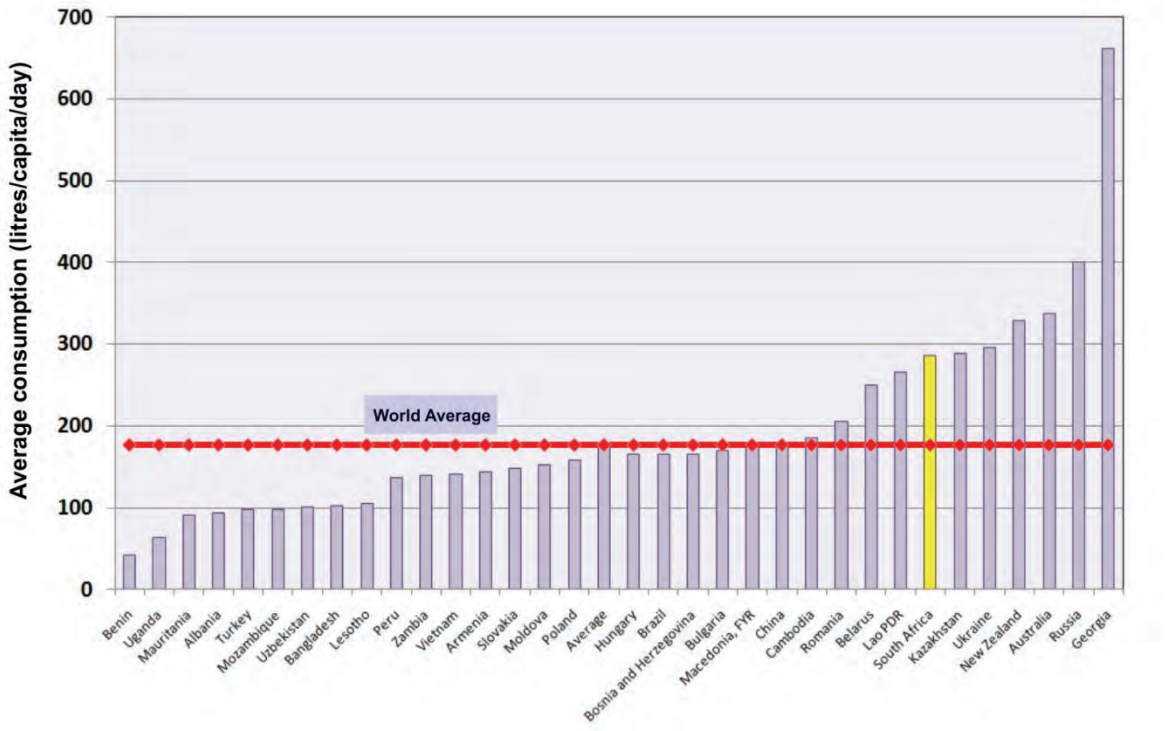



**Figure 6: International litres/capita/day**

**Data Quality**

It was found that the quality of the data presented by some municipalities was very poor, especially by the smaller and rural municipalities. In some cases, municipalities have provided the same information for two or three consecutive years indicating that this information is not updated on an annual basis. A further concern is that a significant number of the municipalities could not even provide a system input volume indicating that measurement processes are neither adequate nor effective. It is clear from the observations noted above that Water Demand Management is not taking place, even at a rudimentary level in many areas. In the absence of proper metering and monitoring, appropriate reliable planning cannot be undertaken.

## KEY PROBLEM AREAS

- Within municipalities there are often joint responsibilities with the most common issue being the water services division where both Technical and Financial departments have certain responsibilities. This leads to problems especially when trying to formulate the overall water balance for the Municipality and the associated estimate of Non-Revenue Water. The

problem was further compounded by the continual replacement of Councillors, many of who have little experience of Water Services and often do not understand the importance of Water Conservation/Water Demand Management.

- Within DWA there are also joint responsibilities, with insufficient capacity to monitor, regulate, enforce and support the WC/WDM measures throughout the whole country. Additional capacity is required to facilitate an enabling environment, with a clear mandate to "make it happen" within all municipalities.
- Municipalities are continuously in a crisis management mode with limited management information and poor decision-making processes, financial and technical management.
- Lack of human resources at operational level to perform basic functions such as proactive maintenance, leak repairs and community awareness.
- Funding for asset management, operation and maintenance and water loss/Non-Revenue Water reduction was not prioritised whereas most metropolitan and major municipalities agree they can improve WC/WDM by better prioritising their budgets. There are success stories of municipalities that do not have specific WC/WDM budgets but their water distribution systems were well managed and their losses are under control all within the existing O&M budgets.
- Metering, billing and cost recovery, which is a finance function within municipalities, is a major problem area that requires attention. In addition, training of councillors as well as the financial and technical personnel was needed.
- The potential savings that can be achieved through Water Demand Management measures, are often overly optimistic with particular emphasis on the time needed to achieve the savings and the associated costs. Water demand management is rarely a "quick-fix' and should rather be implemented properly through a 5- to 10-year programme after which continuous maintenance for the various interventions is needed. The maintenance issue is rarely included in the original project budget but is essential if the savings achieved are not to be lost within a year or two after project completion.
- The maintenance of the WDM measures should be seen not as a problem but rather as an opportunity to create useful and long-term employment in areas that typically experience very high levels of unemployment.
- Greater input is required from other institutions such as SALGA, CoGTA, DBSA, etc. to assist with resolving issues like political support and high vacancies in certain departments.

**Key Interventions required**

Water losses in a distribution network are often an indication of the "health" of the water distribution network as most WC/WDM activities were related to the operation and maintenance of the system. In a well-managed system the input volume is known, leaks will be fixed, consumers will be metered and billed, there be limited disruption in the supply and pressures will be within the acceptable range.

The Water Services Act (Act 108 of 1997) and the regulations relating to Compulsory National Standards and Measures to Conserve Water (R509 of 2001) under the Water Services Act of 1997 require Water Services Institutions to perform certain functions to report on and control their water losses. Although the act and regulations are very clear on what is required from Water Services

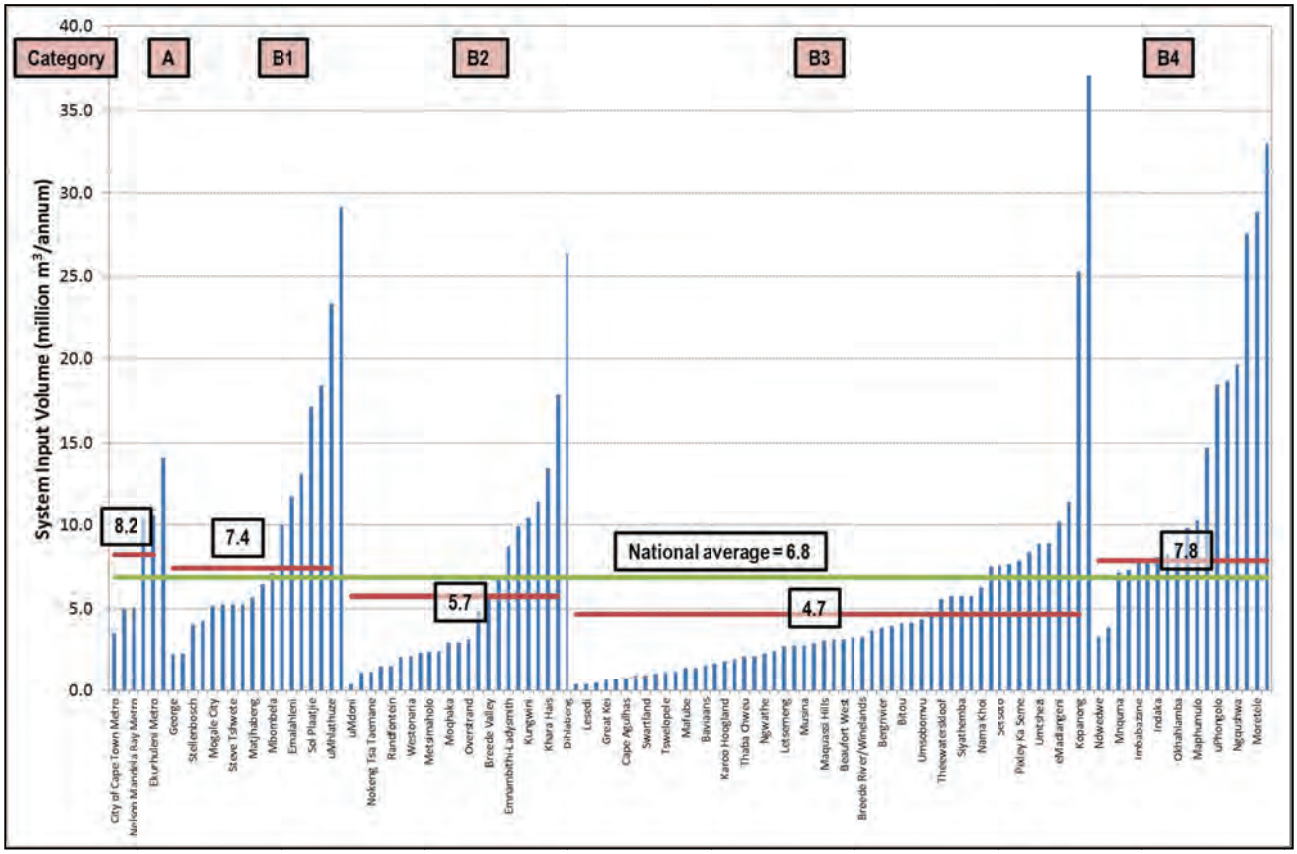
Institutions, these functions are often not performed and is the very core of water losses in most water distribution networks. Enforcing the requirements of the Water Services Regulations, will assist in reducing the water losses in the country and should focus on:

- Resolving intermittent supply and focusing on providing a proper service
- Fixing of internal plumbing leakage by municipalities regardless if services are paid for or not
- Fixing of visible leaks on the distribution network
- Bulk metering and calculations of Non-Revenue Water
- Accurate metering, reading and billing
- Consumer awareness and elimination of inefficient use.

**Infrastructure Leakage Index (ILI)**

The ILI is a relatively new performance indicator that is used to indicate the level of Real Losses (i.e. Physical leakage) in a water distribution system. The ILI is a non-dimensional indicator and ranges from 1 to over 100. A value of 1 is basically "world's best practice" and indicates that the level of physical leakage in a system is as low as it can be while a value of 10 would indicate that the physical leakage is 10 times the lowest value. In the case of South Africa, the average ILI value from the various South African municipalities was estimated to be 6.8. This ties in relatively well with the previously mentioned Non-Revenue Water value and again highlights that there is significant room for improvement with regards to reducing leakage from South African systems and at the same time indicates that South Africa is broadly in line with world norms.

Very few municipalities were able to provide details on their length of mains or average operating pressures. The ILI calculations are based on best estimates and available information but will need further refinement.




## CONCLUSIONS AND RECOMMENDATIONS

- With each new assessment, more information and base data are available and the levels of extrapolation therefore decrease, with the reliability of the overall assessment improving. The results discussed in this paper are therefore the most comprehensive national non-revenue water database compiled to date.
- It is estimated that the Non-Revenue Water from Municipal water supply systems is approximately 1 580 million $m^3$ per annum representing 36.8% of the total Municipal water supplied (approximately 4 300 million $m^3$/annum). At a nominal production cost of R4.50/$m^3$, this loss represents approximately R7.2 billion per annum.
- Only continuous monitoring, analysis and feedback will improve results. Data must be scrutinised for errors and analysed based on appropriate Key Performance Indicators or KPIs. It was expected that participation would improve once municipalities gain confidence and receive feedback from DWA on their results. Municipalities will wish to compare themselves with other municipalities and this should be promoted as a key motivation for municipalities to participate and support the annual water balance assessments.
- Based on the state and quality of the data obtained from the municipalities, it is evident that a nationwide training programme is required on the basic principles Water Demand Management with specific reference to the development of a meaningful and realistic water balance. The data obtained to date from many municipalities highlight many serious inaccuracies or errors, which may be due to a general lack of understanding of the water balance. With improved knowledge and understanding of the water balance and basic WDM principles, it is anticipated that the quality and usefulness of the data will improve.

- Additional data are required to calculate other key performance indicators. This should include the length of mains, average system pressure, number of connections (meter and unmetered) and domestic and non-domestic water use, etc.
- A major concern is the lack of information from 45% of municipalities. Lack of resources and metering, ignorance, continuous crisis management and apathy are some of the reasons provided for this lack of information. DWA has indicated that it will continue to improve the coverage of the Non-Revenue Water assessment and is targeting 80% of all municipalities in the 2012 assessment.
- Very few municipalities can provide a comprehensive WC/WDM strategy that set targets, intervention programmes and budget requirements. The lack of information from 55% of the municipalities indicates that more than half of the country's municipalities are not even aware they have a problem. As part of the National Water Audit, support should be given to municipalities on the development of WC/WDM strategies, which can then be rolled-up to provincial and national strategies. In this regard, the WRC has just released its WDM Strategy Scorecard Model, which is an ideal tool for assisting water suppliers in developing a simple and pragmatic WDM strategy.
- Various government departments have spent considerable time and money collecting and collating Non-Revenue Water data. These data are of little value if they are not verified, validated and converted into reliable information that can be used for planning purposes.
- Based on various previous studies undertaken for the Department of Water Affairs, it is estimated that a realistic target for Non-Revenue Water of 25% is achievable over a period of 10 years if the required investment of approximately R2 billion per annum is allocated to WDM interventions throughout all Municipalities in South Africa. Although these figures are approximate estimates based on previous interventions and the associated results, they do provide a realistic estimate of the magnitude of investment needed as well as the appropriate period.
- It must be noted that in many Municipalities throughout South Africa, there is a dedicated effort to provide safe potable water to outlying communities that have previously had no access to a formal water supply. There has been a shift in focus in some Municipalities from improving efficiency to the installation of new pipelines and supplies in line with Government policy to improve the level of service to all citizens. Such measures can inadvertently lead to an increase in the levels of Non-Revenue Water when in fact significant improvements are often being made. It is therefore important to take these factors into account when assessing the overall performance of a Municipality and not base the assessment solely on the level of Non-Revenue Water.
- Water Demand Management offers a great opportunity to create sustainable employment opportunities in virtually every Municipality in South Africa. Although the costs of implementing WDM interventions may seem expensive in some cases, the creation of worthwhile employment opportunities should not be overlooked as an associated benefit.
- In many cases, the WDM interventions not only save water but can also create significant energy savings, particularly in systems where water has been pumped at some point in the supply cycle. Water loss savings will also often result in energy savings due to the water treatment process and also the sewage treatment process, both of which can be significant with regard to energy use.

- WDM interventions can often delay expensive infrastructure projects and such savings should always be included in any cost-benefit calculation. If calculated properly, it is often found that WDM interventions are highly cost effective with pay-back periods of less than 12 months.
- Care must be taken when comparing percentage levels of losses or Non-Revenue Water from one year to another. There is a potential problem when using percentages especially in cases where the total legitimate water use declines due to changing behaviour. In such cases, a drop in the legitimate water use due to more efficient water use practices will in fact result in an increase in the percentage Non-Revenue Water that suggests that the situation has deteriorated when in fact it has improved. To overcome this potential problem, it is recommended that two or three water loss indicators are used when expressing water losses rather than simply referring to a single percentage value.
- The percentage level of Non-Revenue Water appears to have risen gradually over the past 10 years from the date of the first assessment. It must be noted, that the number and reliability of the data sets used in the analyses has improved over the years and therefore it is difficult to draw firm conclusions on the percentage level of Non-Revenue Water. The Infrastructure Leakage Index (ILI), which is also used to quantify the level of physical leakage (real losses), has remained relatively constant over the past 10 years at approximately 6.8. The levels of water losses in South Africa therefore suggest that there is significant scope for improvement although the values remain well in line with global norms.
- When comparing the unit water use per capita, South Africa appears to have a relatively high per capita water use, which suggests consumers waste water, and there is significant scope to reduce the unit consumption. It should be noted that, if the consumption is reduced without also reducing the leakage, the percentage Non-Revenue Water will increase; again highlighting one of the problems when using percentages to quantify water losses.

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| Ms Ziyanda Mateta | Rustenburg Municipality |
| Mr Jay Bhagwan | Water Research Commission |

# *ABBREVIATIONS*

| | |
|---|---|
| DWA | Department of Water Affairs |
| ILI | Infrastructure Leakage Index |
| IWA | International Water Association |
| NRW | Non-Revenue Water |
| PI | Performance Indicator |
| RDP | Rural Development Programme |
| UARL | Unavoidable annual real losses |
| UFW/UAW | Unaccounted for water |
| WDM | Water Demand Management |
| WRC | Water Research Commission |
| WSA | Water Services Authority |
| WSDP | Water Services Development Plan |
| WSP | Water Services Provider |

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# 1 INTRODUCTION

## 1.1 BACKGROUND

In his 2010 State of the Nation Address, His Excellency JG Zuma, President of the Republic of South Africa, stated

***"We are not a water rich country. Yet we still lose a lot of water through leaking pipes and inadequate infrastructure. We will be putting in place measures to reduce our water loss by half by 2014".***

Although the target for reducing our water losses has been set, there is still no clear indication of what the actual water losses are and how they are split between Physical Leakage (Real Losses) and Commercial Losses (Apparent Losses). Understanding the split between physical and commercial losses is important since different interventions are required when addressing the two forms of water loss. The need for monitoring and measurement of water supplied by Water Services Authorities is therefore crucial to gain a better understanding of the nature and extent of the challenges faced by the water sector. The Assessment of Non-Revenue Water in South Africa in conjunction with the Ministerial reporting on Non-Revenue Water was therefore initiated to reinforce the importance of water management as well as developing the knowledge base that will allow for proper planning and informed decision making.

It must be noted that this study is not the first of its kind, and follows on from the three previous assessments undertaken through the WRC in 2007 (Seago and Mckenzie), in 2005 (Mckenzie and Seago) and in 2002 (Mckenzie and Lambert). This latest study is the most comprehensive and detailed study of its type to date and expands on the knowledge acquired previously and through collaborative efforts with the DWA Regional Offices in the data gathering process. Data have been gathered from 132 Local Municipalities with representation from all nine provinces across South Africa, which has assisted in providing a more balanced perspective in terms of the extent of water losses in the country. This study further utilises both quantitative information in the form of the water balance provided by the municipalities as well as qualitative information in the form of the Municipal WC/WDM self-assessment scorecard (Mckenzie, 2010). The Scorecard has proved to be an invaluable tool for drawing a meaningful assessment of the state of water losses within the local municipalities and the causes thereof.

## 1.2 OBJECTIVES

The key objectives of the project were originally defined as follows:

- To undertake annual water audits for the 2007/2008 municipal water year (1 July to 30 June), of full 2008 (1 Jan to 31 December) for between 60 and 80 water supply areas;
- To check the audits for consistency and potential errors before finalising the audits;
- To calculate various performance indicators including non- revenue water;
- To extrapolate the available information to provide an indication of non-revenue water for the whole of South Africa, and
- To disseminate information on the level of Non-Revenue Water in all major centres throughout South Africa.

The study deviated slightly from the original objectives in order to capture a larger number of Municipalities and to enhance the reliability of the resulting data. Where possible, the water balance data utilised in the study were obtained for six years up to financial year ending 2010. This effectively established the most comprehensive Non-Revenue Water data set available to date and the multiple consecutive years of data allow for greater error checking. As a result of the extended database, it was possible to establish more accurate and meaningful extrapolations where required which in turn creates a more reliable estimate of the Non-Revenue Water for the country as a whole. In addition, all 237 local municipalities were targeted for the study in contrast to the 60 to 80 data sets initially proposed from which 132 acceptable data sets were obtained.

Training to the Municipalities on the development and use of the standard IWA Water Balance was provided with additional support from the Masibambane Phase III WDM Support programme undertaken by DWA in parallel with this project. Two complete sets of workshops were held with local authorities in each of the nine regions, which covered all issues related to the development of the water balance in accordance with the IWA methodology as well as the use of appropriate Key Performance Indicators (KPIs) and the associated reporting. These workshops stemmed from the need identified by National Government to capacitate municipalities with particular emphasis on the implementation of water conservation and water demand management. The workshops were also aimed at raising awareness and facilitating the understanding of the importance of WDM in municipalities throughout the country. This need was adequately demonstrated in the poor quality of the data received from a significant number of municipalities. It is envisaged that the quality of the information will continue to improve in future and that regular workshops will help to facilitate the process.

## 1.3 REPORT LAYOUT

This report is structured in the following manner. The following section contains a literature review, which details the latest trends and challenges in terminology and application of the NRW balance methodology based on discussions with Local Municipalities and the workshops presented as part of this study. This is followed by details of the assessment and a discussion of the results and findings from the study. Finally, the conclusions and recommendations are presented to provide a strategic perspective on the way forward in terms of NRW reporting and WC/WDM implementation in municipalities.

# 2 LITERATURE REVIEW

## 2.1 PREVIOUS NON-REVENUE WATER ASSESSMENTS

Various previous assessments of Non-Revenue Water (NRW) have been undertaken in South Africa since the standard International Water Association (IWA) methodology was introduced in the late 1990s. The following three assessments provide the background to the latest assessment, which is documented in this report.

- 2002 – Development of a simple and pragmatic approach to benchmark real losses in potable water distribution systems in South Africa. WRC Report TT 159/01 by Mckenzie and Lambert.
- 2005 – Benchmarking of Leakage from Water Reticulation Systems in South Africa. WRC Report TT 244/05 by Mckenzie and Seago
- 2007 – Non-Revenue Water in South Africa. WRC Report TT 300/07 by Seago and Mckenzie.

These three assessments each provided updated and more reliable information on Municipal Water use than the previous estimates, and in each case, the available data base was expanded to include additional Municipalities which had not previously provided any useful information.

### 2.1.1 2002 Assessment

The 2002 assessment was fully described in the BENCHLEAK User Guide (**Development of a simple and pragmatic approach to benchmark real losses in potable water distribution systems in South Africa. WRC Report TT 159/01 by Mckenzie and Lambert**) which was the first time that the IWA Water Balance Methodology had been presented officially to South African Municipalities through official WRC software.

The BENCHLEAK software was provided together with a detailed manual to explain the concepts and use of the IWA Water Balance methodology. The BENCHLEAK Model was provided as a simple Excel spreadsheet, which was to be the first of many such models developed and used throughout the world. The document included the recommendations of International Water Association Task Force, on 'best practice' approaches to the water balance methodology as well as an overview of the most appropriate terminology, calculation process and performance indicators traditionally used for calculating Water Losses in South African public water supply systems.

One of the key recommendations made in the report was the adoption of certain standard terminology, which had been agreed by WDM specialists from around the globe. For example, it was recommended that the terms 'Non-Revenue Water' and 'Water Losses' should be used in preference to the familiar (but often vague) term 'Unaccounted-for-Water' – since, with modern techniques, it is now possible to account for virtually all water entering a water distribution system. The use of percentages to express real losses was identified as a potential problem issue as it is now also recognised internationally as being potentially misleading when used as a measure of the efficiency of managing real losses (leakage and overflows) from distribution systems with different levels of consumption. It was recommended that, where possible, the alternative performance

indicator namely the Infrastructure Leakage Index (ILI) should be used when quantifying Physical Leakage.

The BENCHLEAK software was fully described in the report and included definitions for all the components of the standard Water Balance. It also calculates the 'Unavoidable' real losses for any system, taking into account just three key parameters: Length of Mains, Number of Service Connections and Average Operating Pressure, assuming that customer meters are located close to the street/property boundary. The Unavoidable Annual Real Losses are then used in the calculation of an Infrastructure Leakage Index (ILI) as described by Lambert (1999).

It was anticipated that all main Water Supply organisations in South Africa, and their consultants and regulators will use the BENCHLEAK software (or similar) for calculating and comparing their performance in managing Water Losses in the standard IWA format. It was anticipated that all Water Supply organisations would eventually be able to undertake an annual water-balance calculation on a 'whole system' basis. In this manner, the information gathered by the Water Research Commission from the water suppliers on an annual basis could be captured using the standard IWA terminology and would then be directly comparable both within South Africa and also with many other organisations worldwide.

As part of this assessment, water balance calculations were completed for 34 water suppliers throughout South Africa, which covered a wide range of Municipalities from the largest in the country to many of the smaller towns. For each, a full water balance calculation was completed and various key indicators were calculated, full details of which are provided in the report. All data sets were presented anonymously in order to avoid the assessment being perceived in a negative light by those willing to provide information. Some of the key findings were:

- The average operating pressure in the 34 South African water supply systems was estimated to be 47 m with the highest at approximately 75 m and lowest at approximately 30 m. These values are well in line with international norms for developed economies.
- The average Density of Connections was calculated to be 49 connections per km of mains, which is in line with international norms for developed economies.
- The Physical Leakage was estimated to be in the order of 16% of the system input and this figure was accompanied by a strong warning that percentages can be very misleading.
- The Physical Leakage in terms of litres per connection per day was estimated to be 388, which is typical for many systems worldwide.
- The Non-Revenue water as a percentage of the system input was estimated to be 23% and again the use of percentages was flagged as potentially misleading. It was also noted that this estimate was most likely to err on the low side for the country as a whole since only those Municipalities that were actually monitoring their water balance had been included in the survey.
- The average ILI for the 34 data sets was estimated to be 6, which in world terms is neither very poor nor very good. It is a typical value that would be expected in a developed country and significantly lower than one would expect in a developing country.

It was noted that the information provided by many of the water suppliers was potentially unreliable and that the figures presented should be used with caution since many of the normal checks and balances could not be completed properly due to lack of detail. However, it was recommended that the methodology be adopted for use throughout South Africa and that a more rigorous

assessment be undertaken in order to derive more reliable estimates of the water losses throughout South Africa.

### 2.1.2 2005 Assessment

In 2005, the initial assessment undertaken for the Water Research Commission was repeated in order verify or correct the information used in the previous assessment and to derive a more robust estimate of water losses in South African Municipalities. The assessment is fully documented in the 2005 reports entitled "***Benchmarking of Leakage from Water Reticulation Systems in South Africa. WRC Report TT 244/05 by Mckenzie and Seago***"

In the 2005 assessment data from approximately 60 water suppliers were obtained and after careful screening the sample data set was reduced to 30 suppliers. For each supplier, various performance indicators were evaluated which are presented in the report. For the purpose of leakage evaluation, it was agreed that the most reliable and meaningful indicator is the Infrastructure Leakage Index (ILI) which is presented in **Figure 7** for 27 of the water utilities considered in the analyses and provides an indication of how effectively a utility is managing real losses under the current operating pressure regime.

A clearly defined water balance is the first essential step in the assessment of volumes of Non-Revenue Water and the management of water losses in potable water distribution systems. The standard IWA water balance provides a breakdown of the water that enters a particular system into various components and in so doing allows the system manager/operator to establish the quantities of water is being used or lost.

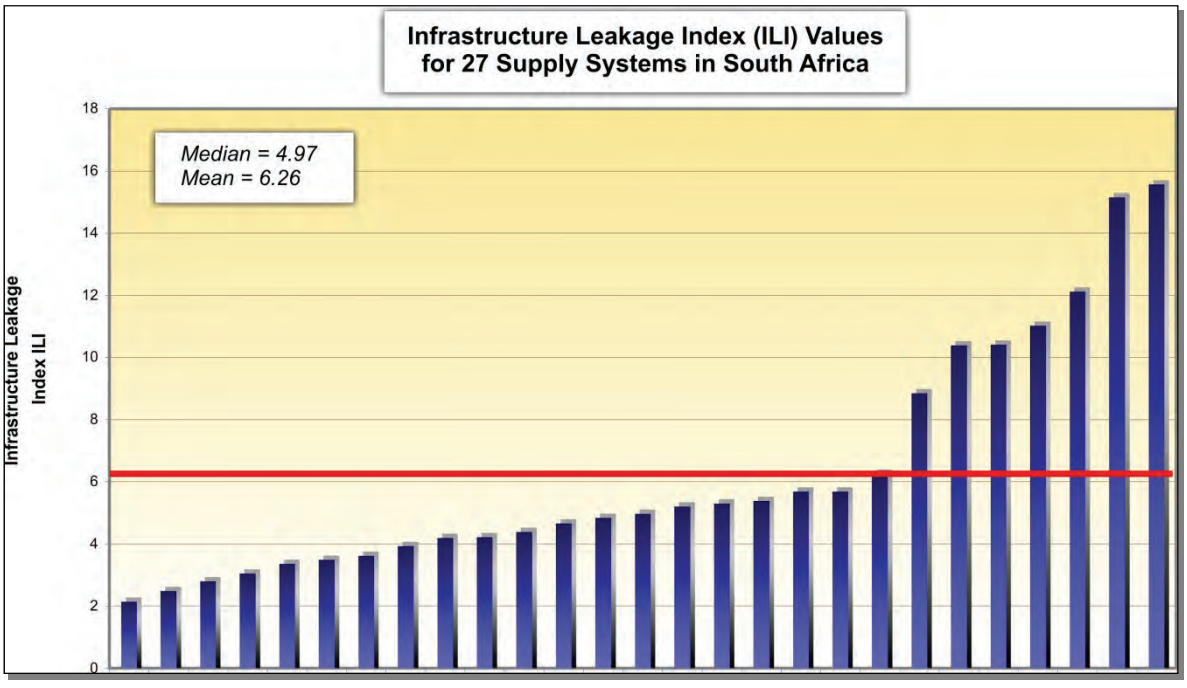


**Figure 7: ILI Results for 27 systems in South Africa**

From **Figure 7** it can be seen that the ILI values for the South African data range from 2.0 to approximately 15.5 with an average value in the order of 6.0. An ILI value of 2 to 3 would generally

be considered very efficient for South African water utilities. In the case of the system with an ILI of 6, as mentioned above it would not be economically viable to try and target an ILI of below 3.

The data set shown in **Figure 7** was compared to several other international data sets compiled by various WDM specialists from around the world and some results from the UK, North America and Australia are provided in **Figure 8**, **Figure 9**, and **Figure 10** for comparison purposes.

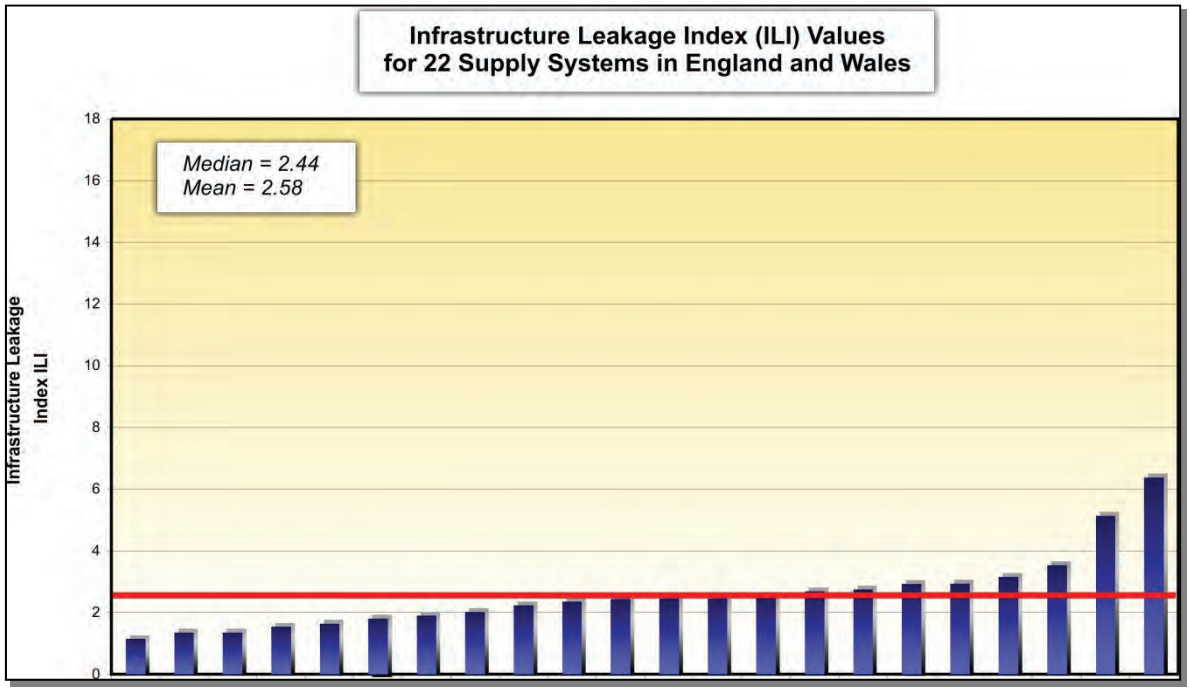


**Figure 8: ILI results for 20 system in England and Wales**

**(Source: Paper by David Howarth, Environment Agency, February 2004)**

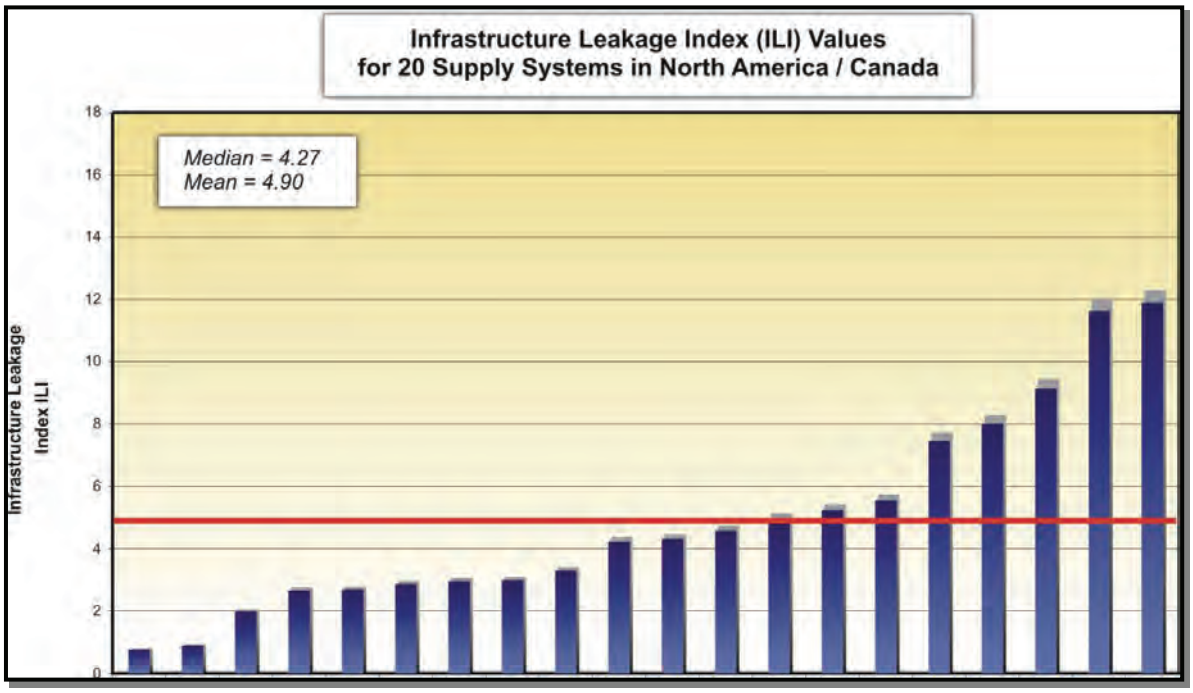


**Figure 9: ILI results for 20 systems from the USA and Canada**

**(Source: Russell Titus, Allan Lambert and Ken Brothers based on various data sources)**

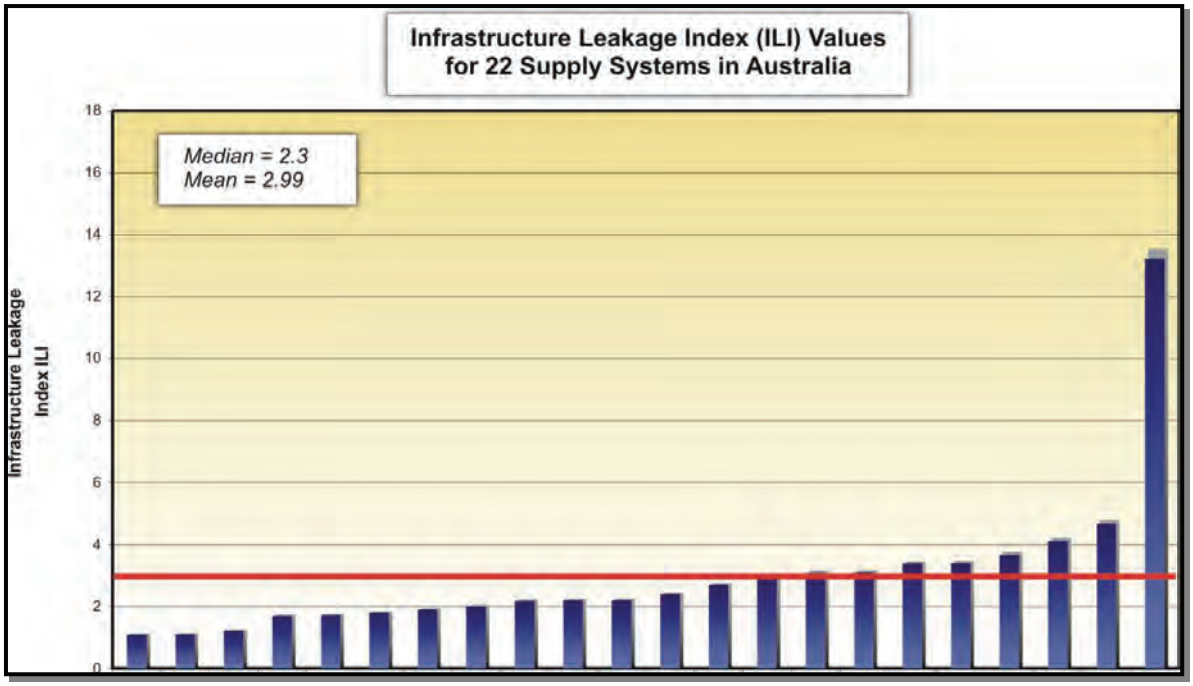


**Figure 10: ILI results for 20 systems in Australia**

**(Source: Paper by Tim Waldron, Wide Bay Water, March 2004)**

From the 2005 assessment it was concluded that:

- The South African water supply industry was generally lagging best international practices with respect to leakage management in potable water distribution systems. It was only during 1996 that the Water Research Commission (WRC) identified the need to control the level of unaccounted-for water in South Africa with the result that the development of a standard methodology or terminology for the calculation of water losses was only initiated in the late 1990s.
- The information required to calculate the various performance indicators was often not available from the water suppliers, despite the fact that the information was very basic. It was noted that it was also often very difficult to get the water utilities to fill out the data request forms as they were either too busy or are unwilling to assist.
- It was noted that while the benchmarking procedure was initially developed for complete water distribution systems, the same approach could easily be used for individual management zones within a single supply system if there are more than 2 000 connections and the zone is relatively homogeneous. In this manner it was suggested that the approach could also be used to identify problem management zones within a larger water supply system as well as to compare one system with another.
- It was noted that water supply systems in South Africa were often poorly metered with regard to both bulk and consumer metering.
- With regard to the ILI it was noted that for South African conditions, it would be unusual to achieve an ILI value of below 2.0 and values in the order of 5.0 were common and represented systems in a reasonable condition.

- Based on the results from the final data set documented in the report, it was concluded that an average ILI value of 5.5 was appropriate for South African systems with more than 50 000 connections, 7.8 for systems with between 10 000 and 50 000 service connections and 5.0 for systems with less than 10 000 connections. It was, however, noted that there was no clear correlation between the size of the system and the ILI value.

Based on the conclusions from the report, it was recommended that:

- The importance of leakage management should gain greater exposure and emphasis from water services institutions in South Africa such as the Water Research Commission and the Department of Water Affairs.
- Water services authorities and providers should be made aware of the existence of the leakage-benchmarking methodology in order to create an environment of cooperation when water services institutions embark on further case studies.
- The performance indicators used to benchmark different water suppliers should be chosen carefully in order to make benchmarking across different categories of service providers or demarcation areas meaningful.
- The BENCHLEAK benchmarking model should be compiled into a full database for the South African water supply industry to facilitate collection and collation of data for an on-going annual national benchmarking exercise.

It was further concluded that most of the larger South African water supply systems were in relatively good condition, however, very few of the utilities had sufficient funds to carry out the normally accepted levels of maintenance and renewal. While the ILI values for the South African water utilities were lower than for most other developing countries they were also higher than in the more developed countries. An average ILI value in the order of 6 suggested that there was significant scope for improvement, particularly in a country that has very limited water resources. It was concluded that if the water supply systems were not maintained properly due to lack of resources and funds, they would quickly deteriorate and the ILIs will steadily increase to levels experienced in many other developing countries.

### 2.1.3 2007 Assessment

In 2007, the 3rd assessment of water losses in Municipal reticulation systems was undertaken for the country. In this instance, one of the key objectives was to try to expand the useful data sets to cover as much of the country as possible and thereafter extrapolate the results to provide an indication of the overall water losses from Municipal reticulation systems for the whole of South Africa.

The 2007 assessment is fully described in the report titled **" *Non-Revenue Water in South Africa. WRC Report TT 300/07 by Seago and Mckenzie* "**, and the key findings and recommendations from the study are provided below.

This project was the first project in which the water balance methodology was used to estimate the magnitude of non-revenue water from reticulation systems throughout the whole of South Africa.

All previous assessments concentrated on establishing a small number of reliable water balances for different Municipalities throughout South Africa to ensure that the Standard IWA Water Balance methodology could be used in South Africa. While many problems were still experienced with the reliability of many data sets, there were sufficient reliable data sets to provide a reasonable estimate of water losses nationally which formed the basis on which future assessments could be made.

Despite the numerous problems associated with the gathering of data from the various water utilities, the study was able to obtain information from 62 of the largest water reticulation systems throughout South Africa. From the analyses of the water balances for each of the water reticulation systems, the following conclusions were drawn:

- The average bulk system input volume per property served for the 19 low to medium income areas analysed as part of the study was approximately 37 kl per property per month. This can be compared to an expected value of approximately 12 kl per property per month, which is considered to be a realistic value for monthly water use per property in such areas where wastage is under control through proper metering and billing procedures.
- The average monthly water use per property in the medium- to high-income areas was estimated to be in the order of 46 kl per property per month.
- It is clear that the relative magnitudes of the different components of the water balance vary significantly between the low- to medium-income areas and the medium- to high-income areas. In the low- to medium-income areas, the greatest problem issue concerns the unbilled authorised consumption which is generally due to the underestimation of water use in areas where tariffs are based on a “deemed consumption” or assumed meter readings.
- In the middle- and high-income areas, the greatest source of water loss is often through physical leakage rather than unauthorised use or unbilled use.

Based on the IWA Water Loss Taskforce workshop held in Australia in February 2005, the following recommendations were made in the report:

- **The use of percentages as an indicator for real losses should be discouraged** although it is accepted that percentages will continue to be used by many Water Utility Managers who are not prepared to discard percentages completely from their list of PIs. It is therefore important when using percentages to highlight the potential pitfalls and to ensure that other PIs are also used. It was therefore recommended that if percentages are used, they should not be used in isolation and must be accompanied by at least one other PI – preferably the losses in litres/connection/day and/or the ILI.
- It was agreed that the ILI is a very useful and powerful indicator, which should be used in place of percentages if possible.
- In addition to the ILI, the following performance indicator for real losses should be used:

**litres/connection/day**

- This indicator will be suitable for most systems where the density of connections is greater than 20 connections per km mains. In cases where the density of connections drops below 20 per km of mains, it is often appropriate to rather use the following indicator:

**$m^3$/km mains/day**

- The average operating pressure should be used as a performance indicator since many systems are apparently achieving very low levels of leakage but are being operated at very high pressures, which are often not necessary.
- Finally, the Infrastructure Leakage Index (ILI) is a useful performance indicator for real losses and can often be used to benchmark the real losses from one system against another.

**Infrastructure Leakage Index ILI = CARL/UARL**

Based on the results obtained from the 62 water reticulation systems, the following conclusions were drawn:

- The density of connections for the South African systems ranged from a maximum of approximately **135 connections/km mains to 18 connections/km mains**. The expected density of connections for a typical system in a developed country is in the order of 50 connections per km mains.
- The average operating pressure for the South African systems ranged from a **minimum of 24 m to 64 m**. It should be noted that this represents the weighted average pressure for the whole reticulation system and pockets of very high or very low pressure may still exist in various systems. These pressures are typical of most normal systems in the world.
- **The average ILI was found to be 7.6** (1.0 being very good and greater than 10 being very poor). Excluding one or two small outlier systems, the ILI ranged from approximately 2 (very good) to more than 20 (very poor). The average ILI value places South Africa in the middle of the world data set and indicates that the real losses in the country are high with significant scope for improvement but lower than most other developing countries. This value is higher than previous estimates due to the larger data set used in the assessment.

This information showed that these water reticulation systems have an average ILI of 7.6. It should be noted, however, that the ILI alone is not a clear indicator of how a water reticulation system is performing regarding the various components of non-revenue water.

**Overall Water Balance for South Africa**

One of the aims of the study was to use the results obtained from the largest Water reticulation systems in order to carry out an overall assessment of non-revenue water throughout South Africa. Unfortunately the information available from the various water reticulation systems in the country was either not available or of dubious quality in many cases with the result that **any conclusions made regarding the level of Non-Revenue Water for the country as a whole were provided as a preliminary estimate to be revised in future as more reliable data became available.**

In order to make any estimate of the Non-Revenue Water occurring from water reticulation systems throughout South Africa, it was necessary to establish the total water used by the domestic sector. The National Water Resources Strategy of DWAF, stated that South Africa's total urban and rural water requirement for 2000 was 3 471 million $m^3$/annum. When this value was extrapolated using an assumed growth of 3%, it suggested a total municipal water use in 2005 of approximately 4 000 million $m^3$/annum. This estimate was used as the basis for the extrapolation from the 62 water reticulation systems since these results were also based on the 2005 water audits. The total bulk system input volume figure obtained for the 62 systems analysed was 2160 million $m^3$/annum, which represented approximately 54% of the total urban/rural water requirement of the country. This figure was then used to extrapolate the water loss estimate and to derive an estimate of the likely Non-Revenue Water and total water losses for the whole country.

Based on these figures the following assumptions and extrapolations were made:

- The total water losses (physical and commercial) for the 62 systems analysed was estimated to be 670 million $m^3$/annum or 31% of the total water supplied. The Non-Revenue Water is effectively the sum of the total water losses and the estimated un-billed consumption. Estimating the un-billed consumption was difficult in many areas due to a lack of reliable information, however, it was estimated in the cases where proper data were available and subsequently extrapolated to cover the whole country. The un-billed consumption was conservatively estimated to be approximately 104 million $m^3$/annum, which in turn provides **an estimate of 774 million $m^3$/annum for the Non-Revenue Water – approximately 36% of the water supplied.**
- Based on the above figures, the extrapolated total losses from water reticulation systems for the whole of South Africa were estimated to be in the order of 1 150 million $m^3$/annum (extrapolated from the 54% sample size). The total Non-Revenue Water for the whole country was estimated to be 1 430 million $m^3$/annum (extrapolated from the 54% sample size). It should be noted that the free basic water allocation is not included as data were not available. The fact that the majority of water utilities in South Africa are unable to provide such basic data was highlighted as a reflection on the poor state of management of many utilities. To address this problem, it was recommended in the report that the various government departments took action to enforce an annual water audit for all utilities and that such audits were fully supported by the appropriate politicians

# 3 TERMINOLOGY

One of the key recommendations from the previous WRC study (Seago and Mckenzie, 2007) was to discourage use of the term “Unaccounted for Water” and rather promote the use of the term “Non-Revenue Water” as proposed by the IWA Water Losses Specialist Group. This recommendation was based on the fact that “UAW” is open to distortion and manipulation and therefore not appropriate for defining water losses in water distribution systems. In addition, it was also recommended that the use of percentages to define the water losses should be discouraged since percentage losses are significantly influenced by the overall consumption. Increasing the total consumption, for example, will effectively cause a reduction in the percentage losses despite the reality that the losses may not have changed. Percentages are therefore not recommended for use as a Key Performance Indicator although it is accepted that they will continue to be used by many individuals and organisations. Accepting the reality that percentages are unlikely to be eliminated from everyday use, it was recommended that whenever used, they should be accompanied by several other Key Performance Indicators and that a warning on the possible problems of using percentages to express water losses should always be given.

For the purposes of this study, it is also necessary to clarify a number of issues related to the meaning of certain pertinent terms in use before the commencement of more detailed discussion. Billed consumption is considered to be consumption for which a bill is issued by the municipality. The actual receipt of income for the bill is considered as a separate, albeit important, issue and is not addressed as part of the water balance assessment. Revenue water refers to the volume of water for which revenue should be received, and can be “Billed Metered” as well as Billed Unmetered” water. In other words, the volume of water for which the municipality sends out a bill to a consumer, which must pay for the water or the volume of water distributed. The issue of payment of the bill is not addressed under the Water Balance as this is considered to be a cost recovery issue and not a technical water balance issue. Any free basic water is considered to be “Revenue Water” which has been billed at a zero rate. The Free Basic Water is therefore not considered to be “Non-Revenue Water” despite the fact that it technically generates no revenue.

## 3.1 KEY PERFORMANCE INDICATORS

Considerable debate has taken place over many years to develop the most appropriate Key Performance Indicators for water utilities throughout the world. Unfortunately, the various committee decisions have sometimes resulted in rigid and often impractical recommendations that tend to be ignored by the politicians and many of the water utility managers. For example, it was originally recommended that percentages must not be used under any circumstances when referring to water losses and specifically physical leakage. Instead, the Infrastructure Leakage Index (ILI) was highlighted as the preferred Key Performance Indicator to be used when referring to physical leakage levels in a system. While such recommendations are valid and based on many years of experience, they tend to be overlooked by the politicians who typically revert to what they know best and what they believe the general public will understand. The problem is therefore to find a Key Performance Indicator that is both reliable and acceptable to the politicians and public alike.

After many years of often heated debate, there is still no consensus on which Key Performance Indicators should be used and the recommendations given below are based on the views of the authors of this report in association with those of the Chairperson of the IWA Water Losses Specialist Group (Mr Tim Waldron from Australia). In summary, there is no single Key Performance Indicator that provides the best indication of water losses for use by politicians, the general public and technical water loss specialists. It is therefore recommended that several indicators should be used together when expressing water losses and that where appropriate a "health warning" should be provided. The recommendations are therefore as follows:

- Percentages will remain in use when expressing water losses despite the fact that they can often be very misleading. For this reason, they should always be used with caution and accompanied by one or more alternative Key Performance Indicators as well as a warning of the potential problems.
- Water losses expressed in litres/connection/day is always a useful Key Performance Indicator and one of the most widely accepted worldwide. It can be used with or without the Pressure Term adjustment (i.e. litres/conn/day/meter of pressure) and is generally the indicator of choice for urban reticulation systems where the density of connections is more than 20 connections per km of main.
- $m^3$/km main/day is often the preferred indicator in rural systems or systems in which the density of connections is relatively low and below 20 conn/km main. This indicator can also be used with or without the pressure adjustment (i.e. $m^3$/km main/day/meter pressure).
- The Infrastructure Leakage Index (ILI) is often the preferred indicator by the more technical water loss managers and specialists to define physical water losses (real losses and not apparent or total losses) since it tends to be more robust and unlike percentages is not influenced by changes to the water consumption. It does, however, have its own critics because it will change if the system pressure is altered. It has, however, been widely accepted in many parts of the world since it was first introduced by Allan Lambert (Lambert et al., 1999). South Africa was one of the first countries outside of the UK to embrace the ILI (see Benchleak User Guide, Mckenzie & Lambert, 2002).

The IWA has developed various water loss Key Performance Indicators to evaluate and compare different distribution systems. Calculating KPIs depends on the availability of information, which is not always obtainable.

Based on the availability of information, the following KPIs have been used in this report:

### 3.1.1 % Non-Revenue Water

Although the use of percentages to define water losses is not recommended by the IWA, the term is widely accepted and used in the South African water industry. For this reason it has been retained although it should be used with caution in the knowledge that it can sometimes be misleading. The percentage NRW is calculated as follows:

$$\%\ NRW\ = \frac{System\ Input\ volume - (Billed\ consumption\ +\ free\ basic\ water)}{System\ Input\ volume} \times 100\%\ NRW$$

| Legend | Description |
|---|---|
| < 15% | Low level of NRW, very good performance |
| 15-30% | Low level of NRW, good performance |
| 30-40% | Average level of NRW, average performance |
| 40-50% | High level of NRW, poor performance |
| > 50% | Very high level of NRW, Very poor performance |
| No data | No data provided by the municipality |
| Dubious data | Data inconsistent, incomplete or seems incorrect |

### 3.1.2 Litres/capita/day

This indicator provides an indication of the gross volume of water used per capita (person) per day. Although the calculation is based on the total system input volume and not just the domestic component, it does provide a useful indicator. Care should be taken in areas where there is a large non-domestic component of water use and if necessary, it should be excluded from the calculation in order to derive a more realistic per capita consumption.

$$\ell/c/d\ = \frac{System\ Input\ volume \times 1000 \div 365}{Population}$$

| Legend | Description |
|---|---|
| <100 ℓ/c/d | Very low average consumption indicating very low level of service or incorrect data |
| 100-200 ℓ/c/d | Low average consumption indicating low level of service or incorrect data or efficient usage |
| 200-300 ℓ/c/d | Average consumption indicating adequate level of service and efficient usage |
| 300-400 ℓ/c/d | High average consumption indicating high level of service, incorrect data and inefficient usage |
| > 400 ℓ/c/d | Very high average consumption indicating very high level of service, incorrect data or very inefficient usage |

For the purposes of this study, the litres per capita per day (l/c/d) was considered to be a useful indicator, as it provides insight into the water use patterns in a particular system. Whilst also not perfect, it is useful in establishing whether certain water conservation measures or projected

savings can be justified or achieved within a particular area or municipal system. For example, Umzumbe Municipality in KwaZulu-Natal has a current NRW figure of 75.8%, however, the average consumption is only 42 l/c/d. This clearly indicates that there is in fact relatively little scope for reducing the water consumption despite what appears to be a very high level of NRW.

### 3.1.3 Infrastructure Leakage Index

Based on many previous studies, the Infrastructure Leakage Index (ILI) is widely accepted to be the most robust indicator of physical leakage and various bands have been defined over the past 15 years for both developed and developing countries. While most specialists agree that the ILI is a useful indicator for assessing physical leakage, some water loss specialists in the South African municipal sector are of the opinion that the ILI can also be misleading. Once again, it is clear that no single Performance Indicator is beyond reproach and it remains necessary to include several indicators whenever assessing and/or comparing water losses in different reticulation systems.

The IWA methodology of determining and comparing leakage in water distribution systems is now generally accepted as world's best practice. There has, however, been healthy debate regarding the use of various performance indicators and this is expected to continue for many years to come. South Africa has been one of the leading proponents of the use of the Infrastructure Leakage Index (ILI) (Lambert et al., 1999) as the main indicator for comparing levels of leakage amongst Water Utilities for the last ten years. In this regard, South African specialists have worked together with some of the leading specialists in the world to promote the use of a standard methodology to the complex issue of leakage assessment.

The ILI is sometimes criticised for being too simplistic and not incorporating some of the key factors that can influence leakage from a water distribution system. The main points of discussion include:

- ILI values of less than 1.0 should not occur since this implies that the actual leakage is less than the theoretical minimum level of leakage.
- The Unavoidable Annual Real Loss (UARL) equation is too simplistic as it is based only on the length of mains, number of service connections, length of underground pipe from the mains to the point of metering and the average system pressure.
- The use of the ILI in cases where a Water Utility operates under either abnormally high or unusually low pressures.
- The use of the ILI for systems with less than 2000 connections.
- Updating of the original parameters used to calculate the ILI as more reliable information becomes available.

While all of the above points are clearly valid concerns and can be debated at length, the ILI has proved to be extremely useful in South Africa even in many instances where it has been used outside the normally acceptable limitations. In such cases, it must obviously be used with caution and the results should be considered as indicative rather than totally rigorous. Some of the key issues addressed in the South African context are discussed below:

**Bulk Storage:** In response to the issue of over-simplification, it should be noted that bulk storage is often a major source of leakage in many South African systems and has to be included in the overall water balance. The system input volume for many water supply systems in South Africa is measured before the bulk storage reservoirs and towers. For this reason, utilities are requested to provide their operational capacity of all bulk storage that occurs after the bulk system input meter. A volume is then assigned to the losses through bulk storage depending on how the utilities rate the condition of their bulk storage. In this manner, the losses from the storage facilities are included in the water balance and form part of the real loss calculation. It is important to include only bulk storage in the water balance if the system input volume is measured before the bulk storage.

**Systems with less than 2 000 Connections:** There has been considerable debate recently (Lambert, 2005) regarding the minimum size of zones that should be evaluated with the ILI calculation. In South Africa, many smaller systems have been included in cases where the areas are completely homogeneous and are fully residential in nature. While the results from such areas are not included in the international data set, they are nonetheless often found to be very useful. Smaller zones are often considered in South Africa and the ILIs derived in the usual manner can often help to identify key problem areas within a larger zone. A typical example of such an analysis is provided in **Table 1** for a small Water Utility serving three relatively small towns.

**Table 1: Input data for Emthanjeni Municipality, South Africa**

| Variable | Description | Units | Britstown | Hanover | De Aar |
|---|---|---|---|---|---|
| Lm | Length of mains | km | 20 | 15 | 114 |
| Ns | Number of service connections | no. | 979 | 919 | 5485 |
| D | Density of service connections | conns/km | 49 | 62 | 48 |
| P | Average operating pressure | m | 20 | 38 | 30 |
| T | % time system is pressurised | % | 100 | 100 | 100 |
| | Population served by the system | no. | 4024 | 2695 | 26027 |
| UARL | Unavoidable annual real losses | $m^3$/yr | 8345 | 13 942 | 70 518 |
| | Unavoidable annual real losses | litres/conn/day | 23.4 | 41.5 | 35.2 |
| INP | Total system input volume | $m^3$/yr | 220 552 | 171 404 | 1 839 785 |
| CON | Total authorised consumption | $m^3$/yr | 123 369 | 137 104 | 1 465 865 |
| AWL | Annual Water Losses | $m^3$/yr | 97 183 | 34 300 | 373 920 |
| %AL | % apparent losses | % | 20 | 20 | 20 |
| AL | Apparent losses | $m^3$/yr | 19 437 | 6 860 | 74 784 |
| ARL | Annual real losses | $m^3$/yr | 77 746 | 27 440 | 299 136 |
| | Consumption | litres/conn/day | 345 | 409 | 732 |
| ILI | Infrastructure Leakage Index | | 9.32 | 1.97 | 4.2 |

When the Water Utility was analysed as one combined area, the ILI value obtained was 4.5. This would most likely have been considered acceptable in the South African context where the average levels of leakage tend to be very high and anything lower than 5.0 tends to be ignored in preference of the areas with higher leakage. In this case, however, (as shown in the Table 1), Britstown had an ILI of 9.3 which suggests unusually high leakage levels. While this figure is

potentially unreliable to some extent since the area has less than 2 000 connections, it proved most useful in directing the project team to a key problem area. On closer inspection it was found that Britstown had a serious billing problem due to a large number of new properties that had been added into the system but were not being billed properly. The issue was eventually addressed and the ILI decreased significantly.

**Acceptable Pressure Range:** Various specialists have recently questioned the applicability of the ILI in areas with abnormally high pressures or unusually low pressures. The discussion has resulted in a proposed adjustment (Lambert, 2005) to the ILI calculation to incorporate a variable designed to adjust the ILI value in circumstances where the average system pressure is outside the normally accepted range (approximately 30 m to 90 m). While this proposed adjustment can help to manipulate the ILI for systems with unusual pressure conditions, the existing approach has proved most useful in a variety of systems (mainly in Asia) where very low pressures and intermittent supply are experienced. Once again, the ILI values obtained may not be totally reliable and are open to criticism in some respects. In such cases, the ILI values obtained tend to be extremely large (often over 50) and as such are not suitable for general benchmarking with other data sets from around the world. However, the ILI is still considered a useful indicator in its current form for identifying the areas with the highest leakage.

### 3.1.4 The ILI as an Intervention Indicator

While it was recognized that several performance indicators are required when assessing water losses from a supply system, various us new recommendations were proposed involving the use of the ILI as a key indicator for excessive leakage in a system. The first set of values was suggested by Tim Waldron from Wide Bay Water in association with Allan Lambert with specific reference to the Australian water industry which boasts some of the lowest leakage levels in the world. The proposed guidelines are provided in **Figure 11**.

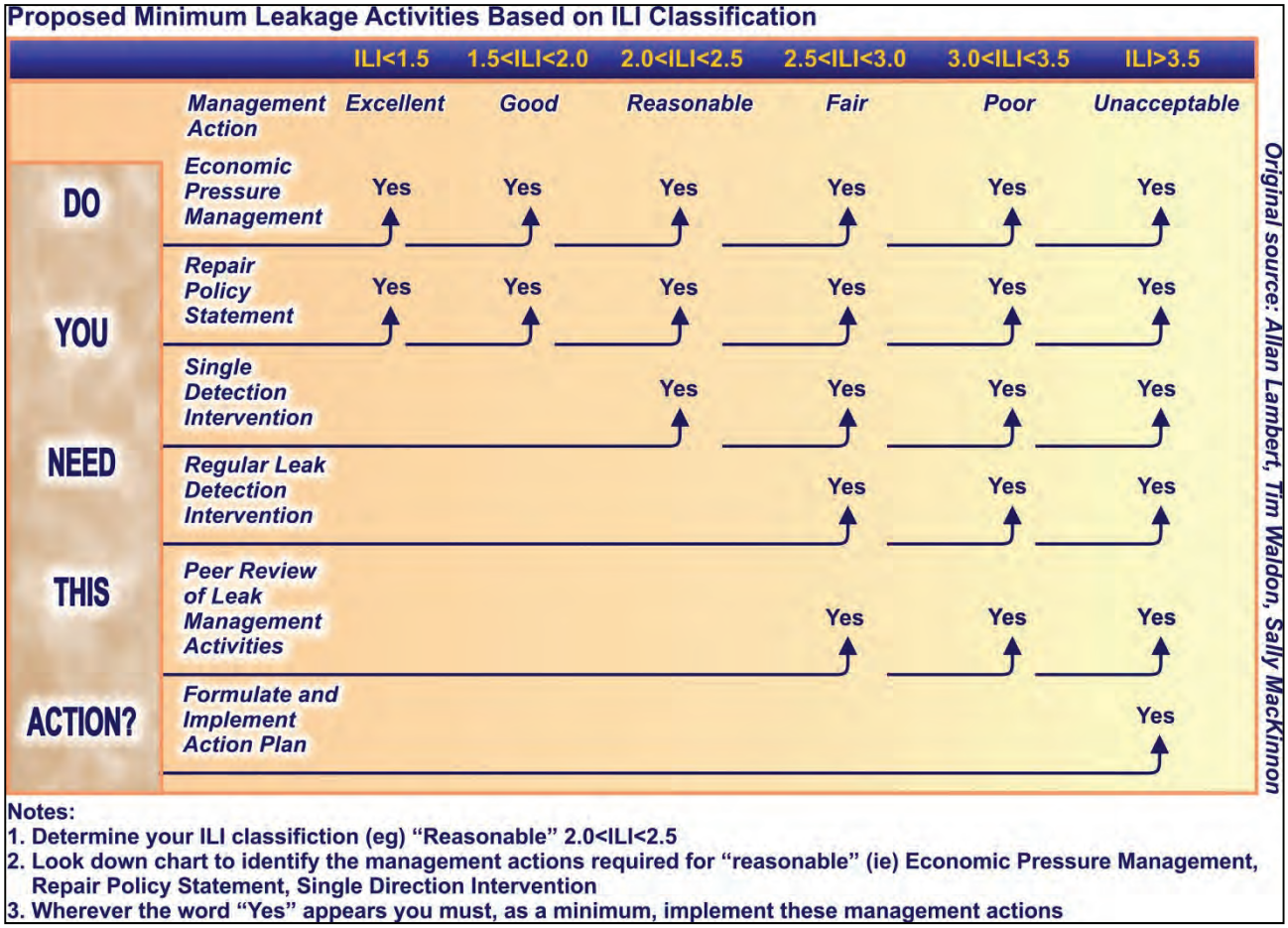


**Figure 11: Proposed ILI Classification from Australia (Waldron, 2005)**

As can be seen from **Figure 11**, the ILI is being used as an indicator to highlight when specific remedial measures should be implemented. The higher the ILI value, the greater need for more comprehensive leakage reduction activities. An important issue that should be appreciated from **Figure 11** is the relatively low ILI values used in the assessment. Due to the relatively low levels of leakage experienced in Australian water supply systems, the ILI bands used in the analysis are very narrow and the overall ILI values relatively low. In many other countries with greater levels of leakage, it is necessary to look into a more comprehensive and flexible process where a greater range of ILI values can be accommodated.

To address water supply systems in countries with high levels of leakage and correspondingly high ILI values, a revised proposal was later suggested by Liemberger (Liemberger & Mckenzie, 2005) based on their combined experience of using the ILI in many developing countries where the ILI values tend to be significantly higher than those experienced in Australia. The proposed approach is shown in **Figure 12** and was first presented by Liemberger to the IWA Water Loss Task Force in February 2005. The approach was well received and was considered appropriate for use in both developed as well as developing countries.

| Technical Performance Category | | ILI | Litres/connection/day (when the system is pressurised) at an average pressure of: | | | | |
|---|---|---|---|---|---|---|---|
| | | | 10 m | 20 m | 30 m | 40 m | 50 m |
| Developed Countries | A | 1 - 2 | | < 50 | < 75 | < 100 | < 125 |
| | B | 2 - 4 | | 50-100 | 75-150 | 100-200 | 125-250 |
| | C | 4 - 8 | | 100-200 | 150-300 | 200-400 | 250-500 |
| | D | > 8 | | > 200 | > 300 | > 400 | > 500 |
| Developing Countries | A | 1 – 4 | < 50 | < 100 | < 150 | < 200 | < 250 |
| | B | 4 – 8 | 50-100 | 100-200 | 150-300 | 200-400 | 250-500 |
| | C | 8 - 16 | 100-200 | 200-400 | 300-600 | 400-800 | 500-1000 |
| | D | > 16 | > 200 | > 400 | > 600 | > 800 | > 1000 |

**Figure 12: ILI Bands for Developing Countries (Liemberger & Mckenzie, 2005)**

As can be seen from **Figure 12**, different ILI ranges have been provided for developing and developed countries which was not necessary in the earlier Australian proposal. **Figure 12** also attempts to classify the leakage levels within the Water Utilities into four categories based on the ILI value as follows:

- A = Excellent – no specific intervention required.
- B = Good – no urgent action required although should be monitored carefully.
- C = Poor – requires attention.
- D = Very Bad – requires immediate water loss reduction interventions.

It should also be noted, that unlike the Australian recommendations, there is no attempt to define the water loss reduction interventions required. It is assumed that the leakage management specialist will first identify the key problem areas after which the most appropriate interventions will be established to provide the greatest returns for the available budget.

### 3.1.5 The Water Balance

Although the International Water Association has helped to establish a standardised water balance for use throughout the world, there are always cases that tend to cause problems or confusion. In this regard, the South African situation is possibly one of the most difficult to address using a standard water balance format due to several factors. The most important issues that must be addressed in South Africa include the Free Basic Water as well as an unknown component which is often termed as Non-Recoverable Revenue Water as identified by Seago and Mckenzie (2007).

The Free Basic Water is relatively simple to address and the recommended approach is to consider it Revenue Water that is billed at a zero rate. Some WDM managers treat the Free Basic Water as Non-Revenue Water, which tends to distort the overall level of Non-Revenue Water. The Free Basic Water cannot be considered as Non-Revenue Water since it is technically legitimate use and the WDM manager is not aiming to eliminate this component.

The second component that does create problems in South Africa is the water which is metered and billed to consumers but that will never be paid for due to excessive leakage/wastage. There are many households in South Africa where the internal plumbing losses are abnormally high resulting in very high monthly water bills which the owners cannot afford to pay. Technically, such water is considered to be Metered Billed consumption and is therefore shown in the standard water balance as part of the Revenue Water. The reality of the situation is quite the opposite, however, in that the consumer may never pay for this water and at some point the account may be written off. It is important to identify this component in the overall Water Balance since it often represents a portion of water that can be eliminated without causing any hardship to consumers since it represents either leakage or inefficient use. The standard IWA water balance has therefore been modified slightly for use in South Africa to incorporate these two additional sub-categories of water use as shown in **Figure 13**.

It must be also be noted that in most of the South African Municipalities, the water balance can only be completed using information provided by both the Technical Department and the Financial Department. This can create many problems since the Technical Manager is often held accountable for the levels of Non-Revenue Water in the system while he/she is effectively not responsible for the Billed Consumption, which represents a major part of the balance. It is therefore important to realise that when trying to reduce levels of Non-Revenue Water in a system, both technical and financial departments must be involved and preferably operated under a single Manager.

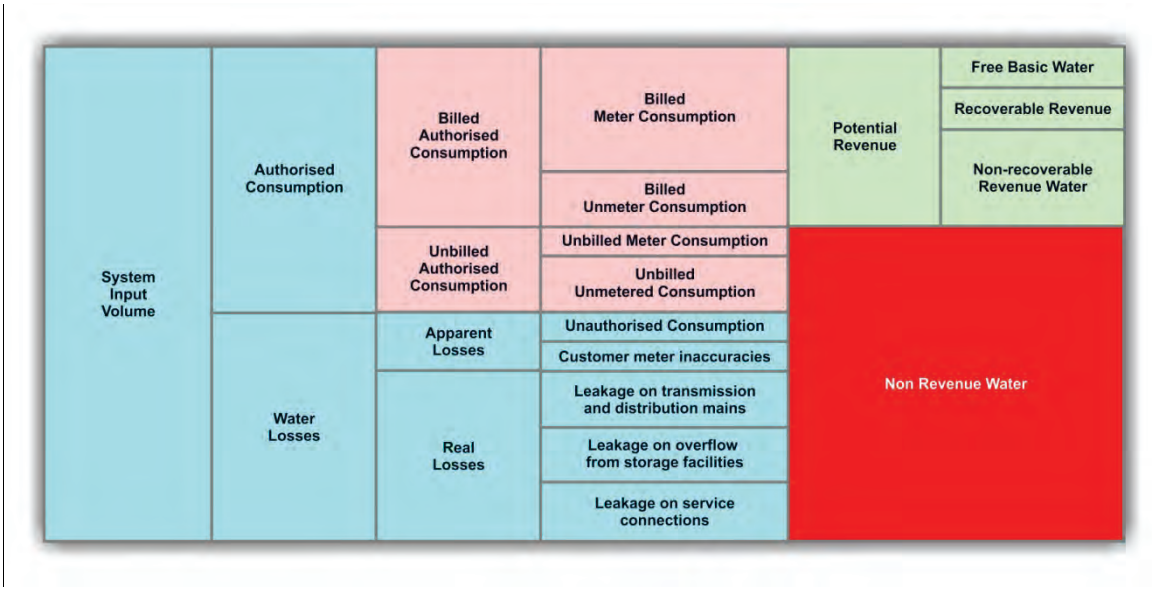


**Figure 13: Modified IWA Water Balance (Seago & Mckenzie, 2007)**

**Figure 13** depicts the IWA water balance and is colour coded in blocks according to the areas of responsibility. As illustrated, the input volume, authorised consumption and water losses in the form of apparent and real losses are under the jurisdiction of the technical department, which is responsible for the physical operation, and maintenance of water reticulation systems. The metering of consumers is usually the responsibility of the technical departments; however, the billing of consumers is typically under the authority of the finance department. The overall Water Balance therefore bridges both the Technical and Financial Departments within a Municipality and such joint responsibility often results in some form of discrepancy. The billed and unbilled

components of the water balance fall under the responsibility of the finance department. As indicated in **Figure 13**, it is clear that some of the components that make up non-revenue water are not managed by the technical team and thus cannot be attributed to the performance of the technical departments. The Non-Revenue Water components of the water balance are based on information from both the technical and finance departments with the result that it is difficult to ensure proper accountability with split responsibility.

What is pertinent for the interpretation of the results of this study is an understanding of the fact that as far as physical leakage is concerned, the technical or engineering department is only responsible for the figures up to the point of metering. From the point of issuing bills, the responsibility for the remainder of the water balance lies with other role players, which in future must be incorporated and taken into account when reporting requirements are issued based on the NRW methodology.

## 3.2 CHALLENGING SCENARIOS

### 3.2.1 Free Basic Services

In the South African adaptation of the IWA water balance, free basic water is presented as a component of revenue water, which is billed at a zero rate since this component is subsidised by the Government. WSAs treat this water in the same manner as they treat the normal revenue water. Currently the allocation of Free Basic Water by municipalities is not standardised and many Municipalities now provide a volume, which can vary from the original 6 kl per household per month as stipulated by National Government. Not only is the allocation different in many municipalities but some have also agreed that the free basic allowance will only be provided to indigent households and not across all households. These issues become crucial when attempting to benchmark water losses across the country and drawing comparisons between municipalities. Because Free Basic Water is considered to be revenue water, continuous shifts in the Free Basic Water allocation have the potential to distort the Non-Revenue Water figures and make meaningful comparisons difficult between municipalities. This also opens up the possibility of Free Basic Water being manipulated as an instrument to decrease the NRW figure for a specific Municipality without actually addressing the water losses in the system. Therefore it is recommended that a standard approach be adopted in all water balances when dealing with the Free Basic Water allowance.

### 3.2.2 Flat Rate Consumption

Flat rate consumption is effectively unmetered consumption for which a standard monetary value is charged on a monthly basis. It is considered to be **unbilled unmetered consumption** and is typically based on 6 $m^3$/month to 15 $m^3$/month in most parts of the country. Previous benchmarking studies on NRW confirm that in most cases where a flat rate is charged, the actual water use is significantly higher than the assumed monthly consumption. Flat rate consumption is sometimes included on the water balance as unbilled unmetered consumption when in fact the municipality issues bills and receives an income with respect to such consumption It is therefore recommended that flat rate consumption be regarded as **billed unmetered** consumption.

### 3.2.3 Unregistered Housing developments and Informal Settlements

Another water balance problem concerns the extensive development of RDP houses and informal settlements where often substantial areas are unmetered and remain without a direct consumer who must be billed for the services rendered by the municipality. It has been questioned whether the water going into these areas and developments should be reflected under Non-Revenue Water as from a technical perspective of water losses, the water can be accounted for. From a financial perspective, however, the water supplied to such areas generates no revenue. The consumption should be billed but is usually not metered with the result that bills are not usually generated. Some municipalities are currently trying to include this issue as a component of revenue water. There is currently no consensus on how this issue should be managed or how it should be captured by municipalities in the water balance. Furthermore, it is presently not clear at which level this matter should be resolved. Some of the housing development projects are initiated and implemented by regional authorities without proper communication with the local authorities. It is understood that when the developments are established, the responsibility for the registration and proclamation of the stands as well as the process of linking the consumers to particular stands lies with the Department of Human Settlements, and metering and billing of particular stands can only take place once this process has been concluded. Once these developments have been completed, the matter of who should be billed for the consumption becomes problematic, as often there is lack of political or administrative will and leadership to ensure that the proper processes are followed and that the responsible consumers are linked to the municipal system.

Large Municipalities such as the City of Tshwane Metro have taken measures to install bulk meters for all water supplied to such developments and informal areas and holding the Department of Human Settlements responsible for payment. This volume of water is then considered as revenue water linked to a single consumer measured at the bulk meter. A further challenge involves informal settlements that are often established without the Department's consent. The matter of how informal settlements should be dealt with in the water balance therefore requires substantial investigation and clarification.

The approach adopted by the City of Tshwane Metro attempts to address the deficiencies in the water balance and to provide realistic and useful information. Unfortunately, the methodology is not universally applicable and there is currently no standard method for dealing with similar problems existing in many municipalities throughout South Africa.

National NRW reporting has been initiated throughout the country and is difficult to compare results when the same issue occurring in different municipalities is interpreted and reported differently. Non-revenue Water cannot be viewed in isolation and to some extent, the figures can reflect a number of different challenges related to cooperative governance, poor administration, poor communication and unwillingness to enforce agreements in the municipality. It is therefore extremely difficult to enforce a standard water balance when it effectively utilises information provided by a number of different departments, which in many municipalities tend to work independently from each other. This issue is being improved and it is envisaged that it will gradually be resolved in future assessments.

### 3.2.4 Billing of Internal Departments

The metering and billing of internal departments is another issue that has created significant confusion in many municipalities. The practice in the majority of municipalities is that internal departments are metered to measure consumption. Many municipalities issue accounts to the other departments of the municipality for water use, however, this is often seen as an administrative issue and no transfer of funds ever occurs. The actual physical transfer or payment for services rendered is often never effected other than a record that the bill has been sent. The challenge with this issue is that although the consumption is metered and billed, the mechanism for the recovery of the costs from the departmental consumers is often not in place. In the absence of legal enforcement structures to ensure that payment can be effected, the volumes of water allocated in this scenario cannot be considered revenue water as these volumes cannot technically be converted into revenue water at any stage unless enforcement can be undertaken.

The various issues mentioned above highlight the complexity of benchmarking water losses in the South African context and most likely, also in most other developing countries. The key issue is that in most developed countries, the unbilled consumption component of the water balance tends to be relatively small or even insignificant in some cases. In developing countries, however, this is rarely the case and in South Africa, a substantial portion of the water losses can be attributed to the unbilled consumption component for a variety of reasons some of which are discussed above.

## 3.3 PERTINENT QUESTIONS

Based on the findings of the study and the South African scenarios presented several key questions arise:

**Is the standard International Water Association NRW methodology appropriate for understanding and measuring water losses in South Africa?**

The standard International Water Association NRW methodology has been extensively debated by the water sector throughout the world and has been accepted for use in many countries around the world as an excellent starting point for addressing water losses in municipal water supply systems. The methodology is, however, not without its weaknesses and challenges as highlighted in previous sections for South Africa. It is apparent that certain adjustments and clarifications are required to accommodate some of the unique scenarios that render the interpretation of the water balance somewhat problematic. The basic water balance methodology is an excellent step forward and in order to gain maximum value from such assessments it is necessary to ensure that a systematic approach is used by all municipalities throughout the country.

**Should there be a separation of the technical and financial water balance in order to rectify or find a place for the water loss scenarios that occur in South Africa that are not coherently captured or adequately understood through the existing components of the water balance?**

The complexities of the water balance presented in this study highlight the fact that the amalgamation of the financial and technical water balance has created some uncertainty and confusion in terms of the primary intent of the balance and the manner in which the information it presents should be interpreted and utilised. The separation of the financial and technical water balance thus requires further consideration and the NRW balance presented in this report should be viewed as a purely volumetric balance and must not be confused by the revenue recovery issues.

**What is required in the long term to fully address the matter of water loss reporting in South Africa in a manner that can be standardised, well understood and appropriate for this local context?**

The only way that NRW reporting can be completely addressed in the long term is through consistent engagement with the municipalities, mandatory and enforced annual reporting and continuous training and capacity building. Through such engagement, the water balance can be adapted or refined to suit the local context and become a balance that is easily understood and applied by the water services managers throughout the country. Such a process will also provide a platform for municipalities to voice their views and compare their performance to ensure continuous improvement in NRW reduction.

# 4 METHODOLOGY

## 4.1 SUMMARY OF DATA SOURCES

The main data sources used in the study are summarised in **Table 1**.

**Table 1: Summary of data sources**

| Source | Description |
|---|---|
| **Base data** | |
| 2002: WRC | Preliminary water balance assessments for 34 Municipalities |
| 2005: WRC | Water balance assessments for 30 Municipalities from an initial 60 assessments |
| 2007: WRC | Water balance assessments from 62 Municipalities |
| 2005 StatsSA Non-Financial Census of Municipalities | Report P9115 – for year ending 30 June 2005 |
| 2006 StatsSA Non-Financial Census of Municipalities | Report P9115 – for year ending 30 June 2006 |
| 2007 StatsSA Non-Financial Census of Municipalities | Report P9115 – for year ending 30 June 2007 |
| 2008 Stats SA Non-Financial Census of Municipalities | Report P9115 – for year ending 30 June 2008 |
| 2009 StatsSA Non-Financial Census of Municipalities | Unpublished data |
| 2009 Regulatory Performance Measurement System | Survey performed by DWA Dir : Water Services |
| 2010 Regulatory Performance Measurement System | Survey performed by DWA Dir : Water Services |
| Municipalities | Water balance data was obtained directly from municipalities captured in the templates designed specifically for the study |
| DWA NIS demographic data | Population and household number, Extrapolated Census 2001 data. |
| **Supporting data** | |
| Strategic Gap Analysis reports (2007, 2008, 2009) | Limited water balance data, System input volume used for verification purposes |
| All Town Reconciliation Strategy Study | High-level reconciliation strategy for each town in South Africa. |
| 2005 StatsSA Financial Census of Municipalities | Published data |
| 2006 StatsSA Financial Census of Municipalities | Published data |
| 2007 StatsSA Financial Census of Municipalities | Unpublished data |

### Non-Financial Census of Municipalities

The purpose of the Non-financial Census of Municipalities is to obtain non-financial information from institutions determined by the Local Government Municipal Structures Act, 1998 (Act 117 of 1998). The results of the census provide information that can serve as a framework to stakeholders and policy-makers in planning, as well as monitoring and evaluating the performance

of municipalities. It allows national and provincial government departments to analyse the actual services provided by municipalities.

This survey is currently considered the most comprehensive NRW data set for all municipalities in the country. The data set was then also used as basis for 2005, 2006, 2007, 2008 and 2010. Financial year ending 2009 presented a challenge as the water-related questions were omitted from the Non-Financial Census for this particular year. The reasons for this are unclear. However, through improved communication between the Department of Water Affairs and StatsSA, this problem has since been resolved and the questions reinstated and refined for use in subsequent years.

## 4.2 COLLECTION OF WATER BALANCE INFORMATION

Following on from the 2007 assessment of Non-Revenue Water, it was considered appropriate to expand the scope of the follow-up assessment with an envisaged target of 60 to 80 data sets or water supply areas. Due to the importance of non-revenue water reporting, the Department of Water Affairs made it a priority to obtain data from all the Water Services Authorities in the country and to obtain an accurate picture of the extent of water losses across the country in order to adequately address the current challenges facing the water sector. This study therefore targeted all 237 local authorities from which 132 comprehensible data sets were collected and collated for use in the study. A simple water balance template was developed in which the data was captured **(See Appendix B)**.

The water balance sheets were completed with information from the available official data sources comprising data derived from municipal sources, StatsSA Non-Financial Census, DWA Regulatory Performance Measurement System and the National Information system. The template was then distributed to all water services managers in the WSAs via email, to complete the gaps and rectify the existing information where necessary. This completion of the water balance sheets was carried out to aid the reporting process.

An extensive engagement process was undertaken as part of the data gathering process through email and telephonic correspondence. Each municipality was contacted telephonically several times on average in order to facilitate the process and provide assistance to municipalities where difficulties were encountered. The follow-up correspondence served as a reminder for the municipalities to submit the required information as well as to query the information received where inconsistencies were apparent. As mentioned previously, the quality of the data received in many cases was of poor quality, which made the verification task particularly time consuming. Through this process a number of the data sets improved as respondents gained a better understanding of what was required which contributed to improving the overall quality of the results. The record of submission per municipal category is summarised in **Table 2.** As depicted by the summary, the data sets utilised in the study are more than twice the number used in the previous 2007 study that utilised 62 data sets.

**Table 2: Record of submission per municipal category**

| Category | No of municipalities* | No submitted | % Submission |
|---|---|---|---|
| A | 6 | 6 | 100% |
| B1 | 21 | 20 | 95% |
| B2 | 29 | 26 | 90% |
| B3 | 111 | 55 | 50% |
| B4 | 70 | 25 | 36% |
| **National** | **237** | **132** | **56%** |

*** Excludes district municipalities**

As mentioned previously, the data gathering process was problematic in some cases due to the poor availability of data in some municipalities. The availability of data across the various municipalities is shown in **Figure 14.** Only 45 (19%) of the municipalities could supply complete, plausible and comprehensible data. A large portion of the data supplied was erratic and completely unreliable which reflects poorly on the state of record keeping in a significant number of municipalities in the country. Many of the data sets used in the study were obtained from the segment of the municipalities that provided records with gaps and questions. These municipalities were contacted repeatedly and feedback was provided with regards to the data. Through this process, the quality of the data was marginally improved.

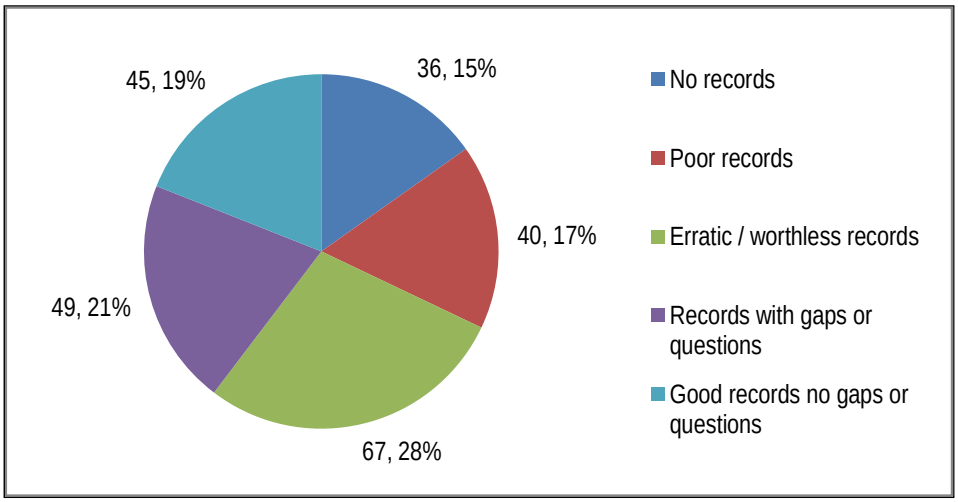


**Figure 14: Summary of Municipal Record Keeping**

**Table 3** and **Table 4** depict the type of water balance errors encountered during the data collection process which emphasises the lack of data validation and verification resulting in errors such as duplicate values from one year to the next and factor 1000 errors with confusion over Mℓ, kℓ, $m^3$ and million $m^3$.

**Table 5** illustrates the erratic, nonsensical and inconsistent data obtained in 28% of the municipalities, which included unexplained drastic increases or decreases in system input volume between years, and billed consumption volumes, which were more than the system, input volumes resulting in negative NRW volumes.

**Table 3: Example of water balance errors**

| Municipality | Year | Source | Input volume ($m^3$/annum) | Billed consumption ($m^3$/annum) | Free basic water ($m^3$/annum) | NRW ($m^3$/annum) |
|---|---|---|---|---|---|---|
| Mantsopa | 2005 | NFS | 3 015 363 | 2 497 679 | 517 684 | 0 |
| Mantsopa | 2006 | NFS | 3 092 048 | 2 778 992 | 313 056 | 0 |
| Gariep | 2005 | NFS | 2 595 256 | 1 996 648 | 598 608 | 0 |
| Gariep | 2006 | NFS | 2 854 741 | 2 202 259 | 652 482 | 0 |

**Table 4: Example of data verification and validation errors**

| Municipality | Year | Source | Input volume ($m^3$/annum) | Billed consumption ($m^3$/annum) | Free basic water ($m^3$/annum) | NRW ($m^3$/annum) |
|---|---|---|---|---|---|---|
| Koukamma | 2005 | NFS | 2 093 268 | 1 667 388 | 425 880 | 0 |
| Koukamma | 2006 | NFS | 2 093 268 | 1 667 388 | 425 880 | 0 |
| Koukamma | 2007 | NFS | 2 093 268 | 1 667 388 | 425 880 | 0 |

**Table 5: Example of inconsistent data**

| Municipality | Year | Source | Input volume ($m^3$/annum) | Billed consumption ($m^3$/annum) | Free basic water ($m^3$/annum) | NRW ($m^3$/annum) |
|---|---|---|---|---|---|---|
| Camdeboo | 2005 | NFS | 5 274 057 | 2 705 000 | 1 836 227 | 732 830 |
| Camdeboo | 2006 | NFS | 301 757 | 370 500 | 284 000 | -352 743 |
| Camdeboo | 2007 | NFS | 1 719 900 | 377 910 | 594 504 | 747 486 |

## 4.3 WATER AUDITS

It was eventually decided not to re-capture the data in the Aqualite Model for this national exercise since it was designed specifically for individual municipalities to help them develop their own water balance. The model does not have any database capabilities and cannot accommodate six years of data which is available as this would involve creating 6 separate balances and for this reason a new form was created using the same methodology but allowing for data-base compatibility. This allowed an ACCESS database system to be developed that can now be used annually to update the information and monitor trends where appropriate.

# 5 RESULTS

The primary objective of the study was to undertake annual water audits for a sample of water supply areas in South Africa. Through consultation and collaboration with various organisations and institutions, the scope of the study expanded significantly resulting in a sample almost twice the size of that originally envisaged. The findings presented in the report are based on 132 data sets that were considered by the study team to be comprehensible and therefore appropriate for use in the study.

## 5.1 SYSTEM INPUT VOLUME

The first requirement for the calculation of NRW is the system input volume. It was surprising to discover that many municipalities cannot provide this information which is essential and forms the foundation of sound water management. It is not possible to manage a water supply system if the basic input is unknown. This highlights the importance of more interactive and effective cooperative governance and enforcement of policies and statutes within municipalities. **Figure 15** depicts the large impact that the Metropolitan municipalities (Category A) have on the demand and distribution of resources with their system input volume accounting for approximately 85% of South Africa's total demand. The other municipal categories are comparatively much lower with the rural scattered municipalities showing the lowest system input volumes due to the limited industrial or commercial developments in these areas. The system input volumes also to some extent reflect the rapid urbanisation that South Africa is undergoing which requires careful consideration when planning for water services particularly in the large cities and towns.

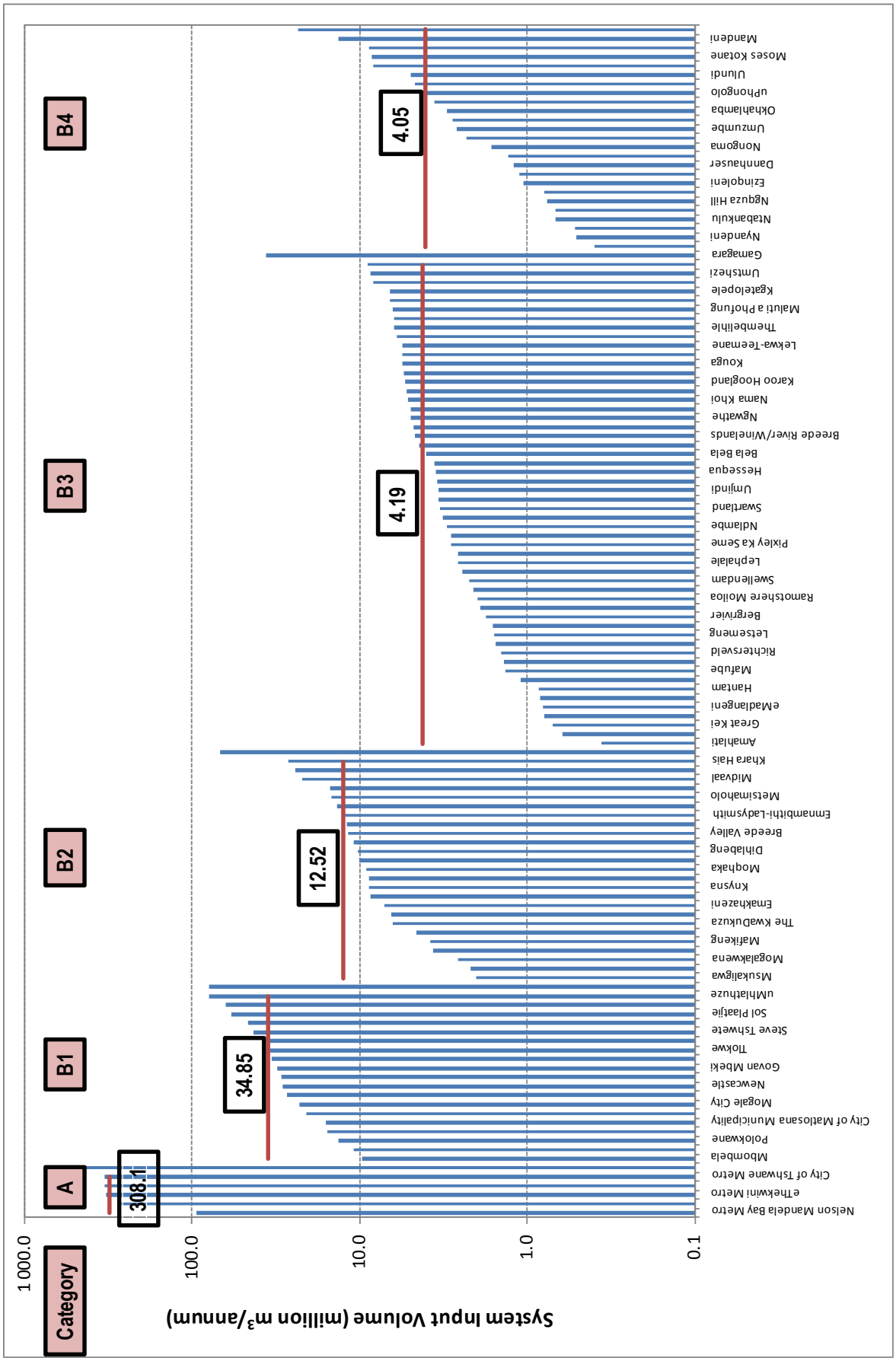


**Figure 15: Summary of system input volume results**

## 5.2 LITRES PER CAPITA PER DAY

The levels of inefficient water use are a significant concern to the National Government. **Figure 16** highlights that per capita consumption in South Africa (highlighted in yellow) is above the world average despite the fact the general NRW is in line with the world average. This unusually high per capita water use can be observed throughout many parts of the country and often reflects poor water use practices within the home or excessive irrigation. In some areas, it is also a reflection of high levels of unreported leakage. It is important to note, however, that the national l/c/d consumption at the local level is also highly influenced by the metropolitan municipalities (as shown in **Figure 17)**, some of which have a disproportionately large concentration of wet industries that will influence the per capita figures**.** Once again, the rural scattered municipalities show very low l/c/d consumption, which is due to the lower service levels in such areas.

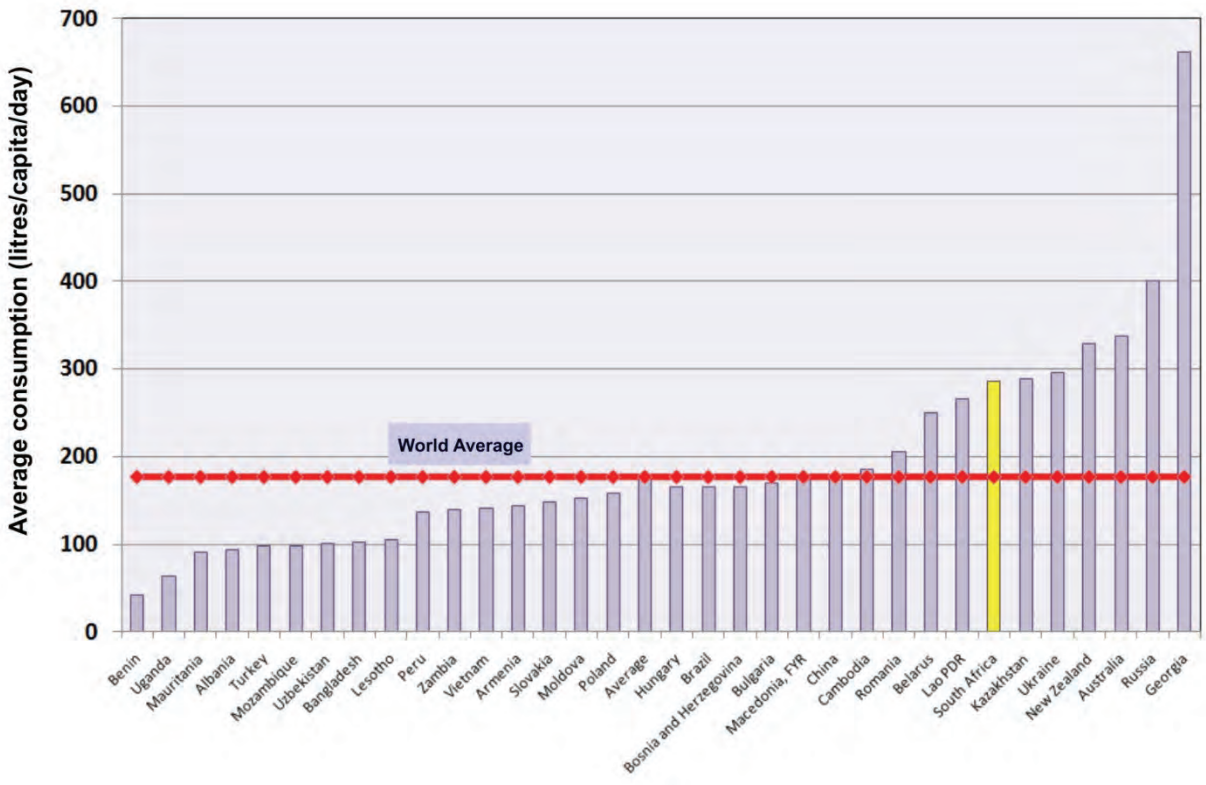


**Figure 16: Comparison graph of world average litres per capita per day**

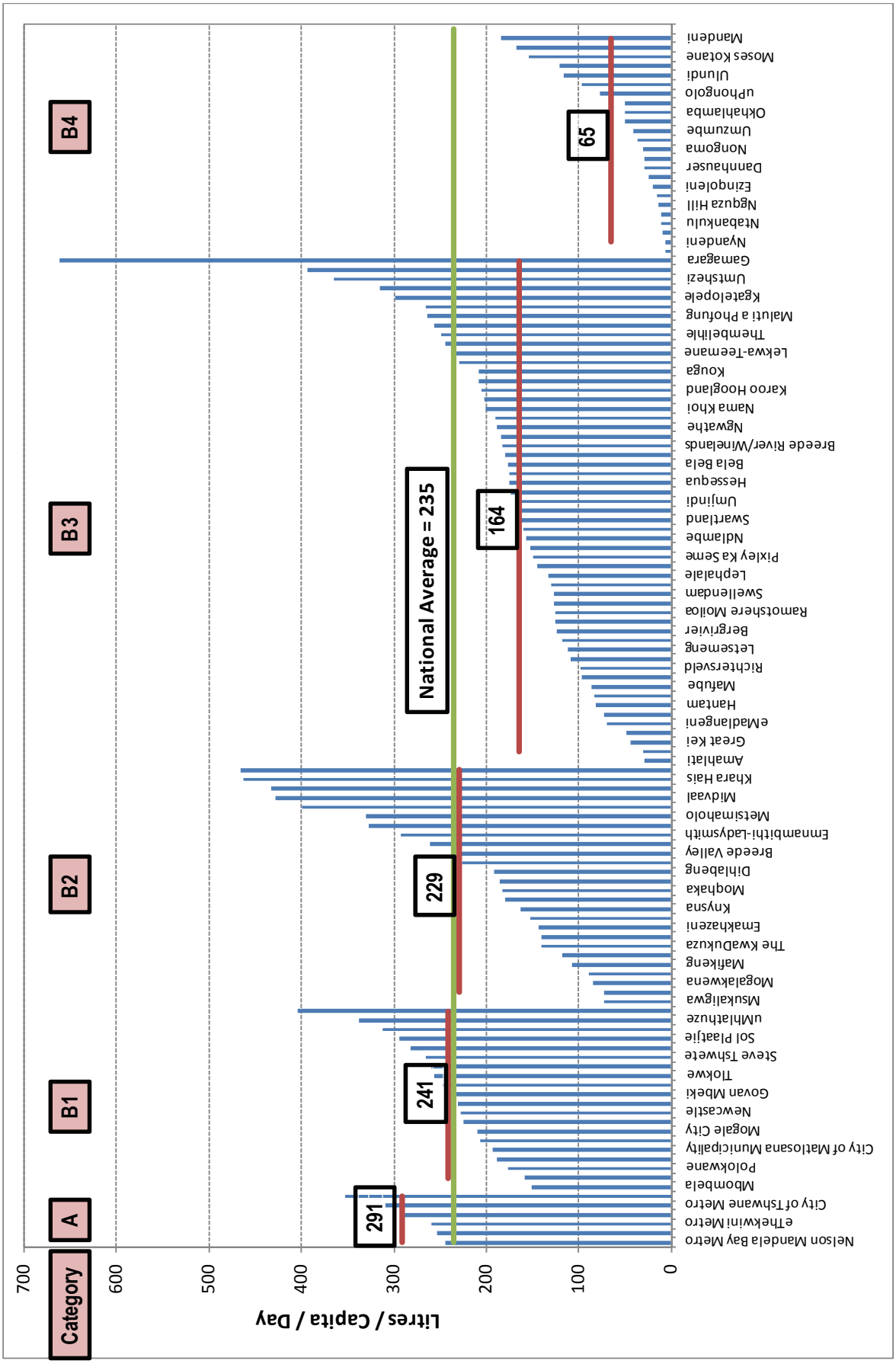


**Figure 17: Summary of litres per capita per day per municipal category**

## 5.3 PERCENTAGE NON-REVENUE WATER

The main aim of the study was to estimate the National Non-Revenue Water for the whole of South Africa.

**Figure 18** indicates that the national NRW is currently in the order of 36.8% which is largely in line with the world average of 36.2% shown in **Figure 19.** At the national level, it is evident that the figure differs significantly within municipal categories, with the Category A municipalities showing an above average score, which indicates more efficient management of water resources and services due to greater levels of capacity, revenue recovery and infrastructure maintenance amongst many contributing factors. The B1 and B3 municipal categories show above average levels of NRW, which is a matter that should ideally be investigated and addressed through the COGTA turnaround strategy particularly in light of their comparatively lower demand. The levels of NRW appear exceptionally high in the rural scattered municipalities and was anticipated based on the poor availability of information as well as the low service levels in these areas.

One of the key findings of the 2007 non-revenue water report was that the total volume non-revenue water based on extrapolated data from a 54% sample size was 1 430 million $m^3$/annum with a percentage non-revenue water of approximately 36% of the total system input volume. Currently, the extrapolated total volume Non-Revenue Water is estimated at 1 580 million $m^3$/annum with a percentage Non-Revenue water of 36.8% based on data from 56% of Local Authorities representing a population of 29 547 439 citizens.

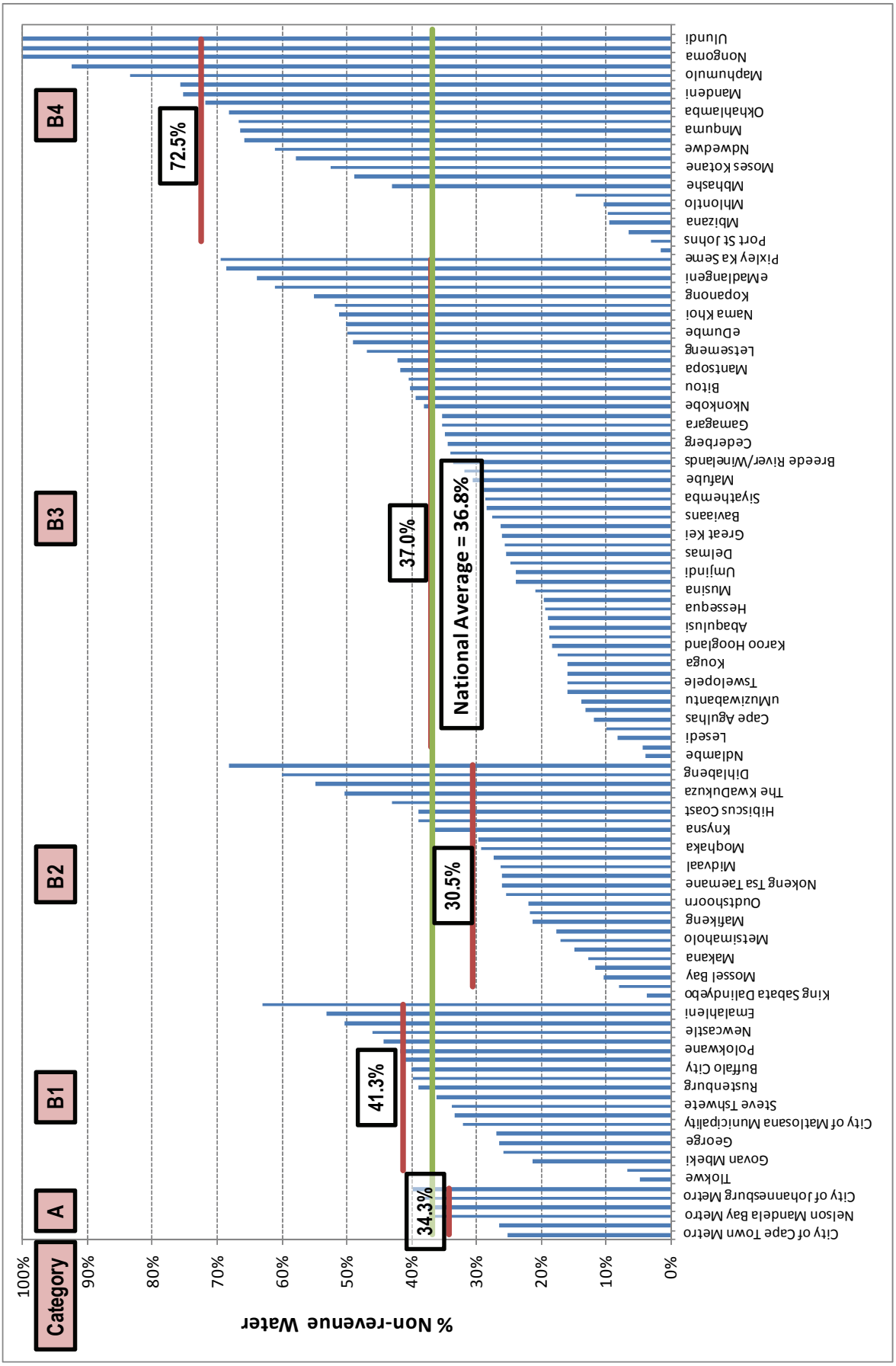


**Figure 18: Summary of national percentage Non-Revenue Water per municipal category**

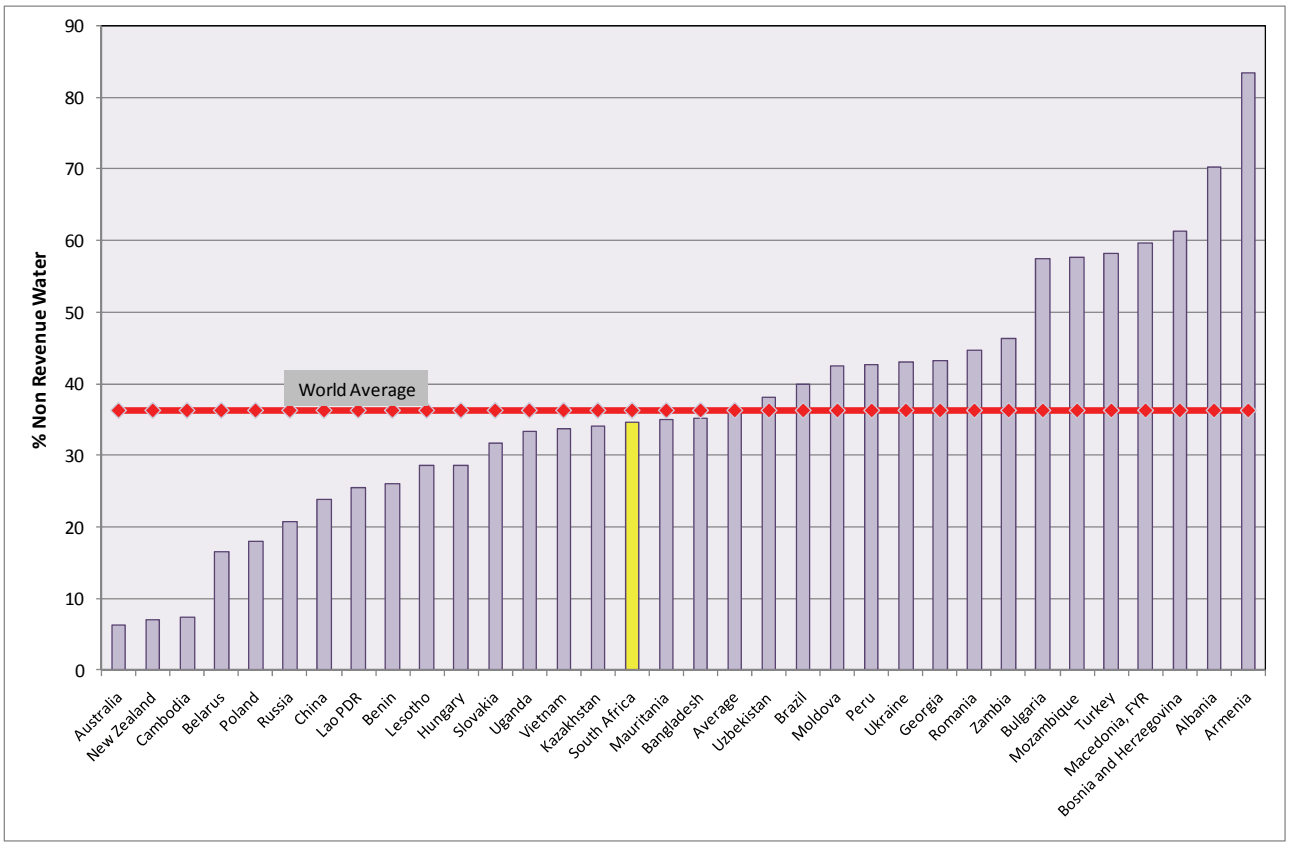


**Figure 19: Comparison graph of world average percentage Non-Revenue Water**

### Infrastructure Leakage Index (ILI)

The ILI is a relatively new performance indicator, which is used to indicate the level of Physical Leakage from a water distribution system. The ILI is a non-dimensional indicator and ranges from 1 to over 100. A value of 1 is basically "world's best practice" and indicates that the level of physical leakage in a system is as low as it can be while a value of 10 would indicate that the physical leakage is 10 times the lowest value. In the case of South Africa, the average ILI value from the various South African municipalities is estimated to be 6.8. This agrees relatively well with the previously mentioned NRW value and again highlights that there is significant room for improvement with regards to reducing leakage from South African systems and at the same time indicates that South Africa is broadly in line with world norms.

It should be noted that very few municipalities were able to provide details on their length of mains or average operating pressures. The ILI calculations are based on best estimates and available information but should be revised in future as more reliable information becomes available.

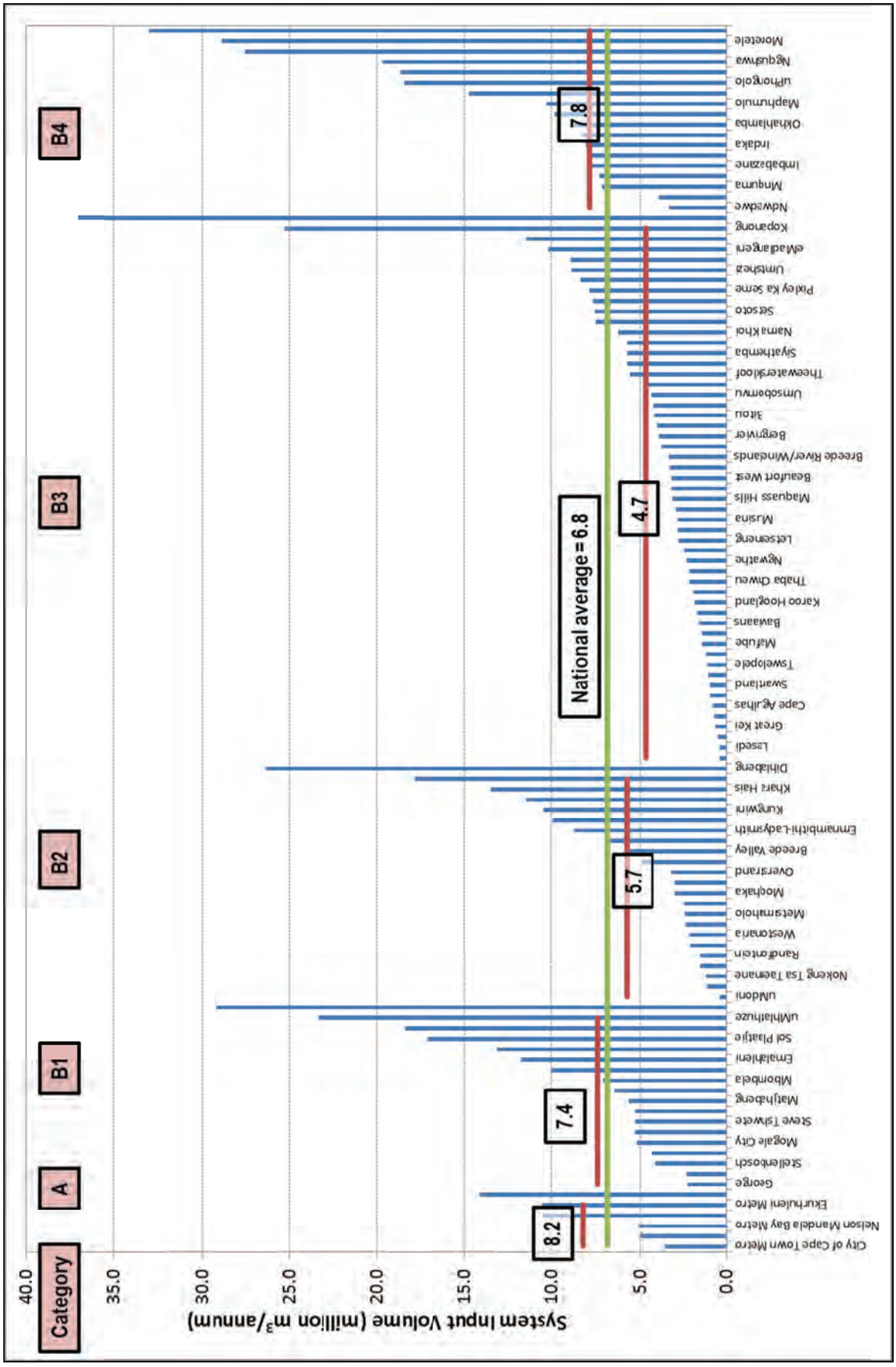


**Figure 20: Summary of Infrastructure Leakage Index per municipal category**

## 5.4 MUNICIPAL SCORECARD FOR ASSESSING THE POTENTIAL FOR WC/WDM IN MUNICIPALITIES

One of the key findings of the study, and one presented at recent conferences was that there is currently insufficient implementation of WC/WDM in many municipalities across South Africa. The municipal self-assessment scorecard developed by the WRC bears evidence of this to a limited extent. **Figure 21** illustrates that at the national level, 40% of the WC/WDM aspects assessed fall completely within the red zone, which indicates dysfunctional implementation or rather, lack of implementation on these aspects. The scorecard presents conflicting information on certain aspects. Although many municipalities perceive that their metering and billing and bulk meter management falls within the acceptable and even excellent range, the development of their water balances falls within the dysfunctional zone. This suggests that there is gap between how well municipalities perceive they are doing, and how well they are actually doing in terms of the implementation of WC/WDM. If the bulk meter management and metering and billing were as efficient as perceived, the quality of data as well as the availability of the data would not be as problematic as they are in reality.

The elements that fall within the dysfunctional zone are largely related to public participation and consumer support as well the establishment of WC/WDM in the municipalities which reflects the general neglect of non-engineering or non-technical aspects of NRW reduction. The scorecard assessment provided valuable insight into the aspects of WC/WDM that require closer attention and highlights the need for increased awareness within municipalities of the importance and value of WC/WDM in prudent management of the available water resources. As anticipated, the Category A municipalities performed the best on the scorecard as depicted in **Figure 22**, which is in keeping with the high levels of awareness and reporting in this category. The Category B1 municipalities suggest a comparatively disjointed perception based on their above average performance on the scorecard and below average performance on the other indicators discussed previously. The Category B3 municipalities' performance on the scorecard was largely in keeping with the results obtained from the other indicators and the same is true of the Category B4 municipalities. As anticipated, the Category B3 municipalities displayed an average performance with the poorest performance shown by the Category B4 municipalities. The results from the Category B2 municipalities also display an inflated perception of the implementation of WC/WDM when compared to their below average performance on the percentage NRW and l/c/d indicators.

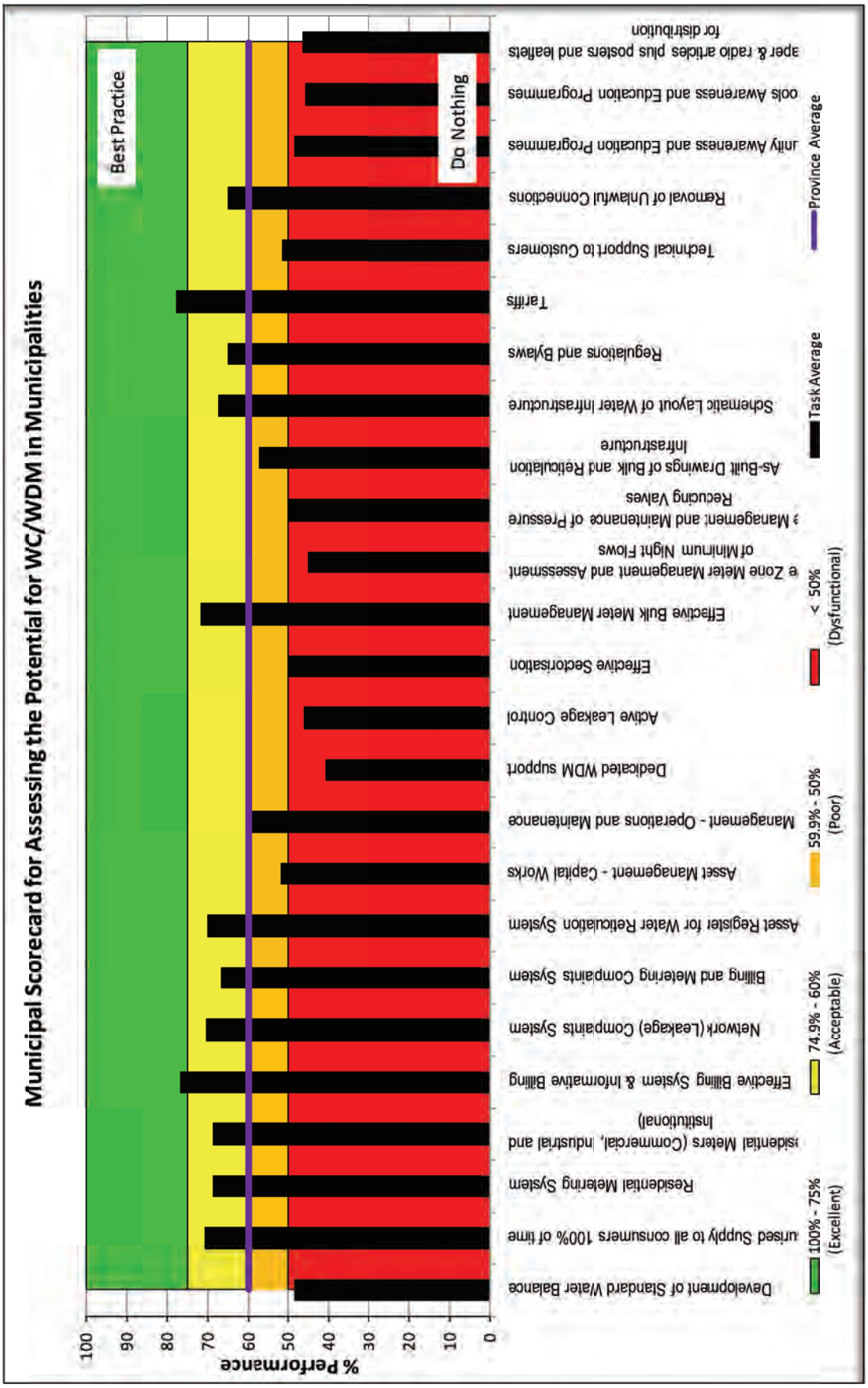


**Figure 21: Summary of national municipal scorecard performance**

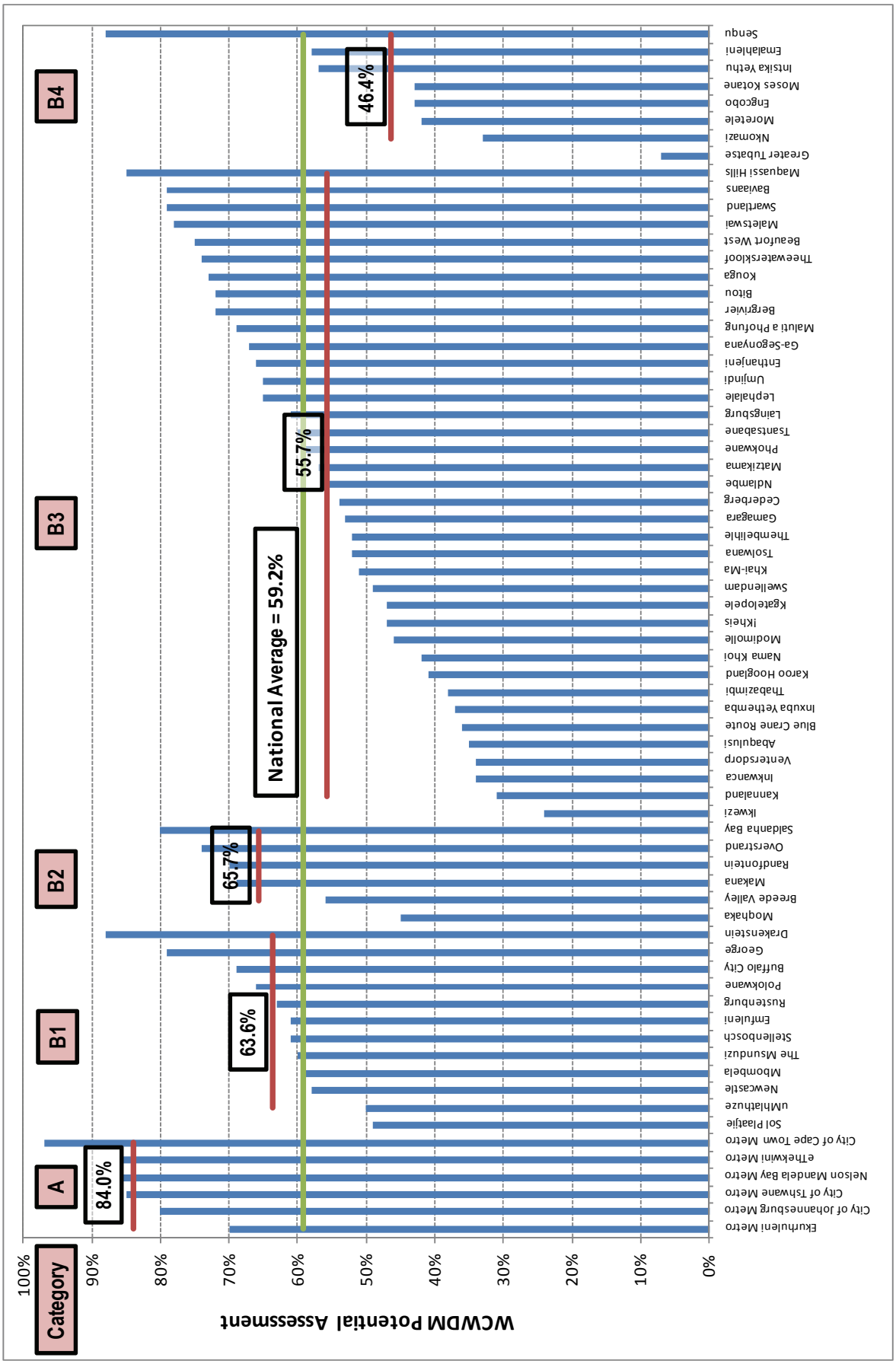


**Figure 22: Summary of municipal scorecard performance per municipal category**

Six years of water balance data were collected and consolidated. Many of the data sets contained gaps or missing information that some of the water services managers were unable to provide. Due to the representativeness of the sample and the significantly large number of data sets received, it was possible to extrapolate and draw inferences regarding municipalities for which data was unavailable based on the data that was utilised in the study. Furthermore, adequate estimates could be made for most of the municipalities where gaps in the information existed.

As depicted by the water balance sheet developed to capture the information, various flag symbols have been utilised to indicate the range within which the data apply. Based on the national averages for the different indicators, the green flag symbolises a below average result, the orange flag indicates average results and the red flag above average result. When results obtained for the indicators were below zero, a "check data" indication was provided. The "no data" indication was provided where zero was obtained as a result. These symbols assisted in identifying information that needed to be reviewed or information that was completely outside of the expected range which may have been caused by typing errors, etc.

In the end, the data utilised and extrapolated comprised 56% of the local authorities targeted for participation in the study and represented a population of approximately 35.3 million citizens. The results shown in **Figure 23** indicate that non-revenue water is gradually increasing while revenue water is remaining almost constant. If the figures prove to be correct and the trend continues, it is of major concern as it raises doubts regarding the long-term sustainability of water services in municipalities throughout South Africa. It will require another round of assessments to verify whether or not the trends suggested in **Figure 23** are reliable since they are each based on a different number of municipal water balances.

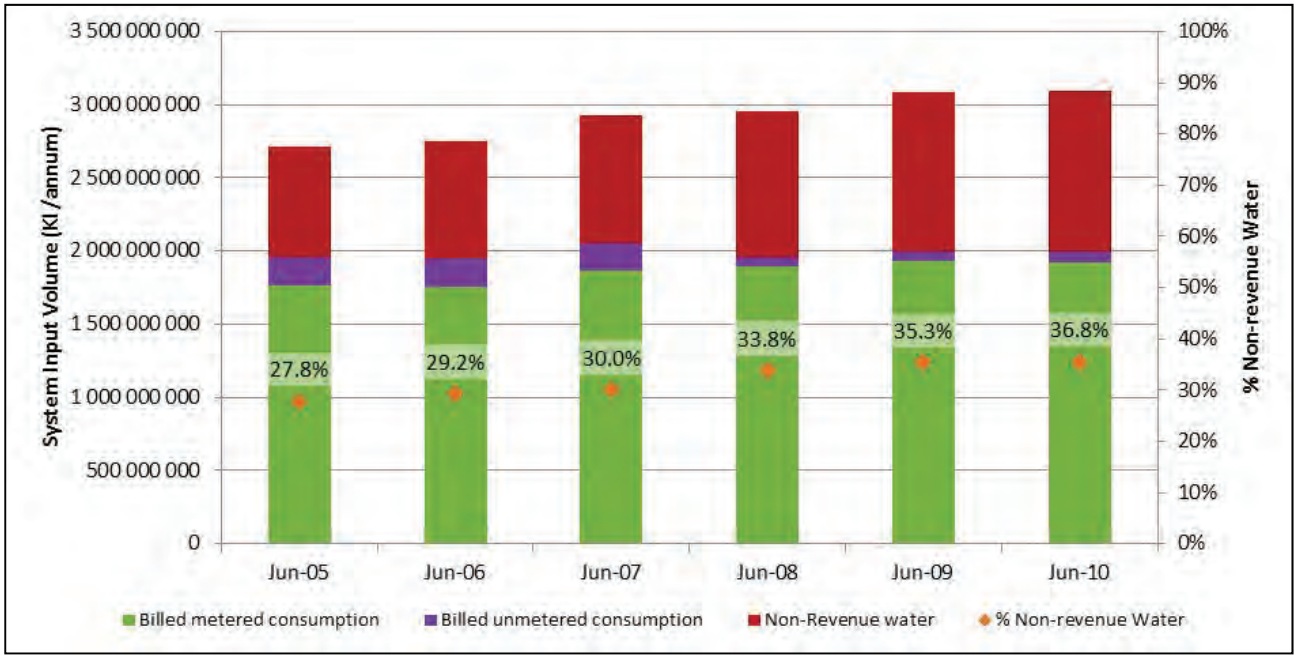


**Figure 23: National Water Balance trend**

Some of the main reasons for the increase in Non-Revenue Water are as follows:

- Deteriorating municipal metering and billing systems with resulting increased commercial or apparent losses. An example is the City of Johannesburg that has been trying for the past

few years to rectify their billing system while several municipalities have also changed or amalgamated their billing systems with disastrous consequences.

- Deteriorating infrastructure due to aging and lack of preventative maintenance. The reticulation networks in several municipalities have effectively reached the end of their design life and burst pipes are a common phenomenon which results in increased physical leakage.

## 5.5 EXTRAPOLATION OF NON-REVENUE WATER FOR SOUTH AFRICA

The urban and rural water demand in 2000 was estimated at 3 471 million $m^3$/annum based on the National Water Resource Strategy (DWA, 2004). Applying the national population growth rate plus 1% provides an estimated current urban demand of 4 372 million $m^3$/annum in 2010. Extrapolating the non-revenue water data for the country, provides an estimated urban consumption of 4 292 million $m^3$/annum and a national non-revenue water volume of 1 581 million $m^3$/annum. The extrapolated input volume compares well with the expected urban and rural demand. The results are summarised in **Table 6.**

**Table 6: National extrapolated Non-Revenue Water**

| Category | Population (2010) | Input (mcm/a) | NRW (mcm/a) | RW (mcm/a) | % NRW | l/c/d |
|---|---|---|---|---|---|---|
| A | 17 420 512 | 1 849 091 117 | 634 192 022 | 1 214 899 095 | 34.3% | 291 |
| B1 | 7 756 187 | 683 667 320 | 282 585 164 | 401 082 156 | 41.3% | 241 |
| B2 | 3 882 070 | 325 623 095 | 99 407 207 | 226 215 889 | 30.5% | 230 |
| **Urban Total** | **29 058 769** | **2 858 381 532** | **1 016 184 393** | **1 842 197 140** | **35.6%** | **269** |
| B3 | 3 845 279 | 230 642 568 | 85 229 869 | 145 412 699 | 37.0% | 164 |
| B4 | 4 245 736 | 101 138 956 | 73 334 514 | 27 804 442 | 72.5% | 65 |
| **Rural Total** | **8 091 015** | **331 781 524** | **158 564 383** | **173 217 141** | **47.8%** | **112** |
| **National Total** | **37 149 784** | **3 190 163 056** | **1 174 748 776** | **2 015 414 281** | **36.8%** | **235** |
| **Extrapolated** | **49 988 373** | **4 292 650 981** | **1 580 730 012** | **2 711 920 969** | **36.8%** | **235** |

As an alternative, the Non-Revenue Water was extrapolated per municipal category which provides a total estimated urban consumption of 3 640 million $m^3$/annum. This is significantly lower than the estimated urban consumption of 4 372 million $m^3$/annum. This extrapolation method is highly influenced by the Categories B3 and B4 due to the low number of data sets and as a result, the average consumption drops to 200 l/c/d and the non-revenue water increases to 39%.

**Table 7: Extrapolated Non-Revenue Water per municipal category**

| Category | Population (2010) | Input (mcm/a) | NRW (mcm/a) | RW (mcm/a) | % NRW | l/c/d |
|---|---|---|---|---|---|---|
| A | 17 420 512 | 1 849 091 117 | 634 192 022 | 1 214 899 095 | 34.3% | 291 |
| B1 | 8 092 611 | 713 321 335 | 294 842 273 | 418 479 062 | 41.3% | 241 |
| B2 | 4 201 444 | 352 411 778 | 107 585 337 | 244 826 441 | 30.5% | 230 |
| **Urban Total** | **29 714 567** | **2 914 824 230** | **1 036 619 632** | **1 878 204 598** | **35.6%** | **269** |
| B3 | 6 705 407 | 402 195 059 | 148 624 049 | 253 571 010 | 37.0% | 164 |
| B4 | 13 568 398 | 323 216 897 | 234 360 281 | 88 856 616 | 72.5% | 65 |
| **Rural Total** | **20 273 805** | **725 411 956** | **382 984 330** | **342 427 626** | **52.8%** | **98** |
| **National Total** | **49 988 372** | **3 640 236 186** | **1 419 603 962** | **2 220 632 224** | **39.0%** | **200** |

For the purposes of this study, an estimated urban and rural consumption of approximately 4 300 million $m^3$/annum is considered more realistic, which is in line with the extrapolated National Water Resource Strategy (DWA, 2004) and was used further in the calculations.

The estimated national non-revenue water is estimated to be 1 580 million $m^3$/annum which is approximately one third of the water supplied and almost equal to the total Rand Water supply per annum. Using different production rates, it was possible to calculate the estimated value of the Non-Revenue Water as summarised in **Table 8**.

**Table 8: Estimated value of Non-Revenue Water**

| Municipal Category | Production Rate (R/kl) | Estimated cost to supply water (R million/a) | Estimated value of NRW (R million/a) |
|---|---|---|---|
| A | R5.00 | R9 245.46 | R3 170.96 |
| B1 | R4.50 | R3 076.50 | R1 271.63 |
| B2 | R4.00 | R1 302.49 | R397.63 |
| **Urban** | | **R13 624.45** | **R4 840.22** |
| B3 | R3.50 | R807.25 | R298.30 |
| B4 | R3.00 | R303.42 | R220.00 |
| **Rural** | | **R1 110.67** | **R518.30** |
| **National** | | **R14 735.12** | **R5 358.52** |
| **Extrapolated** | | **R19 827.42** | **R7 210.38** |

It is difficult to assess how much water can possibly be saved from the overall estimate of Non-Revenue Water. All water supply systems leak to some degree and it is not possible to eliminate physical leakage or commercial losses completely. Some of the water included in the water balance under Non-Revenue Water is in fact part of the free basic allowance and as such is legitimate use. This consumption should be changed in the water balances to revenue water and will therefore not reduce the total consumption although it will result in a slight decrease in the Non-Revenue Water.

Another major factor that can influence the results is the non-payment for services in cases where billed consumption is eventually written off. In such cases, water which is currently considered as billed consumption must be reclassified as unbilled consumption. Preliminary estimates suggest that this component could as high as 20% based on the Local Government Budgets 2009/10 Financial Year Third Quarter Local Government Section 71 Report (May 2010) which shows debtors of R44.8 billion over 90 days of which ±30% or R13 billion is from water. A 20% non-payment level would effectively increase the Non-Revenue Water to 47.7%.

Using the most recent results from the Vaal River Reconciliation strategy undertaken for DWA, it is estimated that approximately 50% (approximately 750 million $m^3$/annum) of the Non-Revenue could be saved, representing almost 17% of the system input volume.

The results from this study compare reasonably well with the previous WRC study completed in 2007 which indicated

- The total Non-Revenue Water for the 62 systems analysed was estimated to be approximately 774 million $m^3$/annum or approximately 36% of the water supplied.
- The total non-revenue water for the whole country is estimated to be 1 430 million $m^3$/annum (extrapolated from the 54% sample size).
- The potential savings that can be achieved from the 62 water reticulation systems analysed are estimated to be 263 million $m^3$/annum.
- If the above figure is extrapolated to the whole country (based once again on the 54% sample size), the potential savings are estimated to be almost 500 million $m^3$/annum, representing approximately 12.5% of the total system input.

# 6 CONCLUSIONS AND RECOMMENDATIONS

The findings of the study highlight a number of very critical issues. The current Non-Revenue Water percentage for South Africa stands at an estimated 36.8% with volumetric losses of approximately 1 580 million $m^3$ per annum. This is largely in line with the world average percentage Non-Revenue Water of 36.2%. South Africa, however, cannot afford such losses, being the 30$^{th}$ driest country in the world. With increasing water scarcity, significant service delivery backlogs and poor revenue recovery, the losses are negatively impacting on the ability of the municipalities to provide sustainable and efficient services. Non-Revenue Water remains the product of many factors including poor planning, limited financial resources to implement the necessary programmes, poor infrastructure asset maintenance and lack of capacity. It is clear that decisive and concerted action is required to address the issues coupled with a strong political will and support to elevate the importance of non-revenue water reduction.

Based on the technical evaluation, the following conclusions were drawn:

- The level of Non-Revenue Water throughout South Africa municipalities at 36.8% is high and there is significant scope for improvement.
- The estimated per capita consumption is also relatively high and suggests that there are high levels of wastage within many households throughout the country. While such wastage and inefficient use is unacceptable, it does present an opportunity to implement awareness and education campaigns which can have a significant effect on overall water use.
- It appears that the levels of Non-Revenue Water are gradually rising which is obviously cause for concern. Unfortunately it has not been possible to work with a consistent data set over the previous 10 years and it is therefore difficult to draw firm conclusions in this regard. It is anticipated that future assessments will be more reliable and clear conclusions will be possible.
- Many Municipalities throughout South Africa do not know how much water they are using which is completely unacceptable. Fortunately all of the Metros and most of the larger towns and cities are monitoring their water use which accounts for 50% of the total municipal water use in South Africa.
- Many Municipalities are continuing to address the water supply backlog to residents who have previously not had access to basic water services. Such developments tend to increase the levels of Non-Revenue Water and may reduce the perceived benefits achieved through the various WDM interventions.

Several other key issues were also identified which are discussed in the remainder of **Section** 6.

## 6.1 UNDERSTANDING OF NON-REVENUE WATER TERMINOLOGY

A clear understanding of the Non-Revenue Water terminology and calculation is vital in obtaining an accurate picture of water losses. One of the key challenges notes during the course of the study was the lack of understanding amongst a number of local authorities related to correctly allocating the volumes of water to different components of the water balance resulting in double counting and the allocation of unbilled unmetered consumption under free basic water. It is thus apparent that further workshops and training are required to ensure a growing efficacy in the development of accurate volumetric water balances. The workshops should ideally follow a phased approach commencing with the basics and gradually becoming more advanced as the non-revenue water reporting improves. The Masibambane Phase 3 support workshops were very helpful in this regard, however the effectiveness of the training will depend on the consistency and continuity of such programme for the message to take root.

## 6.2 INTER-DEPARTMENTAL COOPERATION

One of the key findings of the study was the importance of the participation of various departments within municipalities in accurate Non-Revenue Water reporting as well as the value of sound internal communication. During the data collection process, it became evident that challenges exist in this regard and often the water loss perspective obtained from the financial departments of the municipalities does not match that obtained from the technical departments. Effective Non-Revenue Water reduction will therefore require much improved communication between the different departments of local authorities, and the involvement of the legal, political, technical, social and financial departments in training, reporting and Non-Revenue Water reduction programmes to comprehensively and sustainably address the prevalent challenges in the water sector.

## 6.3 AWARENESS OF THE IMPORTANCE OF WC/WDM

A critical observation made during the course of the study as well as the scorecard assessments is that a large number of municipalities are still lacking on many elements of WC/WDM implementation. This highlights that the importance of conserving and managing the available water resources in South Africa is not yet understood by many municipalities. This is further evident in the low budgets allocated to these activities which is a concern that has been expressed by National Treasury. The political role-players must therefore use their prominent positions to raise the profile of water management within municipalities in accordance with the Presidential targets.

## 6.4 BILLING AND METERING

Undoubtedly, one of the most important aspects of Non-Revenue Water reduction is effective billing and metering. Numerous studies have expounded on this issue at length, however, the common consensus is that proper metering and billing is most effective in promoting water conservation amongst consumers. Furthermore revenue recovery is essential in order for municipalities to provide a sustainable good quality service and as such should be decisively

implemented across the country where practicable. Ultimately, local authorities have a mandate to generate revenue and to operate in a self-sustaining manner and this can only be achieved through proper monitoring of water supply systems in the form of metering and creating a culture of payment for services to enable sound maintenance activities and a high standard of consumer service.

## 6.5 ANNUAL INCENTIVE-BASED PERFORMANCE MONITORING

Much has already been achieved through various initiatives to promote the annual reporting on Non-Revenue Water, however it is clear that much is still required to support the progressive implementation of WC/WDM throughout South Africa. Initiatives such as the Blue Drop Green Drop performance management approach have been very successful in encouraging countrywide reporting and monitoring of water quality and the same approach could possibly be successfully applied to the reporting and performance monitoring of non-revenue water KPIs. This approach has provided the municipalities with incentives to improve their management of water quality and has promoted voluntary reporting as opposed grudging or resentful reporting which is often the reality when gathering information of this nature. This approach could also assist in raising awareness amongst municipalities and elevating the importance of non-revenue water reduction.

## 6.6 INFRASTRUCTURE ASSET MAINTENANCE

The importance of proper planning, budgeting and maintenance of water infrastructure cannot be over emphasised and is essential in reducing water losses and averting a potential water crisis. The maintenance backlogs and the deteriorating infrastructure within municipalities is a matter that must be addressed urgently if the water losses and poor service delivery are to be addressed adequately. It is often not necessary to try and implement highly technical activities but rather a case of dealing with very basic and simple issues such as locating and cleaning of the infrastructure. Such tasks are essential and have the added benefit that they can help to create employment opportunities for local unskilled personnel who are in great need of employment. There is massive scope for such job creation throughout the whole country and many municipalities are already embarking on repair and maintenance projects. It would thus be of substantial benefit on many fronts for municipalities to utilise these opportunities to bolster their capacity, build relationships with the communities and to address the existing maintenance backlogs and local unemployment.

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Waldron T. (2005). **Managing and reducing losses from water distribution systems. Manual 10, Executive Summary**. ISBN 0 7242 9498 8

# APPENDIX A:

# DEFINITIONS OF TERMS

## Authorised Consumption

Authorised consumption is the volume of metered (authorised metered) and/or unmetered (authorised unmetered) water taken by registered customers, the water supplier and others who are implicitly or explicitly authorised to do so by the water supplier, for residential, commercial and industrial purposes.

It should be noted that the authorised consumption also includes 'water exported' and, in some cases may include items such as fire-fighting and training, flushing of mains and sewers, street cleaning, watering of municipal gardens, public fountains, building water, etc. These may be billed or unbilled, metered or unmetered, according to local practice.

## Billed Authorised Consumption

Billed authorised consumption is the volume of authorised consumption which is billed by the WSA and paid for by the customer. It is effectively the revenue water, which, in turn, comprises:

- Billed metered consumption;
- Billed unmetered consumption.

## Commercial Losses

Commercial losses or Apparent Losses are made up from the unauthorised consumption (theft or illegal use) plus all technical and administrative inaccuracies associated with customer metering/billing. While it should be noted that the commercial losses should not normally be a major component of the water balance in most developed countries, it can represent the major element of the total losses in many developing countries. A systematic estimate should be made from local knowledge of the system and an analysis of technical and administrative aspects of the customer metering system.

## Non-Revenue Water

Non-Revenue Water is becoming the standard term replacing unaccounted-for water (UFW) in many water balance calculations and is the term recommended by the International Water

Association in preference to UFW. It is a term that can be clearly defined, unlike the unaccounted-for water term which often represents different components to the various water suppliers. Non-Revenue Water incorporates the following items:

- Unbilled authorised consumption;
- Commercial Losses; and
- Physical Leakage.

**Physical Leakage**

Physical Leakage or Real losses represent the physical leakage from the pressurised system, up to the point of measurement of customer use. In most cases, the physical leakage represents the unknown component in the overall water balance and the purpose of most water balance models is therefore to estimate the magnitude of the leakage so that the Municipality can gauge whether or not it has a serious leakage problem. The physical leakage is generally calculated as the difference between the total losses and the estimated commercial losses.

**System Input**

The system input represents the volume input to the water supply system from the WSAs own sources allowing for all known errors (i.e. errors on bulk water meters) as well as any water imported from other sources – also corrected for known bulk metering errors.

**Unbilled Authorised Consumption**

The unbilled authorised consumption is the volume of authorised consumption that is not billed or paid for. The level of unbilled authorised consumption will vary from WRS to WRS and in some areas virtually all water is metered and billed in some manner with the result that the unbilled authorised consumption is zero.

**Water Losses**

Water losses are the sum of the physical leakage and the commercial losses and are calculated from the difference between the total system input and the authorised consumption. In most countries, the water losses are often referred to as the unaccounted-for water (UFW) although, as mentioned previously, the exact definition of the UFW can vary from country to country.

## Unavoidable Annual Real Losses

The minimum level of real losses for a specific system that can be achieved under the most efficient operating conditions. It is an indication of the level of leakage that can theoretically be achieved if everything possible is done to minimise the leakage and is generally not an achievable target for most water suppliers since the UARL is normally well below the economic level of leakage.

# APPENDIX B:
# NON-REVENUE WATER BALANCE SHEETS

# National Non-Revenue Water Assessment

## Eastern Cape Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Introductory notes

### Terminology

| Acronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Measurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (preferred term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not preferred term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

**NON-REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

**Unaccounted for Water (UAW / UFW)**

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

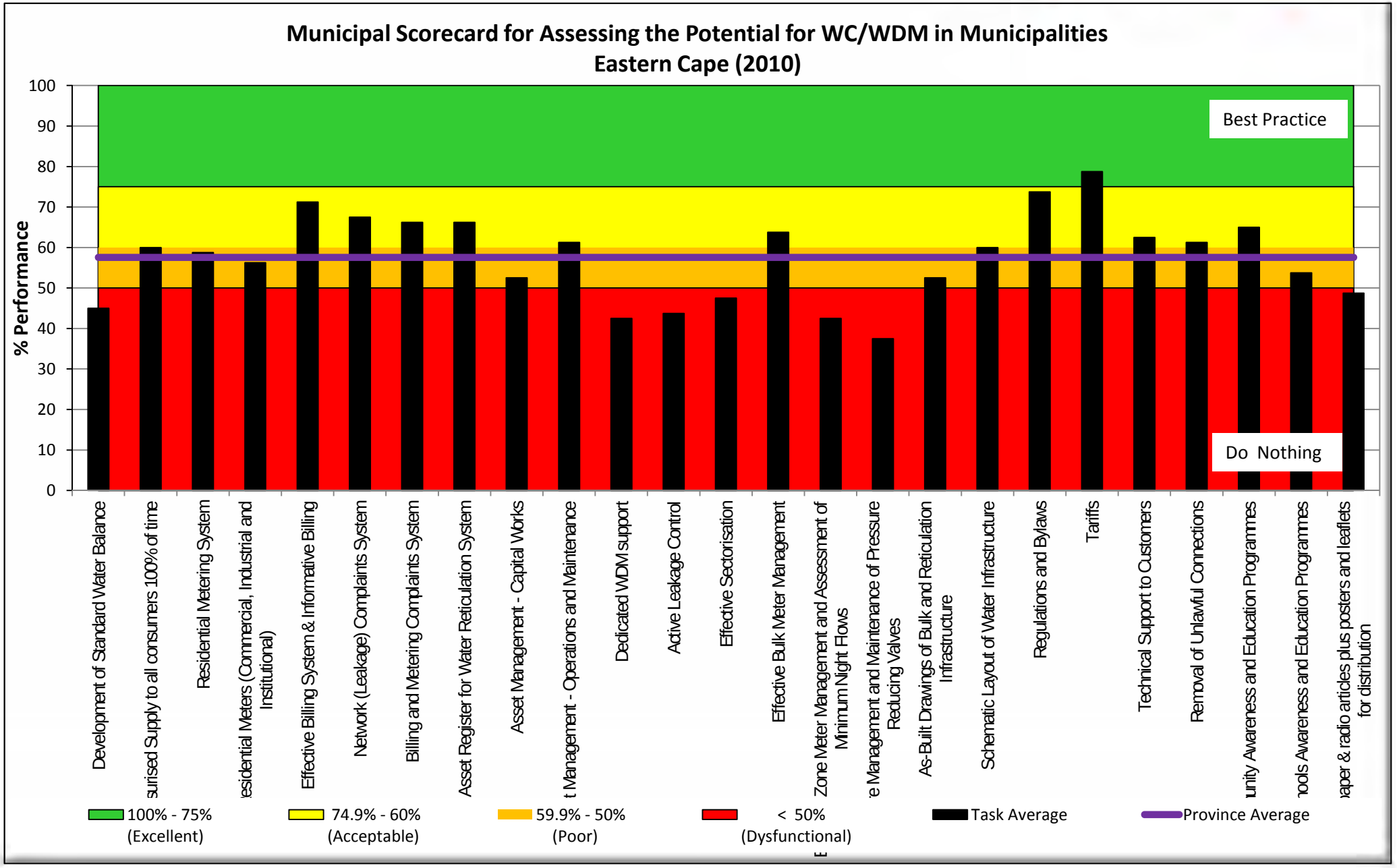
**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

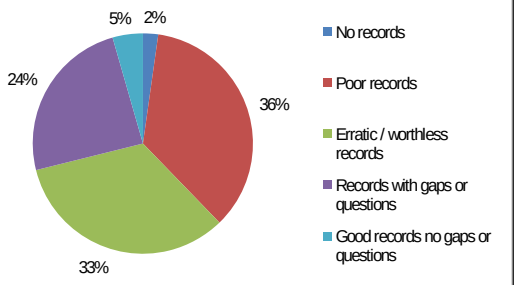
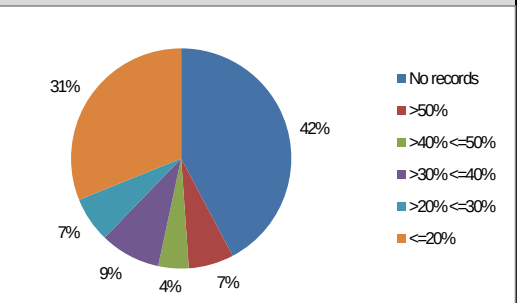
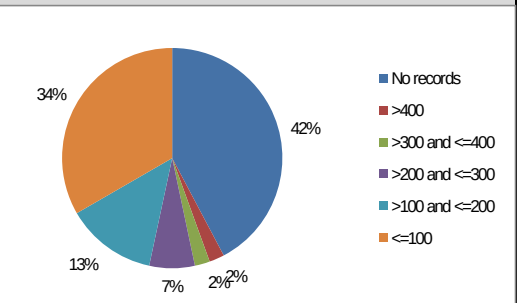
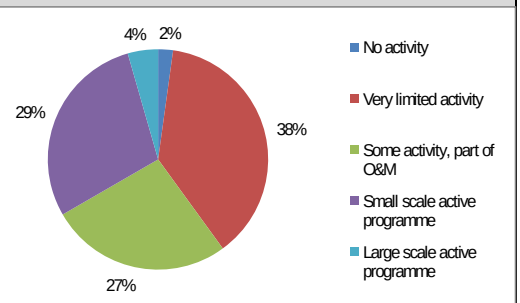
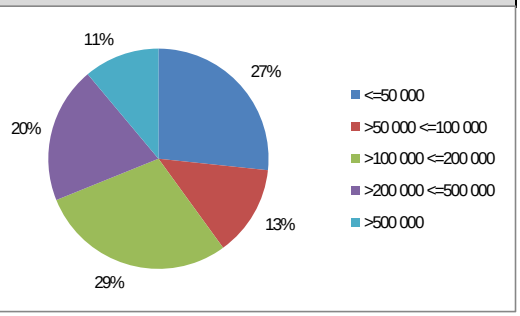
**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

| Province | Eastern Cape |
|---|---|

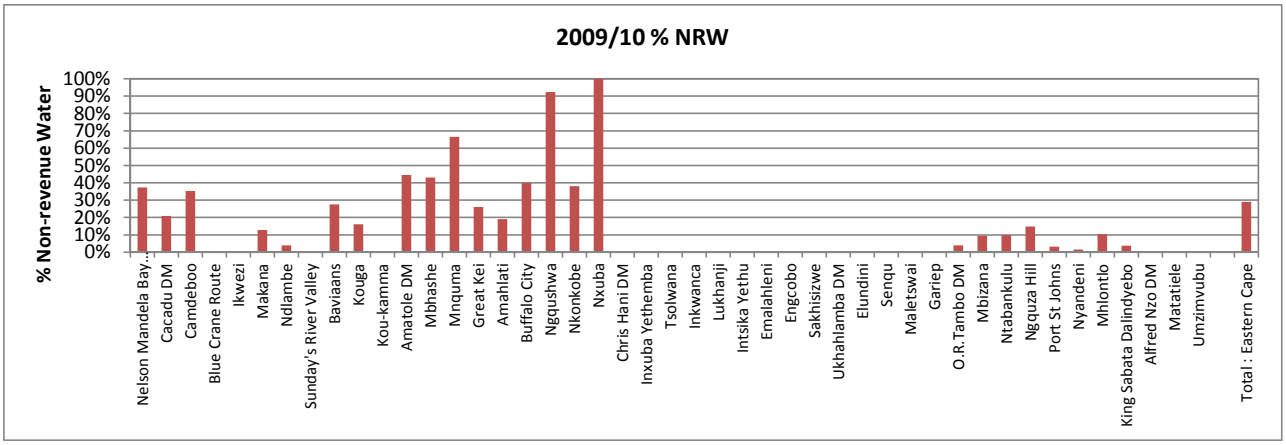
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | NMA | Nelson Mandela Bay Metro | Nelson Mandela Bay Metro | A | Yes |
| 2 | DC10 | Cacadu | Cacadu DM | C1 | Yes |
| 3 | EC101 | Cacadu | Camdeboo | B3 | Yes |
| 4 | EC102 | Cacadu | Blue Crane Route | B3 | Yes |
| 5 | EC103 | Cacadu | Ikwezi | B3 | Yes |
| 6 | EC104 | Cacadu | Makana | B2 | Yes |
| 7 | EC105 | Cacadu | Ndlambe | B3 | Yes |
| 8 | EC106 | Cacadu | Sunday's River Valley | B3 | Yes |
| 9 | EC107 | Cacadu | Baviaans | B3 | Yes |
| 10 | EC108 | Cacadu | Kouga | B3 | Yes |
| 11 | EC109 | Cacadu | Kou-kamma | B3 | Yes |
| 12 | DC12 | Amatole | Amatole DM | C2 | Yes |
| 13 | EC121 | Amathole | Mbhashe | B4 | No |
| 14 | EC122 | Amathole | Mnquma | B4 | No |
| 15 | EC123 | Amathole | Great Kei | B3 | No |
| 16 | EC124 | Amathole | Amahlati | B3 | No |
| 17 | EC125 | Amathole | Buffalo City | B1 | Yes |
| 18 | EC126 | Amathole | Ngqushwa | B4 | No |
| 19 | EC127 | Amathole | Nkonkobe | B3 | No |
| 20 | EC128 | Amathole | Nxuba | B3 | No |
| 21 | DC13 | Chris Hani | Chris Hani DM | C2 | Yes |
| 22 | EC131 | Chris Hani | Inxuba Yethemba | B3 | No |
| 23 | EC132 | Chris Hani | Tsolwana | B3 | No |
| 24 | EC133 | Chris Hani | Inkwanca | B3 | No |
| 25 | EC134 | Chris Hani | Lukhanji | B2 | No |
| 26 | EC135 | Chris Hani | Intsika Yethu | B4 | No |
| 27 | EC136 | Chris Hani | Emalahleni | B4 | No |
| 28 | EC137 | Chris Hani | Engcobo | B4 | No |
| 29 | EC138 | Chris Hani | Sakhisizwe | B3 | No |
| 30 | DC14 | Ukhahlamba | Ukhahlamba DM | C2 | Yes |
| 31 | EC141 | Ukhahlamba | Elundini | B4 | No |
| 32 | EC142 | Ukhahlamba | Senqu | B4 | No |
| 33 | EC143 | Ukhahlamba | Maletswai | B3 | No |
| 34 | EC144 | Ukhahlamba | Gariep | B3 | No |
| 35 | DC15 | O.R.Tambo | O.R.Tambo DM | C2 | Yes |
| 36 | EC151 | OR Thambo | Mbizana | B4 | No |
| 37 | EC152 | OR Thambo | Ntabankulu | B4 | No |
| 38 | EC153 | OR Thambo | Ngquza Hill | B4 | No |
| 39 | EC154 | OR Thambo | Port St Johns | B4 | No |
| 40 | EC155 | OR Thambo | Nyandeni | B4 | No |
| 41 | EC156 | OR Thambo | Mhlontlo | B4 | No |
| 42 | EC157 | OR Thambo | King Sabata Dalindyebo | B2 | No |
| 43 | DC44 | Alfred Nzo | Alfred Nzo DM | C2 | Yes |
| 44 | EC441 | Alfred Nzo | Matatiele | B3 | No |
| 45 | EC442 | Alfred Nzo | Umzimvubu | B4 | No |

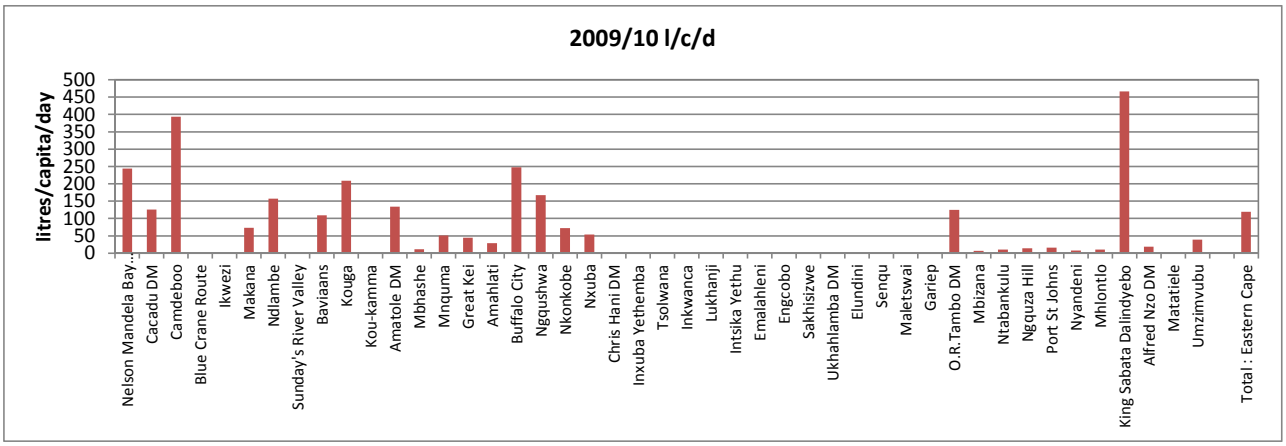
# National NRW Assessment

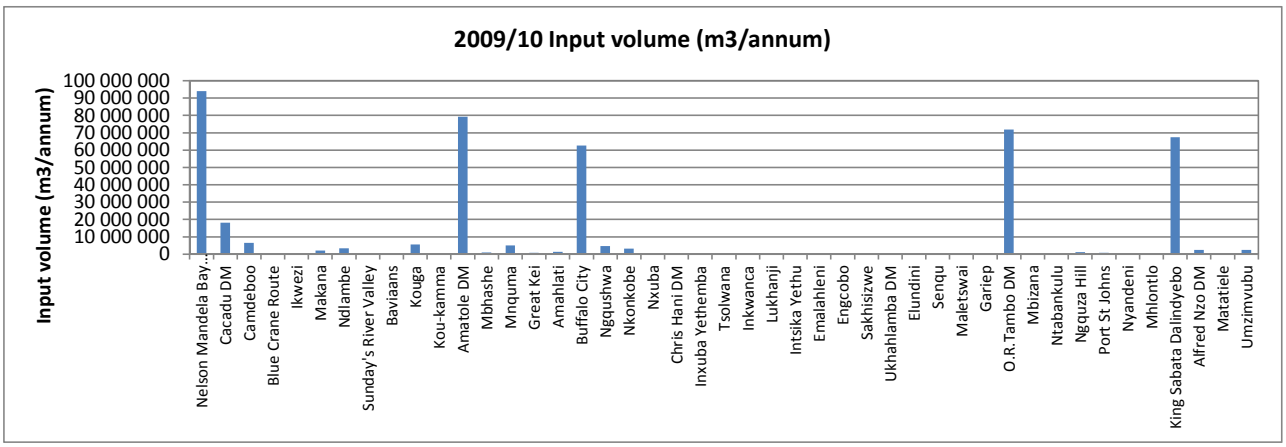


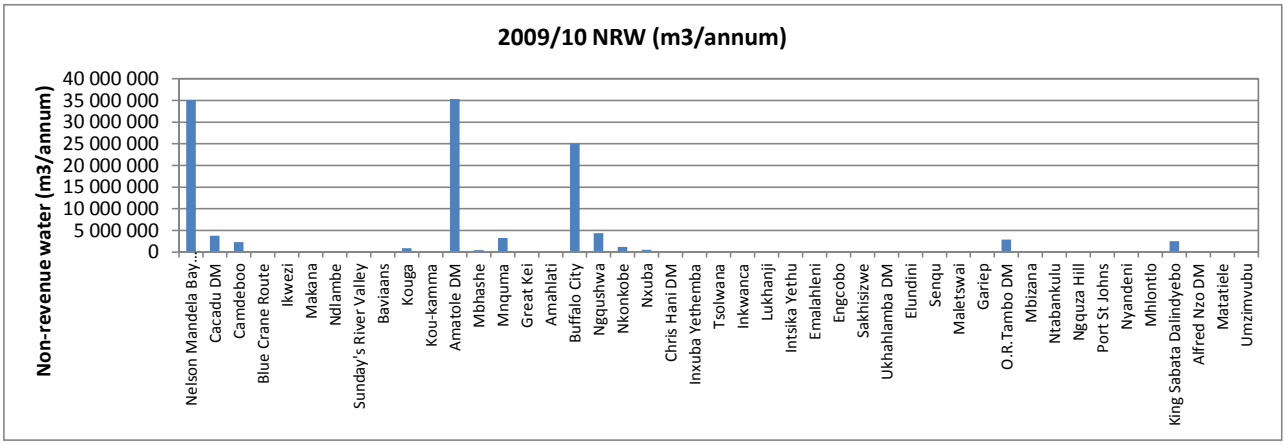
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 45 | | |
| 1 | No records | 1 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 16 | | |
| 3 | Erratic / worthless records | 15 | | |
| 4 | Records with gaps or questions | 11 | | |
| 5 | Good records no gaps or questions | 2 | | |
| | | | | |
| **% NRW** | | 45 | | |
| 0 | No records | 19 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 3 | | |
| 2 | >40% <=50% | 2 | | |
| 3 | >30% <=40% | 4 | | |
| 4 | >20% <=30% | 3 | | |
| 5 | <=20% | 14 | | |
| **litres / capita / day** | | 45 | | |
| 0 | No records | 19 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 1 | | |
| 2 | >300 and <=400 | 1 | | |
| 3 | >200 and <=300 | 3 | | |
| 4 | >100 and <=200 | 6 | | |
| 5 | <=100 | 15 | | |
| **NRW Activity** | | 45 | | |
| 1 | No activity | 1 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 17 | | |
| 3 | Some activity, part of O&M | 12 | | |
| 4 | Small scale active programme | 13 | | |
| 5 | Large scale active programme | 2 | | |
| | | | | |
| **Potential NRW Impact** | | 45 | | |
| 1 | <=50 000 | 12 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 6 | | |
| 3 | >100 000 <=200 000 | 13 | | |
| 4 | >200 000 <=500 000 | 9 | | |
| 5 | >500 000 | 5 | | |
| | | | | |

**Key Performance Indicators**

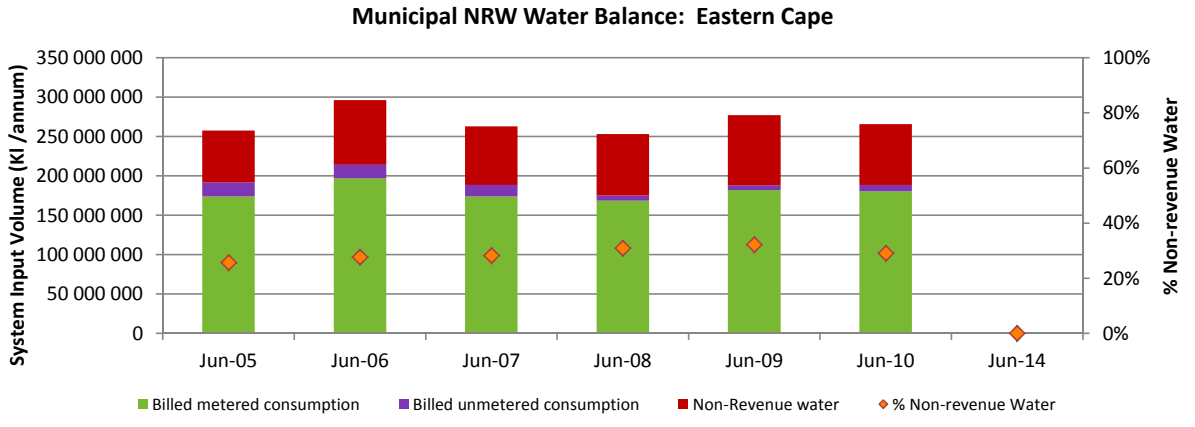


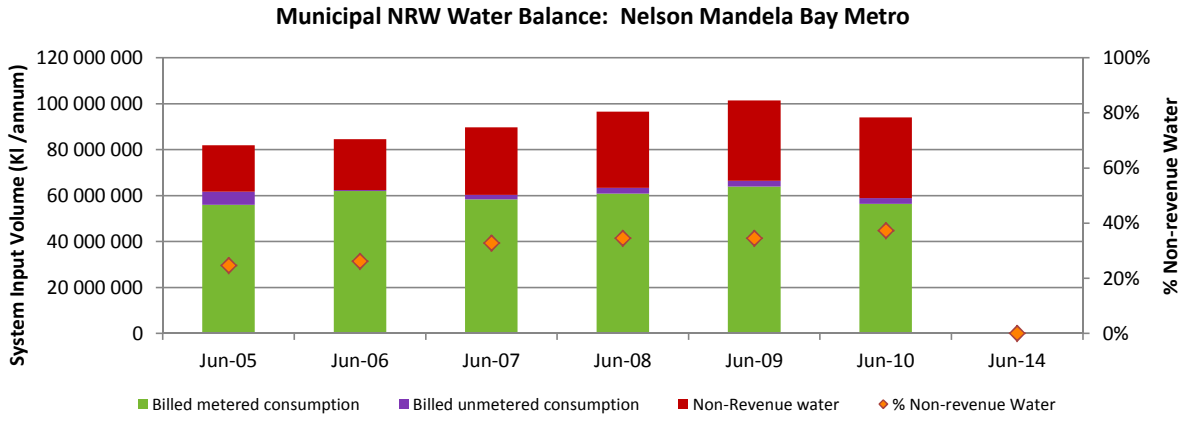



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 6 369 305 | 6 359 934 | 6 418 303 | 6 459 375 | 6 499 786 | 6 101 127 | 0 |
| | Households | | 1 575 723 | 1 574 215 | 1 587 720 | 1 598 286 | 1 607 943 | 1 514 184 | 0 |
| | Connections - metered | | 704 275 | 706 552 | 712 095 | 717 199 | 724 541 | 646 455 | 0 |
| | Connections - Unmetered | | 718 288 | 715 148 | 720 843 | 725 804 | 734 659 | 563 668 | 0 |
| | Length of mains (km) | | 23 034 | 22 988 | 23 183 | 23 322 | 23 604 | 1 942 439 | 0 |
| | System input volume | kl/annum | 257 616 491 | 296 045 713 | 262 860 956 | 253 002 028 | 277 244 894 | 265 746 005 | 0 |
| | Billed metered consumption | kl/annum | 173 669 205 | 196 848 940 | 174 002 769 | 168 407 917 | 182 016 286 | 180 507 562 | 0 |
| | Billed unmetered consumption | kl/annum | 17 930 082 | 17 217 970 | 14 661 706 | 6 471 123 | 6 011 521 | 8 119 400 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 191 599 286 | 214 066 910 | 188 664 475 | 174 879 040 | 188 027 807 | 188 626 962 | 0 |
| | Non-Revenue water | kl/annum | 66 017 205 | 81 978 803 | 74 196 481 | 78 122 988 | 89 217 087 | 77 119 043 | 0 |
| | Water Losses | kl/annum | 66 017 205 | 81 978 803 | 74 196 481 | 78 122 988 | 89 217 087 | 77 119 043 | 0 |
| | % Non-revenue water | | 25.6% | 27.7% | 28.2% | 30.9% | 32.2% | 29.0% | No data |
| | % Water Losses | | 25.6% | 27.7% | 28.2% | 30.9% | 32.2% | 29.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 111 | 128 | 112 | 107 | 117 | 119 | No data |
| | Input: m³ / household / month | | 14 | 16 | 14 | 13 | 14 | 15 | No data |
| | Billed : Litres / capita / day | | 82 | 92 | 81 | 74 | 79 | 85 | No data |
| | Billed : m³ / household / month | | 10 | 11 | 10 | 9 | 10 | 10 | No data |
| | % Population growth | | | -0.15% | 0.92% | 0.64% | 0.63% | -6.13% | |
| | % Water demand growth | | | 14.92% | -11.21% | -3.75% | 9.58% | -4.15% | |
| Source of information | | | | | | | | | |



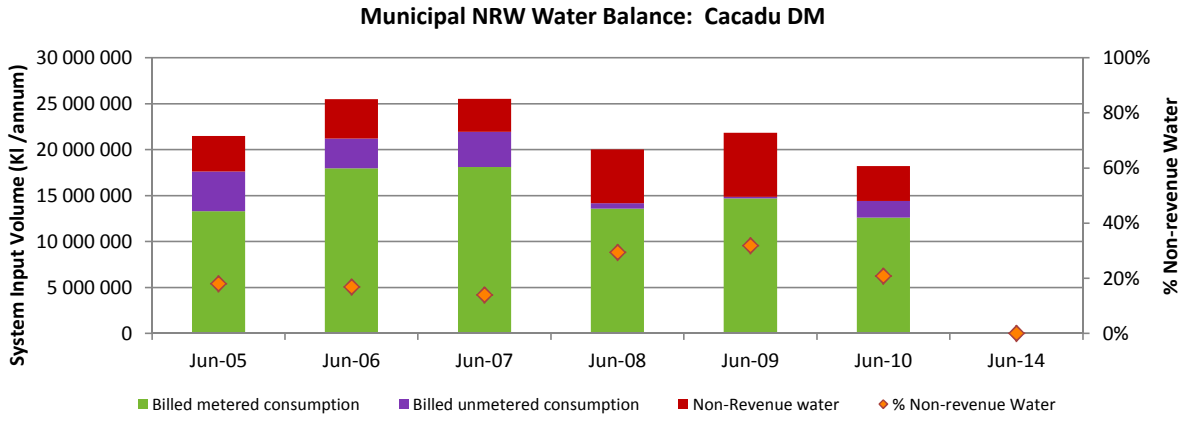

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | NMA | | | | | | | Yes |
| District Municipality | | | | | | | | | Category |
| Municipality | | Nelson Mandela Bay Metro | | | | | | | A |
| Settlements | | BETHELSDORP, UITENHAGE, KWANOBUHLE, PORTELIZABETH, SUMMERSTRAND | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 023 900 | 1 033 109 | 1 039 307 | 1 046 235 | 1 052 509 | 1 056 350 | |
| | Households | | 278 753 | 281 261 | 282 946 | 284 833 | 286 546 | 287 595 | |
| | Connections - metered | | ~~211 101~~ | ~~213 000~~ | ~~214 278~~ | 215 706 | ~~217 000~~ | ~~217 791~~ | |
| | Connections - Unmetered | | ~~8 966~~ | ~~9 047~~ | ~~9 101~~ | 9 162 | ~~9 217~~ | ~~9 251~~ | |
| | Length of mains (km) | | ~~4 401~~ | ~~4 441~~ | ~~4 468~~ | ~~4 497~~ | ~~4 524~~ | ~~4 541~~ | |
| | System input volume | kl/annum | 81 870 640 | 84 594 000 | 89 757 111 | 96 600 000 | 101 452 000 | 94 036 000 | |
| | Billed metered consumption | kl/annum | 55 912 000 | 61 911 200 | 58 344 783 | 60 800 000 | 63 914 272 | 56 414 000 | |
| | Billed unmetered consumption | kl/annum | 5 760 000 | 523 800 | 2 000 000 | 2 500 000 | 2 500 000 | 2 500 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 61 672 000 | 62 435 000 | 60 344 783 | 63 300 000 | 66 414 272 | 58 914 000 | 0 |
| | Non-Revenue water | kl/annum | 20 198 640 | 22 159 000 | 29 412 328 | 33 300 000 | 35 037 728 | 35 122 000 | 0 |
| | Water Losses | kl/annum | 20 198 640 | 22 159 000 | 29 412 328 | 33 300 000 | 35 037 728 | 35 122 000 | 0 |
| | % Non-revenue water | | 24.7% | 26.2% | 32.8% | 34.5% | 34.5% | 37.3% | No data |
| | % Water Losses | | 24.7% | 26.2% | 32.8% | 34.5% | 34.5% | 37.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 219 | 224 | 237 | 253 | 264 | 244 | No data |
| | Input: m³ / household / month | | 24 | 25 | 26 | 28 | 30 | 27 | No data |
| | Billed : Litres / capita / day | | 165 | 166 | 159 | 166 | 173 | 153 | No data |
| | Billed : m³ / household / month | | 18 | 18 | 18 | 19 | 19 | 17 | No data |
| | % Population growth | | | 0.90% | 0.60% | 0.67% | 0.60% | 0.36% | |
| | % Water demand growth | | | 3.33% | 6.10% | 7.62% | 5.02% | -7.31% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS StatsSA NFC | DWA NIS RPMS | |



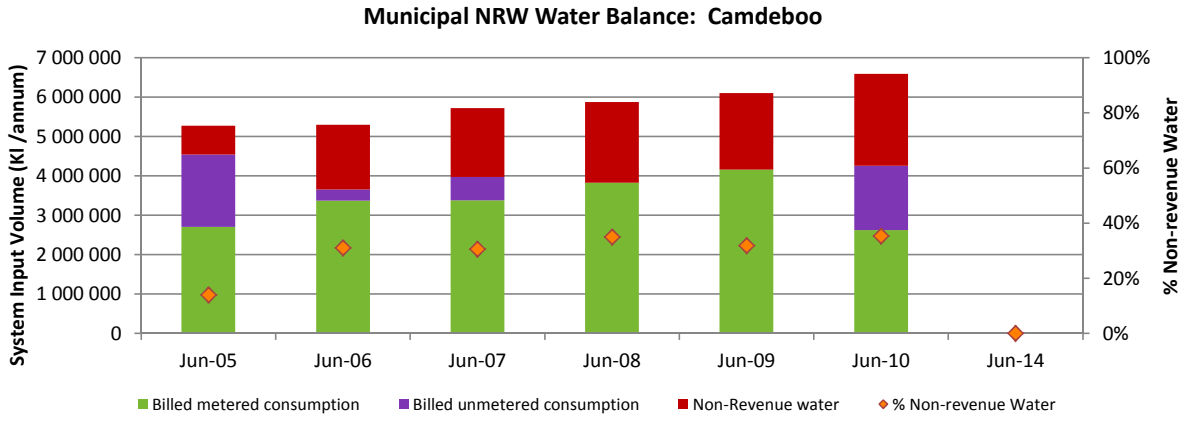

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC10 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 389 607 | 392 687 | 395 045 | 397 680 | 400 066 | 395 931 | 0 |
| | Households | | 105 536 | 106 366 | 107 003 | 107 720 | 108 366 | 107 214 | 0 |
| | Connections - metered | | 93 205 | 93 942 | 94 506 | 95 136 | 98 325 | 97 375 | 0 |
| | Connections - Unmetered | | 11 531 | 11 622 | 11 691 | 11 770 | 16 700 | 16 456 | 0 |
| | Length of mains (km) | | 2 095 | 2 111 | 2 124 | 2 138 | 2 301 | 2 277 | 0 |
| | System input volume | kl/annum | 21 481 191 | 25 498 798 | 25 526 924 | 20 037 782 | 21 840 280 | 18 217 682 | 0 |
| | Billed metered consumption | kl/annum | 13 300 903 | 17 975 548 | 18 092 816 | 13 563 473 | 14 678 726 | 12 582 867 | 0 |
| | Billed unmetered consumption | kl/annum | 4 304 046 | 3 226 640 | 3 862 464 | 587 560 | 200 000 | 1 840 000 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 17 604 949 | 21 202 188 | 21 955 280 | 14 151 033 | 14 878 726 | 14 422 867 | 0 |
| | Non-Revenue water | kl/annum | 3 876 242 | 4 296 610 | 3 571 644 | 5 886 748 | 6 961 553 | 3 794 815 | 0 |
| | Water Losses | kl/annum | 3 876 242 | 4 296 610 | 3 571 644 | 5 886 748 | 6 961 553 | 3 794 815 | 0 |
| | % Non-revenue water | | 18.0% | 16.9% | 14.0% | 29.4% | 31.9% | 20.8% | No data |
| | % Water Losses | | 18.0% | 16.9% | 14.0% | 29.4% | 31.9% | 20.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 151 | 178 | 177 | 138 | 150 | 126 | No data |
| | Input: m³ / household / month | | 17 | 20 | 20 | 16 | 17 | 14 | No data |
| | Billed : Litres / capita / day | | 124 | 148 | 152 | 97 | 102 | 100 | No data |
| | Billed : m³ / household / month | | 14 | 17 | 17 | 11 | 11 | 11 | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | -1.03% | |
| | % Water demand growth | | | 18.70% | 0.11% | -21.50% | 9.00% | -16.59% | |
| Source of information | | | | | | | | | |




Comments

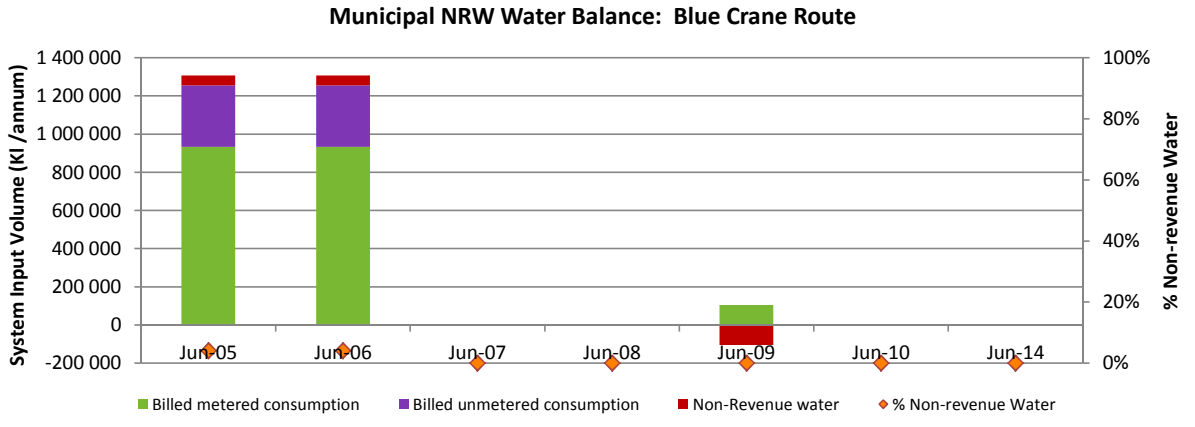
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC101 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Camdeboo | | | | | | | | B3 |
| Settlements | GRAAFF-REINET, KROONVALE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 44 630 | 44 981 | 45 251 | 45 554 | 45 828 | 45 912 | |
| | Households | | 10 908 | 10 993 | 11 059 | 11 132 | 11 199 | 11 219 | |
| | Connections - metered | | ~~10 374~~ | ~~10 456~~ | ~~10 519~~ | 10 589 | ~~10 653~~ | ~~10 672~~ | |
| | Connections - Unmetered | | ~~598~~ | ~~602~~ | ~~606~~ | 610 | ~~614~~ | ~~615~~ | |
| | Length of mains (km) | | ~~219~~ | ~~221~~ | ~~222~~ | ~~224~~ | ~~225~~ | ~~226~~ | |
| | System input volume | kl/annum | 5 274 057 | 5 301 757 | 5 719 900 | ~~5 878 358~~ | ~~6 101 280~~ | 6 590 000 | |
| | Billed metered consumption | kl/annum | 2 705 000 | 3 370 500 | 3 377 910 | ~~3 824 968~~ | ~~4 161 423~~ | 2 620 000 | |
| | Billed unmetered consumption | kl/annum | 1 836 227 | 284 000 | 594 504 | | | 1 640 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 541 227 | 3 654 500 | 3 972 414 | 3 824 968 | 4 161 423 | 4 260 000 | 0 |
| | Non-Revenue water | kl/annum | 732 830 | 1 647 257 | 1 747 486 | 2 053 390 | 1 939 856 | 2 330 000 | 0 |
| | Water Losses | kl/annum | 732 830 | 1 647 257 | 1 747 486 | 2 053 390 | 1 939 856 | 2 330 000 | 0 |
| | % Non-revenue water | | 13.9% | 31.1% | 30.6% | 34.9% | 31.8% | 35.4% | No data |
| | % Water Losses | | 13.9% | 31.1% | 30.6% | 34.9% | 31.8% | 35.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 324 | 323 | 346 | 354 | 365 | 393 | No data |
| | Input: m³ / household / month | | 40 | 40 | 43 | 44 | 45 | 49 | No data |
| | Billed : Litres / capita / day | | 279 | 223 | 241 | 230 | 249 | 254 | No data |
| | Billed : m³ / household / month | | 35 | 28 | 30 | 29 | 31 | 32 | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | 0.18% | |
| | % Water demand growth | | | 0.53% | 7.89% | 2.77% | 3.79% | 8.01% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | |




**Comments**

Fluctuating input volume?; NRW cannot be negative?

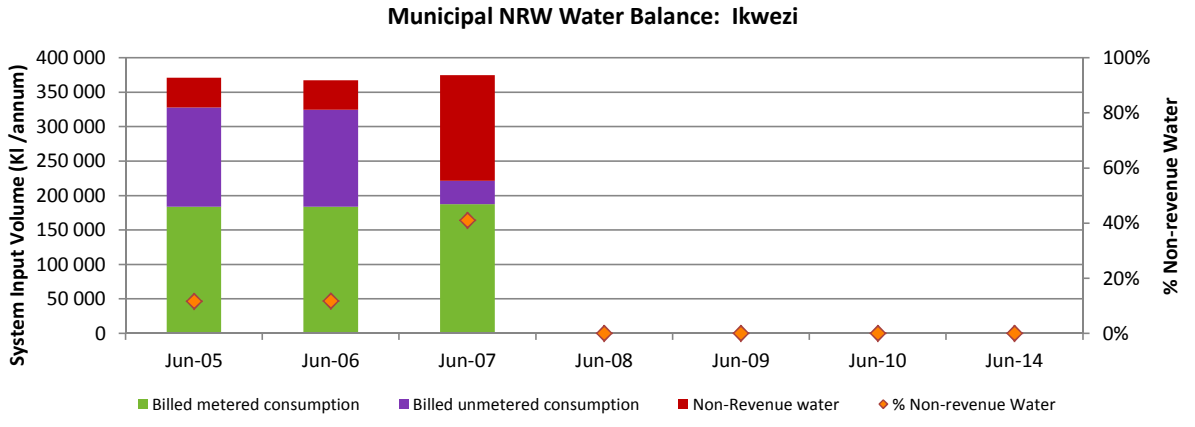
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC102 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Blue Crane Route | | | | | | | | B3 |
| Settlements | SOMERSET EAST | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 35 503 | 35 784 | 35 999 | 36 239 | 36 455 | 36 325 | |
| | Households | | 10 085 | 10 163 | 10 223 | 10 294 | 10 355 | 10 316 | |
| | Connections - metered | | ~~9 218~~ | ~~9 291~~ | ~~9 347~~ | 9 409 | ~~9 465~~ | ~~9 431~~ | |
| | Connections - Unmetered | | ~~619~~ | ~~624~~ | ~~628~~ | 632 | ~~636~~ | ~~633~~ | |
| | Length of mains (km) | | ~~197~~ | ~~198~~ | ~~199~~ | ~~201~~ | ~~202~~ | ~~201~~ | |
| | System input volume | kl/annum | 1 308 034 | 1 308 034 | 0 | | | | |
| | Billed metered consumption | kl/annum | 933 215 | 933 215 | 0 | | ~~104 524~~ | | |
| | Billed unmetered consumption | kl/annum | 321 192 | 321 192 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 254 407 | 1 254 407 | 0 | 0 | 104 524 | 0 | 0 |
| | Non-Revenue water | kl/annum | 53 627 | 53 627 | 0 | 0 | -104 524 | 0 | 0 |
| | Water Losses | kl/annum | 53 627 | 53 627 | 0 | 0 | -104 524 | 0 | 0 |
| | % Non-revenue water | | 4.1% | 4.1% | No data | No data | No data | No data | No data |
| | % Water Losses | | 4.1% | 4.1% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 101 | 100 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 11 | 11 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 97 | 96 | No data | No data | 8 | No data | No data |
| | Billed : m³ / household / month | | 10 | 10 | No data | No data | 1 | No data | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | -0.36% | |
| | % Water demand growth | | | 0.00% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Input volume consistent for 2005 and 2006? Data for 2009 seems incorrect?

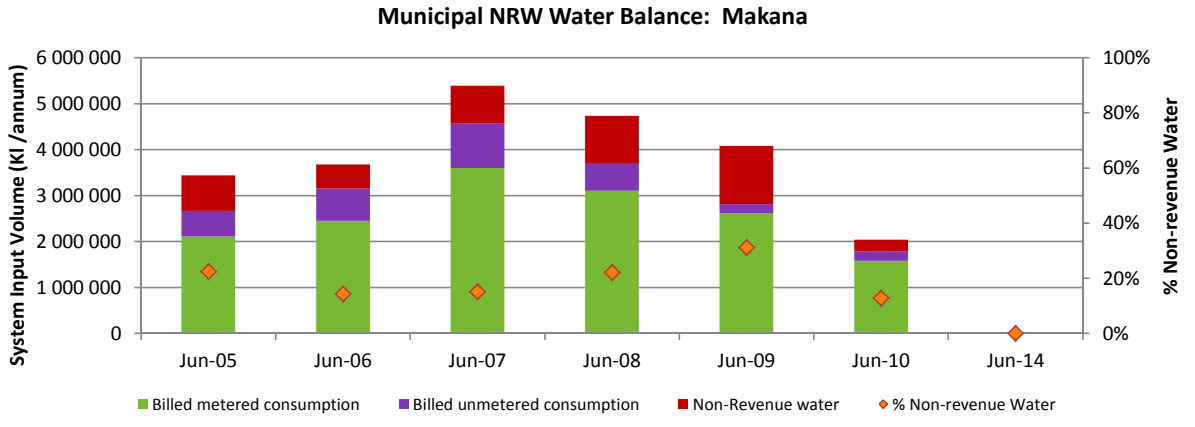
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC103 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Ikwezi | | | | | | | | B3 |
| Settlements | Jansenville | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 10 445 | 10 527 | 10 589 | 10 658 | 10 721 | 10 763 | |
| | Households | | 2 899 | 2 921 | 2 939 | 2 957 | 2 975 | 2 988 | |
| | Connections - metered | | ~~2 777~~ | ~~2 799~~ | ~~2 816~~ | 2 834 | ~~2 851~~ | ~~2 862~~ | |
| | Connections - Unmetered | | ~~137~~ | ~~138~~ | ~~139~~ | 140 | ~~141~~ | ~~141~~ | |
| | Length of mains (km) | | ~~58~~ | ~~59~~ | ~~59~~ | ~~59~~ | ~~60~~ | ~~60~~ | |
| | System input volume | kl/annum | 370 918 | 367 462 | 374 811 | | | | |
| | Billed metered consumption | kl/annum | 183 880 | 183 880 | 187 557 | | | | |
| | Billed unmetered consumption | kl/annum | 144 000 | 140 544 | 33 696 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 327 880 | 324 424 | 221 253 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 43 038 | 43 038 | 153 558 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 43 038 | 43 038 | 153 558 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 11.6% | 11.7% | 41.0% | No data | No data | No data | No data |
| | % Water Losses | | 11.6% | 11.7% | 41.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 97 | 96 | 97 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 11 | 10 | 11 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 86 | 84 | 57 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 9 | 9 | 6 | No data | No data | No data | No data |
| | % Population growth | | | 0.79% | 0.59% | 0.65% | 0.59% | 0.39% | |
| | % Water demand growth | | | -0.93% | 2.00% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

Average consumption seems low?; Fluctuating NRW?

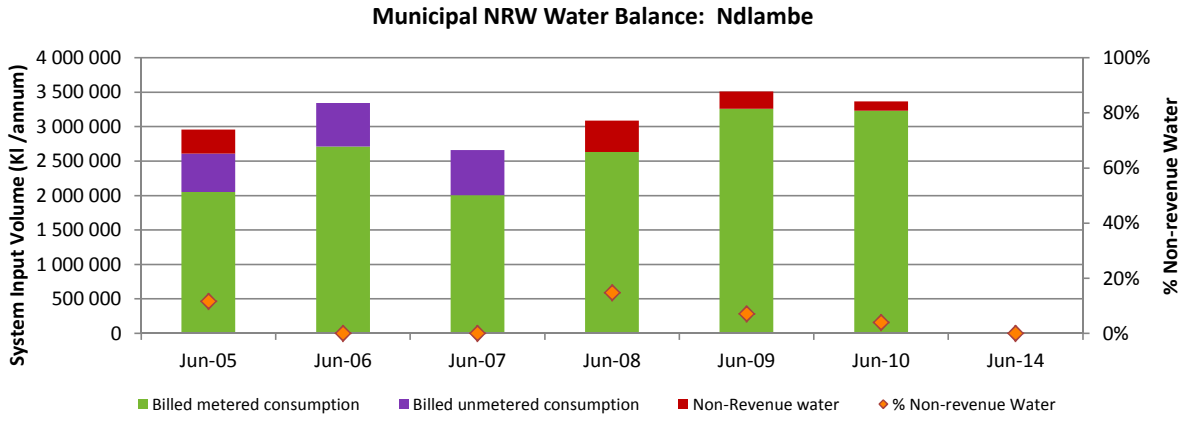
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC104 | | | | | | | No |
| District Municipality | | Cacadu | | | | | | | Category |
| Municipality | | Makana | | | | | | | B2 |
| Settlements | | GRAHAMSTOWN, RIEBEECK EAST | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 74 833 | 75 426 | 75 878 | 76 384 | 76 842 | 76 841 | |
| | Households | | 18 775 | 18 923 | 19 037 | 19 164 | 19 281 | 19 281 | |
| | Connections - metered | | ~~16 874~~ | ~~17 008~~ | ~~17 110~~ | 17 224 | 20 300 | 20 326 | |
| | Connections - Unmetered | | ~~1 992~~ | ~~2 007~~ | ~~2 020~~ | 2 033 | ~~2 045~~ | ~~2 045~~ | |
| | Length of mains (km) | | ~~377~~ | ~~380~~ | ~~383~~ | ~~385~~ | ~~447~~ | ~~447~~ | |
| | System input volume | kl/annum | 3 437 034 | 3 679 472 | 5 389 320 | ~~4 734 660~~ | 4 080 000 | 2 040 000 | |
| | Billed metered consumption | kl/annum | 2 110 125 | 2 446 962 | 3 598 474 | ~~3 104 237~~ | 2 610 000 | 1 580 000 | |
| | Billed unmetered consumption | kl/annum | 554 256 | 707 400 | 975 120 | ~~587 560~~ | 200 000 | 200 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 664 381 | 3 154 362 | 4 573 594 | 3 691 797 | 2 810 000 | 1 780 000 | 0 |
| | Non-Revenue water | kl/annum | 772 653 | 525 110 | 815 726 | 1 042 863 | 1 270 000 | 260 000 | 0 |
| | Water Losses | kl/annum | 772 653 | 525 110 | 815 726 | 1 042 863 | 1 270 000 | 260 000 | 0 |
| | % Non-revenue water | | 22.5% | 14.3% | 15.1% | 22.0% | 31.1% | 12.7% | No data |
| | % Water Losses | | 22.5% | 14.3% | 15.1% | 22.0% | 31.1% | 12.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 126 | 134 | 195 | 170 | 145 | 73 | No data |
| | Input: m³ / household / month | | 15 | 16 | 24 | 21 | 18 | 9 | No data |
| | Billed : Litres / capita / day | | 98 | 115 | 165 | 132 | 100 | 63 | No data |
| | Billed : m³ / household / month | | 12 | 14 | 20 | 16 | 12 | 8 | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | 0.00% | |
| | % Water demand growth | | | 7.05% | 46.47% | -12.15% | -13.83% | -50.00% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |




**Comments**

Fluctuating input volume? NRW for 2009 very high?

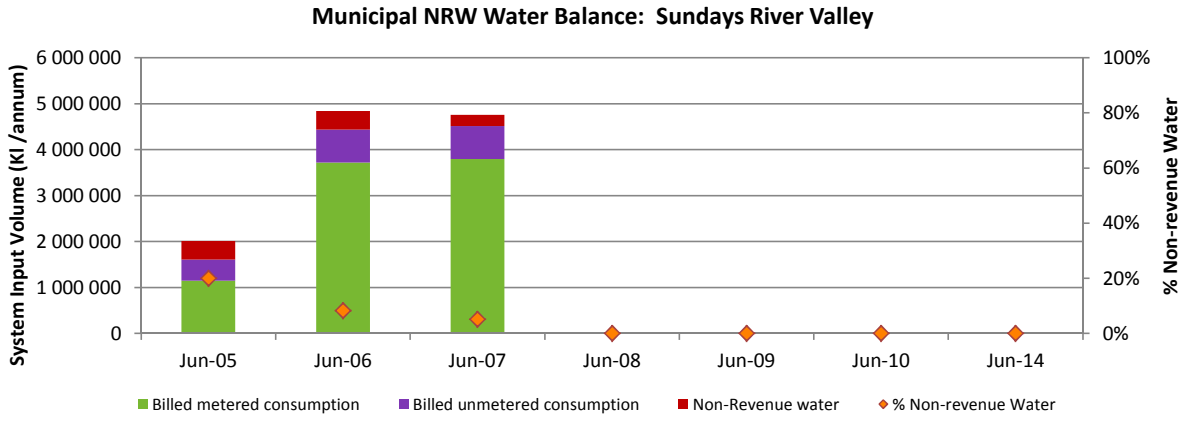
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC105 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Ndlambe | | | | | | | | B3 |
| Settlements | PORT ALFRED | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 57 804 | 58 261 | 58 612 | 59 005 | 59 361 | 58 571 | |
| | Households | | 17 027 | 17 158 | 17 261 | 17 379 | 17 484 | 17 251 | |
| | Connections - metered | | ~~14 080~~ | ~~14 192~~ | ~~14 277~~ | 14 373 | ~~14 460~~ | ~~14 267~~ | |
| | Connections - Unmetered | | ~~2 982~~ | ~~3 005~~ | ~~3 023~~ | 3 044 | ~~3 062~~ | ~~3 022~~ | |
| | Length of mains (km) | | ~~341~~ | ~~344~~ | ~~346~~ | ~~348~~ | ~~350~~ | ~~346~~ | |
| | System input volume | kl/annum | 2 956 500 | 3 342 892 | 2 661 314 | ~~3 086 534~~ | 3 511 753 | ~~3 368 070~~ | |
| | Billed metered consumption | kl/annum | 2 052 351 | 2 712 964 | 2 004 098 | ~~2 632 706~~ | 3 261 314 | ~~3 233 899~~ | |
| | Billed unmetered consumption | kl/annum | 559 224 | 629 928 | 657 216 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 611 575 | 3 342 892 | 2 661 314 | 2 632 706 | 3 261 314 | 3 233 899 | 0 |
| | Non-Revenue water | kl/annum | 344 925 | 0 | 0 | 453 828 | 250 439 | 134 170 | 0 |
| | Water Losses | kl/annum | 344 925 | 0 | 0 | 453 828 | 250 439 | 134 170 | 0 |
| | % Non-revenue water | | 11.7% | Check data | Check data | 14.7% | 7.1% | 4.0% | No data |
| | % Water Losses | | 11.7% | No data | No data | 14.7% | 7.1% | 4.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 140 | 157 | 124 | 143 | 162 | 158 | No data |
| | Input: m³ / household / month | | 14 | 16 | 13 | 15 | 17 | 16 | No data |
| | Billed : Litres / capita / day | | 124 | 157 | 124 | 122 | 151 | 151 | No data |
| | Billed : m³ / household / month | | 13 | 16 | 13 | 13 | 16 | 16 | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | -1.33% | |
| | % Water demand growth | | | 13.07% | -20.39% | 15.98% | 13.78% | -4.09% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

NRW cannot be zero for 2006 and 2007? Input volume for 2009 incorrect?

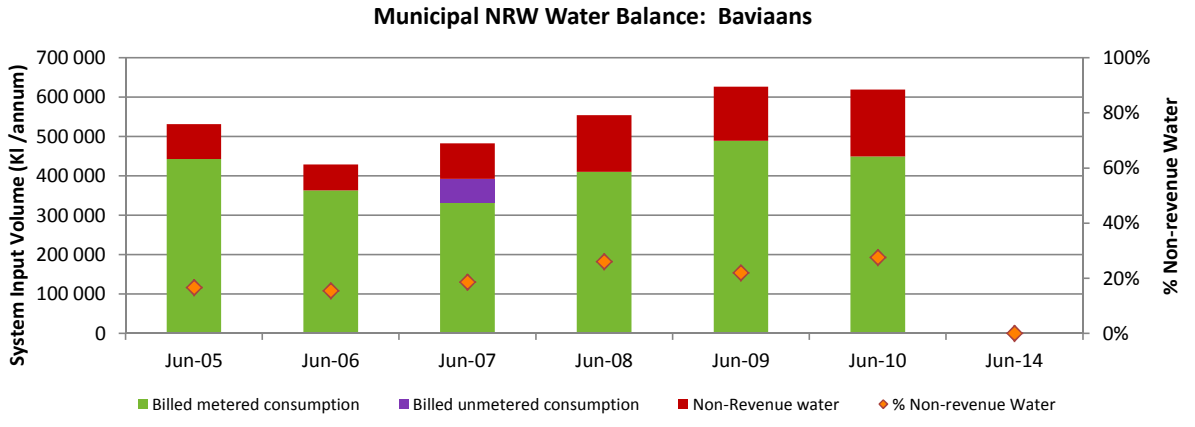
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC106 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Sundays River Valley | | | | | | | | B3 |
| Settlements | Kirkwood | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 41 614 | 41 943 | 42 196 | 42 478 | 42 732 | 41 664 | |
| | Households | | 10 527 | 10 611 | 10 675 | 10 748 | 10 812 | 10 543 | |
| | Connections - metered | | ~~8 490~~ | ~~8 557~~ | ~~8 608~~ | 8 666 | ~~8 718~~ | ~~8 500~~ | |
| | Connections - Unmetered | | ~~1 068~~ | ~~1 076~~ | ~~1 083~~ | 1 090 | ~~1 096~~ | ~~1 069~~ | |
| | Length of mains (km) | | ~~191~~ | ~~193~~ | ~~194~~ | ~~195~~ | ~~196~~ | ~~191~~ | |
| | System input volume | kl/annum | 2 012 020 | 4 839 000 | 4 759 098 | | | | |
| | Billed metered consumption | kl/annum | 1 146 349 | 3 721 304 | 3 795 730 | | | | |
| | Billed unmetered consumption | kl/annum | 463 267 | 717 696 | 717 696 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 609 616 | 4 439 000 | 4 513 426 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 402 404 | 400 000 | 245 672 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 402 404 | 400 000 | 245 672 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 20.0% | 8.3% | 5.2% | No data | No data | No data | No data |
| | % Water Losses | | 20.0% | 8.3% | 5.2% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 132 | 316 | 309 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 16 | 38 | 37 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 106 | 290 | 293 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 13 | 35 | 35 | No data | No data | No data | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.67% | 0.60% | -2.50% | |
| | % Water demand growth | | | 140.50% | -1.65% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

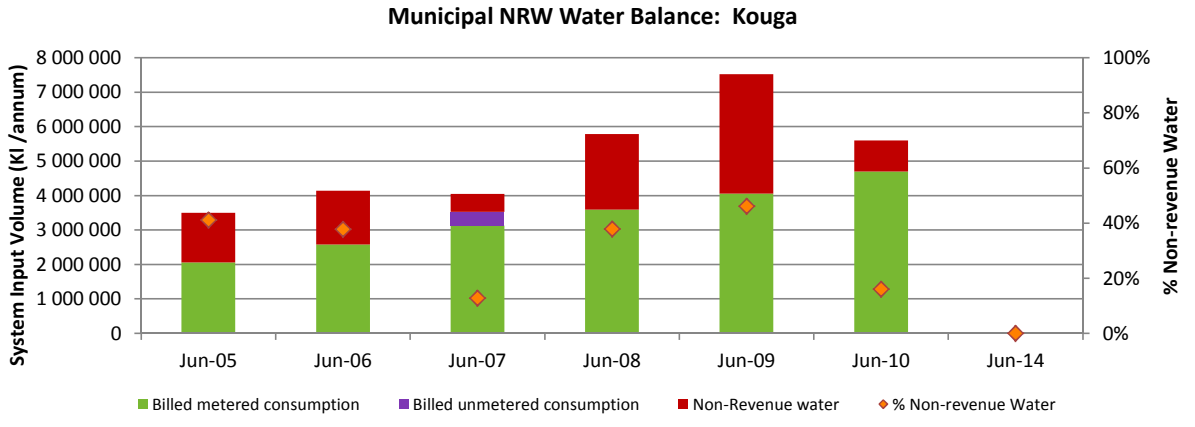
2005 Input volume seems low?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC107 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Baviaans | | | | | | | | B3 |
| Settlements | Willowmore | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 15 546 | 15 669 | 15 762 | 15 866 | 15 960 | 15 550 | |
| | Households | | 4 134 | 4 168 | 4 192 | 4 219 | 4 243 | 4 136 | |
| | Connections - metered | | ~~3 870~~ | ~~3 901~~ | ~~3 924~~ | 3 950 | ~~3 973~~ | ~~3 871~~ | |
| | Connections - Unmetered | | ~~288~~ | ~~290~~ | ~~292~~ | 294 | ~~296~~ | ~~288~~ | |
| | Length of mains (km) | | ~~83~~ | ~~84~~ | ~~84~~ | ~~85~~ | ~~85~~ | ~~83~~ | |
| | System input volume | kl/annum | 531 260 | 429 280 | 482 433 | ~~554 524~~ | 626 614 | ~~619 612~~ | |
| | Billed metered consumption | kl/annum | 442 717 | 362 962 | 331 119 | ~~409 999~~ | 488 879 | ~~448 967~~ | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 61 416 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 442 717 | 362 962 | 392 535 | 409 999 | 488 879 | 448 967 | 0 |
| | Non-Revenue water | kl/annum | 88 543 | 66 318 | 89 898 | 144 525 | 137 735 | 170 645 | 0 |
| | Water Losses | kl/annum | 88 543 | 66 318 | 89 898 | 144 525 | 137 735 | 170 645 | 0 |
| | % Non-revenue water | | 16.7% | 15.4% | 18.6% | 26.1% | 22.0% | 27.5% | No data |
| | % Water Losses | | 16.7% | 15.4% | 18.6% | 26.1% | 22.0% | 27.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 94 | 75 | 84 | 96 | 108 | 109 | No data |
| | Input: m³ / household / month | | 11 | 9 | 10 | 11 | 12 | 12 | No data |
| | Billed : Litres / capita / day | | 78 | 63 | 68 | 71 | 84 | 79 | No data |
| | Billed : m³ / household / month | | 9 | 7 | 8 | 8 | 10 | 9 | No data |
| | % Population growth | | | 0.79% | 0.59% | 0.66% | 0.59% | -2.57% | |
| | % Water demand growth | | | -19.20% | 12.38% | 14.94% | 13.00% | -1.12% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

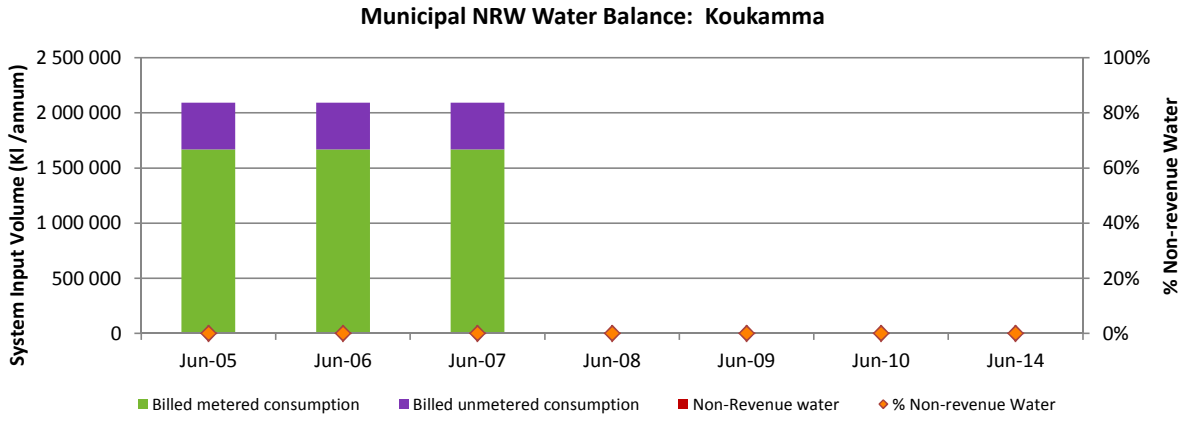
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC108 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Kouga | | | | | | | | B3 |
| Settlements | JEFFREY'S BAY, HUMANSDORP | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 73 177 | 73 757 | 74 199 | 74 689 | 75 137 | 73 587 | |
| | Households | | 20 948 | 21 114 | 21 241 | 21 380 | 21 509 | 21 064 | |
| | Connections - metered | | ~~18 369~~ | ~~18 515~~ | ~~18 626~~ | 18 749 | 18 507 | ~~18 125~~ | |
| | Connections - Unmetered | | ~~2 703~~ | ~~2 725~~ | ~~2 741~~ | 2 759 | 7 635 | ~~7 477~~ | |
| | Length of mains (km) | | ~~421~~ | ~~425~~ | ~~427~~ | ~~430~~ | ~~523~~ | ~~512~~ | |
| | System input volume | kl/annum | ~~3 498 100~~ | ~~4 137 633~~ | 4 046 780 | ~~5 783 707~~ | 7 520 633 | 5 600 000 | |
| | Billed metered consumption | kl/annum | ~~2 059 878~~ | ~~2 576 373~~ | 3 130 540 | ~~3 591 563~~ | 4 052 586 | 4 700 000 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 396 936 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 059 878 | 2 576 373 | 3 527 476 | 3 591 563 | 4 052 586 | 4 700 000 | 0 |
| | Non-Revenue water | kl/annum | 1 438 222 | 1 561 260 | 519 304 | 2 192 144 | 3 468 047 | 900 000 | 0 |
| | Water Losses | kl/annum | 1 438 222 | 1 561 260 | 519 304 | 2 192 144 | 3 468 047 | 900 000 | 0 |
| | % Non-revenue water | | 41.1% | 37.7% | 12.8% | 37.9% | 46.1% | 16.1% | No data |
| | % Water Losses | | 41.1% | 37.7% | 12.8% | 37.9% | 46.1% | 16.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 131 | 154 | 149 | 212 | 274 | 208 | No data |
| | Input: m³ / household / month | | 14 | 16 | 16 | 23 | 29 | 22 | No data |
| | Billed : Litres / capita / day | | 77 | 96 | 130 | 132 | 148 | 175 | No data |
| | Billed : m³ / household / month | | 8 | 10 | 14 | 14 | 16 | 19 | No data |
| | % Population growth | | | 0.79% | 0.60% | 0.66% | 0.60% | -2.06% | |
| | % Water demand growth | | | 18.28% | -2.20% | 42.92% | 30.03% | -25.54% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS Municipality | DWA NIS RPMS | |




**Comments**

Input volume cannot double from 2007 to 2009?

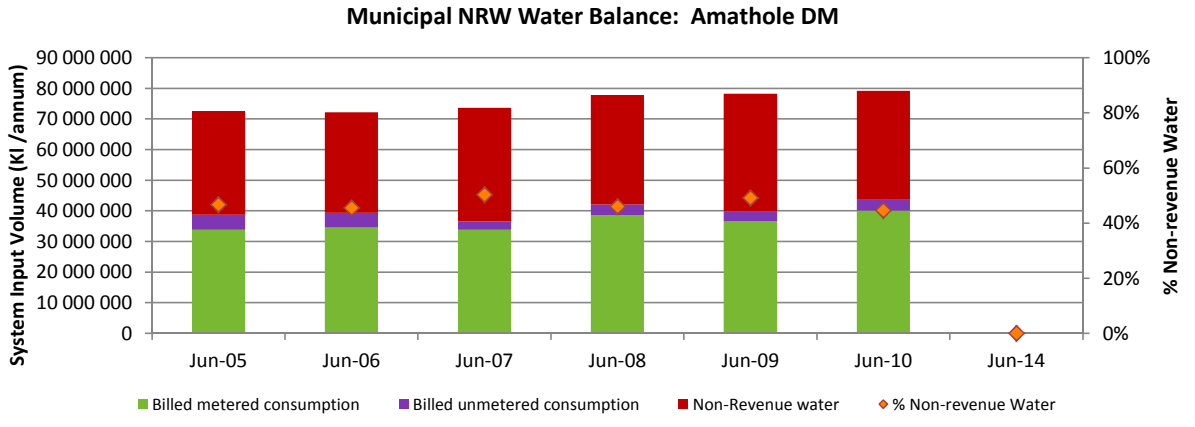
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC109 | | | | | | | | No |
| District Municipality | Cacadu | | | | | | | | Category |
| Municipality | Koukamma | | | | | | | | B3 |
| Settlements | Kareedouw | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 36 055 | 36 339 | 36 559 | 36 807 | 37 030 | 36 718 | |
| | Households | | 10 233 | 10 315 | 10 376 | 10 447 | 10 508 | 10 416 | |
| | Connections - metered | | ~~9 151~~ | ~~9 223~~ | ~~9 279~~ | 9 342 | ~~9 399~~ | ~~9 319~~ | |
| | Connections - Unmetered | | ~~1 144~~ | ~~1 153~~ | ~~1 160~~ | 1 168 | ~~1 175~~ | ~~1 165~~ | |
| | Length of mains (km) | | ~~206~~ | ~~208~~ | ~~209~~ | ~~210~~ | ~~211~~ | ~~210~~ | |
| | System input volume | kl/annum | 2 093 268 | 2 093 268 | 2 093 268 | | | | |
| | Billed metered consumption | kl/annum | 1 667 388 | 1 667 388 | 1 667 388 | | | | |
| | Billed unmetered consumption | kl/annum | 425 880 | 425 880 | 425 880 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 093 268 | 2 093 268 | 2 093 268 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | Check data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 159 | 158 | 157 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 17 | 17 | 17 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 159 | 158 | 157 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 17 | 17 | 17 | No data | No data | No data | No data |
| | % Population growth | | | 0.79% | 0.61% | 0.68% | 0.61% | -0.84% | |
| | % Water demand growth | | | 0.00% | 0.00% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

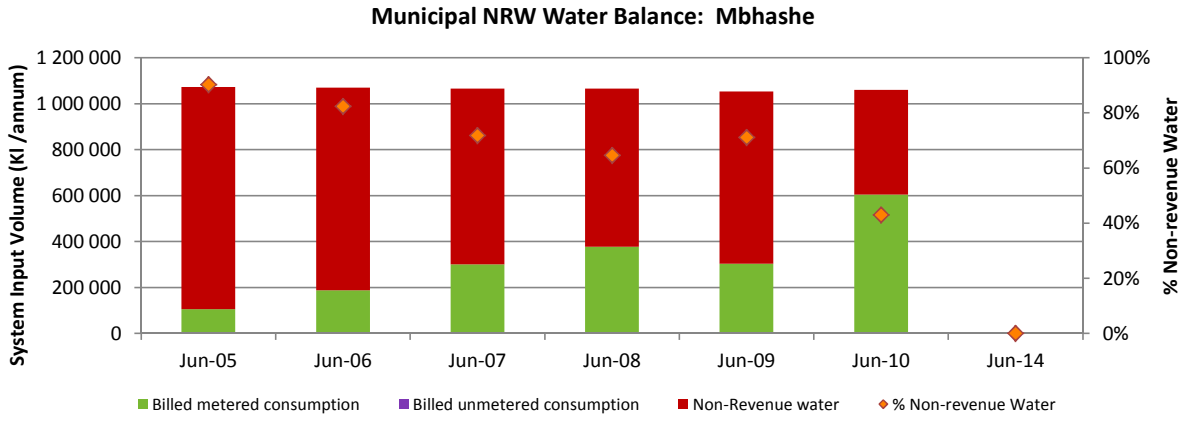
Consistent input volume for 2005, 2006 and 2007?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC12 | | | | | | | | Yes |
| District Municipality | Amathole DM | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 686 183 | 1 659 805 | 1 689 959 | 1 699 502 | 1 711 378 | 1 617 769 | 0 |
| | Households | | 442 951 | 437 225 | 444 137 | 446 840 | 449 786 | 424 989 | 0 |
| | Connections - metered | | 235 842 | 234 987 | 237 050 | 238 572 | 240 056 | 170 746 | 0 |
| | Connections - Unmetered | | 171 996 | 168 288 | 172 090 | 173 057 | 174 281 | 57 809 | 0 |
| | Length of mains (km) | | 8 157 | 8 065 | 8 183 | 8 233 | 8 287 | 1 927 668 | 0 |
| | System input volume | kl/annum | 72 607 003 | 72 206 209 | 73 656 757 | 77 820 639 | 78 217 726 | 79 193 991 | 0 |
| | Billed metered consumption | kl/annum | 33 850 725 | 34 577 266 | 33 779 841 | 38 674 994 | 36 538 560 | 40 095 776 | 0 |
| | Billed unmetered consumption | kl/annum | 4 871 969 | 4 749 446 | 2 812 619 | 3 383 563 | 3 285 205 | 3 779 400 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 38 722 694 | 39 326 712 | 36 592 460 | 42 058 557 | 39 823 765 | 43 875 176 | 0 |
| | Non-Revenue water | kl/annum | 33 884 309 | 32 879 497 | 37 064 297 | 35 762 082 | 38 393 961 | 35 318 815 | 0 |
| | Water Losses | kl/annum | 33 884 309 | 32 879 497 | 37 064 297 | 35 762 082 | 38 393 961 | 35 318 815 | 0 |
| | % Non-revenue water | | 46.7% | 45.5% | 50.3% | 46.0% | 49.1% | 44.6% | No data |
| | % Water Losses | | 46.7% | 45.5% | 50.3% | 46.0% | 49.1% | 44.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 118 | 119 | 119 | 125 | 125 | 134 | No data |
| | Input: m³ / household / month | | 14 | 14 | 14 | 15 | 14 | 16 | No data |
| | Billed : Litres / capita / day | | 63 | 65 | 59 | 68 | 64 | 74 | No data |
| | Billed : m³ / household / month | | 7 | 7 | 7 | 8 | 7 | 9 | No data |
| | % Population growth | | | -1.56% | 1.82% | 0.56% | 0.70% | -5.47% | |
| | % Water demand growth | | | -0.55% | 2.01% | 5.65% | 0.51% | 1.25% | |
| Source of information | | | | | | | | | |



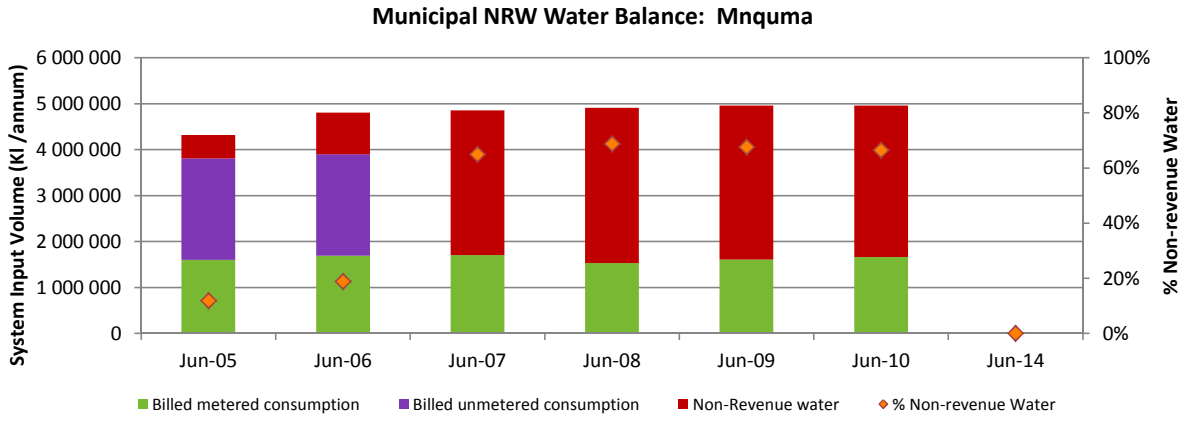

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC121 | | | | | | | | No |
| District Municipality | Amathole | | | | | | | | Category |
| Municipality | Mbhashe | | | | | | | | B4 |
| Settlements | Idutywa | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 260 130 | 233 760 | 255 361 | 255 361 | 258 587 | 256 885 | |
| | Households | | 56 486 | 50 761 | 55 459 | 55 459 | 56 161 | 55 780 | |
| | Connections - metered | | 8 429 | 7 574 | 8 274 | 8 274 | 8 379 | 805 | |
| | Connections - Unmetered | | 36 581 | 32 874 | 35 916 | 35 916 | 36 371 | 55 | |
| | Length of mains (km) | | 900 | 809 | 884 | 884 | 895 | 86 | |
| | System input volume | kl/annum | 1 072 809 | 1 069 583 | 1 066 420 | 1 066 420 | 1 053 116 | 1 060 093 | |
| | Billed metered consumption | kl/annum | 104 811 | 188 141 | 301 085 | 377 838 | 303 808 | 603 808 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 104 811 | 188 141 | 301 085 | 377 838 | 303 808 | 603 808 | 0 |
| | Non-Revenue water | kl/annum | 967 997 | 881 443 | 765 335 | 688 582 | 749 308 | 456 285 | 0 |
| | Water Losses | kl/annum | 967 997 | 881 443 | 765 335 | 688 582 | 749 308 | 456 285 | 0 |
| | % Non-revenue water | | 90.2% | 82.4% | 71.8% | 64.6% | 71.2% | 43.0% | No data |
| | % Water Losses | | 90.2% | 82.4% | 71.8% | 64.6% | 71.2% | 43.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 11 | 13 | 11 | 11 | 11 | 11 | No data |
| | Input: m³ / household / month | | 2 | 2 | 2 | 2 | 2 | 2 | No data |
| | Billed : Litres / capita / day | | 1 | 2 | 3 | 4 | 3 | 6 | No data |
| | Billed : m³ / household / month | | 0 | 0 | 0 | 1 | 0 | 1 | No data |
| | % Population growth | | | -10.14% | 9.24% | 0.00% | 1.26% | -0.66% | |
| | % Water demand growth | | | -0.30% | -0.30% | 0.00% | -1.25% | 0.66% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

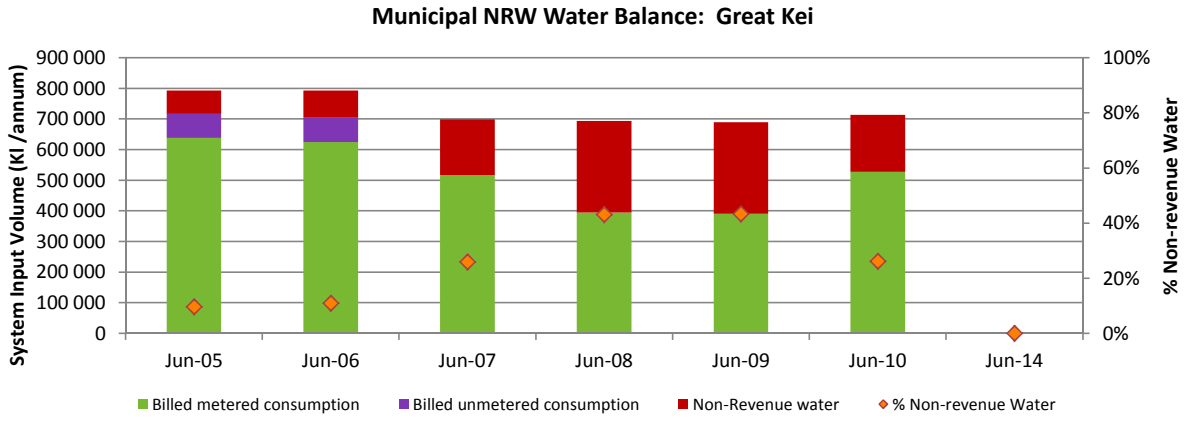
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC122 | | | | | | | | No |
| District Municipality | Amathole | | | | | | | | Category |
| Municipality | Mnquma | | | | | | | | B4 |
| Settlements | MSOBOMVU | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 289 105 | 289 098 | 290 844 | 292 791 | 294 552 | 267 443 | |
| | Households | | 70 631 | 70 630 | 71 033 | 71 531 | 71 937 | 65 324 | |
| | Connections - metered | | ~~21 243~~ | ~~21 243~~ | ~~21 371~~ | 21 514 | ~~21 643~~ | 1 470 | |
| | Connections - Unmetered | | ~~37 892~~ | ~~37 892~~ | ~~38 108~~ | 38 375 | ~~38 593~~ | 1 130 | |
| | Length of mains (km) | | ~~1 183~~ | ~~1 183~~ | ~~1 190~~ | ~~1 198~~ | ~~1 205~~ | 1 183 | |
| | System input volume | kl/annum | 4 320 000 | 4 803 108 | 4 855 502 | 4 907 896 | 4 960 289 | 4 960 589 | |
| | Billed metered consumption | kl/annum | 1 598 400 | 1 687 531 | 1 704 590 | 1 533 794 | 1 604 887 | 1 663 828 | |
| | Billed unmetered consumption | kl/annum | 2 208 960 | 2 208 960 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 807 360 | 3 896 491 | 1 704 590 | 1 533 794 | 1 604 887 | 1 663 828 | 0 |
| | Non-Revenue water | kl/annum | 512 640 | 906 617 | 3 150 912 | 3 374 102 | 3 355 402 | 3 296 761 | 0 |
| | Water Losses | kl/annum | 512 640 | 906 617 | 3 150 912 | 3 374 102 | 3 355 402 | 3 296 761 | 0 |
| | % Non-revenue water | | 11.9% | 18.9% | 64.9% | 68.7% | 67.6% | 66.5% | No data |
| | % Water Losses | | 11.9% | 18.9% | 64.9% | 68.7% | 67.6% | 66.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 41 | 46 | 46 | 46 | 46 | 51 | No data |
| | Input: m³ / household / month | | 5 | 6 | 6 | 6 | 6 | 6 | No data |
| | Billed : Litres / capita / day | | 36 | 37 | 16 | 14 | 15 | 17 | No data |
| | Billed : m³ / household / month | | 4 | 5 | 2 | 2 | 2 | 2 | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.67% | 0.60% | -9.20% | |
| | % Water demand growth | | | 11.18% | 1.09% | 1.08% | 1.07% | 0.01% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

Billed unmetered consumption very high?

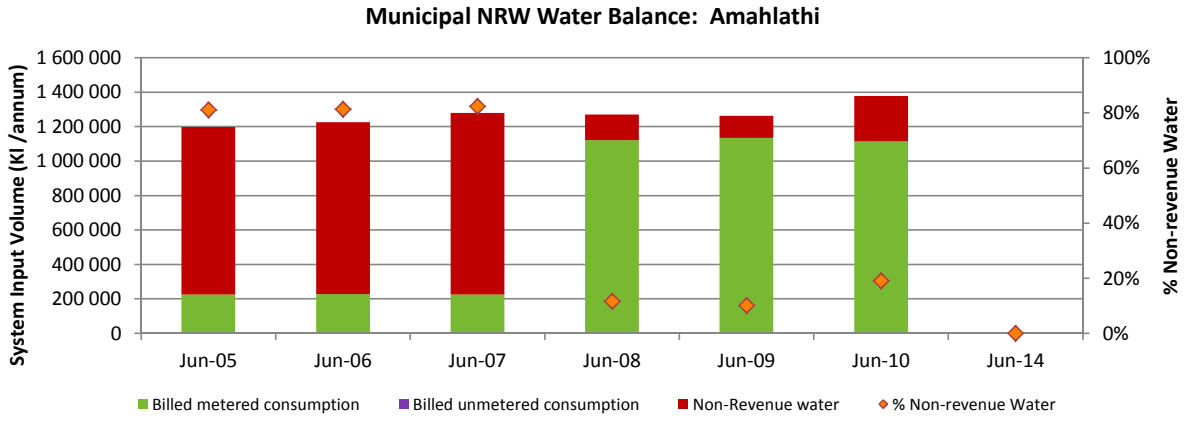
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC123 | | | | | | | No |
| District Municipality | | Amathole | | | | | | | Category |
| Municipality | | Great Kei | | | | | | | B3 |
| Settlements | | KOMGA | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 44 798 | 44 798 | 45 065 | 45 366 | 45 637 | 44 142 | |
| | Households | | 11 996 | 11 996 | 12 068 | 12 152 | 12 226 | 11 826 | |
| | Connections - metered | | ~~6 827~~ | ~~6 827~~ | ~~6 868~~ | 6 914 | ~~6 955~~ | 2 379 | |
| | Connections - Unmetered | | ~~5 243~~ | ~~5 243~~ | ~~5 274~~ | 5 311 | ~~5 343~~ | 324 | |
| | Length of mains (km) | | ~~241~~ | ~~241~~ | ~~243~~ | ~~245~~ | ~~246~~ | 556 251 | |
| | System input volume | kl/annum | 792 976 | 792 976 | ~~698 674~~ | ~~694 038~~ | ~~689 917~~ | 713 283 | |
| | Billed metered consumption | kl/annum | 638 117 | 624 300 | 517 268 | 394 546 | 390 590 | 527 000 | |
| | Billed unmetered consumption | kl/annum | 78 559 | 81 813 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 716 676 | 706 113 | 517 268 | 394 546 | 390 590 | 527 000 | 0 |
| | Non-Revenue water | kl/annum | 76 300 | 86 863 | 181 406 | 299 492 | 299 327 | 186 283 | 0 |
| | Water Losses | kl/annum | 76 300 | 86 863 | 181 406 | 299 492 | 299 327 | 186 283 | 0 |
| | % Non-revenue water | | 9.6% | 11.0% | 26.0% | 43.2% | 43.4% | 26.1% | No data |
| | % Water Losses | | 9.6% | 11.0% | 26.0% | 43.2% | 43.4% | 26.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 48 | 48 | 42 | 42 | 41 | 44 | No data |
| | Input: m³ / household / month | | 6 | 6 | 5 | 5 | 5 | 5 | No data |
| | Billed : Litres / capita / day | | 44 | 43 | 31 | 24 | 23 | 33 | No data |
| | Billed : m³ / household / month | | 5 | 5 | 4 | 3 | 3 | 4 | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.67% | 0.60% | -3.28% | |
| | % Water demand growth | | | 0.00% | -11.89% | -0.66% | -0.59% | 3.39% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

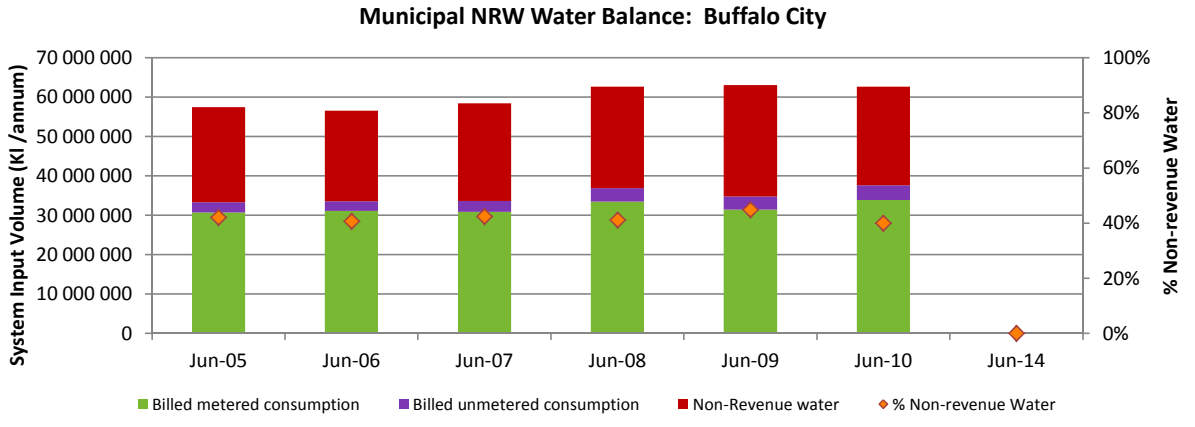
Consistent input volume for 2005 and 2006? Fluctuating NRW and very low for 2005?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC124 | | | | | | | | No |
| District Municipality | Amathole | | | | | | | | Category |
| Municipality | Amahlathi | | | | | | | | B3 |
| Settlements | STUTTERHEIM | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 139 985 | 139 984 | 140 820 | 141 743 | 142 591 | 130 782 | |
| | Households | | 36 457 | 36 457 | 36 660 | 36 920 | 37 129 | 34 055 | |
| | Connections - metered | | ~~13 980~~ | ~~13 980~~ | ~~14 064~~ | 14 156 | ~~14 241~~ | 3 242 | |
| | Connections - Unmetered | | ~~16 926~~ | ~~16 926~~ | ~~17 020~~ | 17 141 | ~~17 238~~ | 2 090 | |
| | Length of mains (km) | | ~~618~~ | ~~618~~ | ~~622~~ | ~~626~~ | ~~630~~ | 361 536 | |
| | System input volume | kl/annum | ~~1 197 330~~ | ~~1 225 993~~ | ~~1 279 216~~ | ~~1 270 886~~ | ~~1 263 328~~ | 1 377 401 | |
| | Billed metered consumption | kl/annum | ~~226 855~~ | ~~228 575~~ | 225 134 | 1 122 671 | 1 134 852 | 1 115 044 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 226 855 | 228 575 | 225 134 | 1 122 671 | 1 134 852 | 1 115 044 | 0 |
| | Non-Revenue water | kl/annum | 970 476 | 997 417 | 1 054 082 | 148 215 | 128 476 | 262 357 | 0 |
| | Water Losses | kl/annum | 970 476 | 997 417 | 1 054 082 | 148 215 | 128 476 | 262 357 | 0 |
| | % Non-revenue water | | 81.1% | 81.4% | 82.4% | 11.7% | 10.2% | 19.0% | No data |
| | % Water Losses | | 81.1% | 81.4% | 82.4% | 11.7% | 10.2% | 19.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 23 | 24 | 25 | 25 | 24 | 29 | No data |
| | Input: m³ / household / month | | 3 | 3 | 3 | 3 | 3 | 3 | No data |
| | Billed : Litres / capita / day | | 4 | 4 | 4 | 22 | 22 | 23 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 3 | 3 | 3 | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.66% | 0.60% | -8.28% | |
| | % Water demand growth | | | 2.39% | 4.34% | -0.65% | -0.59% | 9.03% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



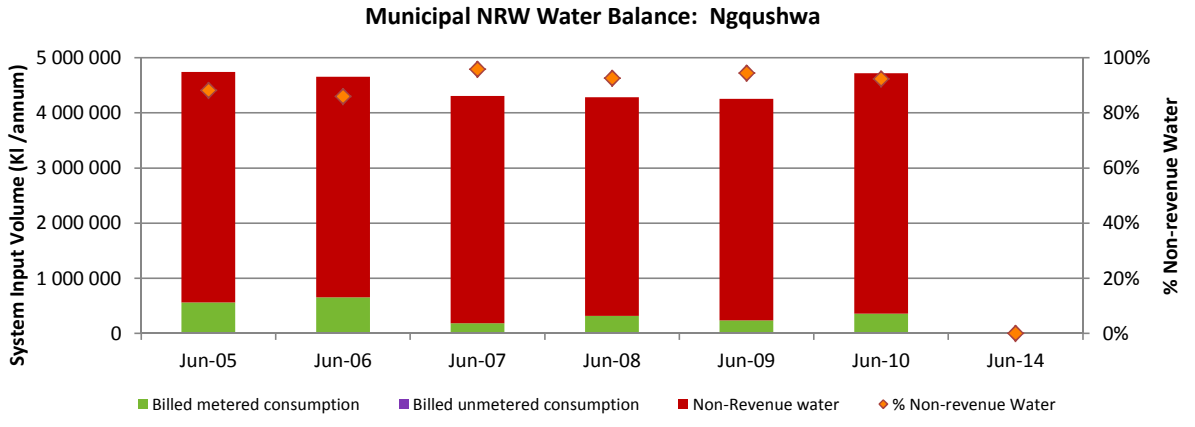

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC125 | | | | | | | Yes |
| District Municipality | | Amathole | | | | | | | Category |
| Municipality | | Buffalo City | | | | | | | B1 |
| Settlements | | BEACON, EAST LONDON, GONUBIE, KING WILLIAM'S TOWN | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 713 555 | 713 555 | 717 829 | 722 603 | 726 929 | 694 362 | |
| | Households | | 203 873 | 203 873 | 205 078 | 206 454 | 207 674 | 198 368 | |
| | Connections - metered | | ~~157 811~~ | ~~157 811~~ | ~~158 756~~ | 159 812 | ~~160 769~~ | ~~153 566~~ | |
| | Connections - Unmetered | | ~~43 077~~ | ~~43 077~~ | ~~43 331~~ | 43 622 | ~~43 880~~ | ~~41 913~~ | |
| | Length of mains (km) | | ~~4 018~~ | ~~4 018~~ | ~~4 042~~ | ~~4 069~~ | ~~4 093~~ | ~~3 910~~ | |
| | System input volume | kl/annum | 57 466 405 | 56 580 616 | 58 453 856 | 62 626 224 | 63 038 875 | 62 652 039 | |
| | Billed metered consumption | kl/annum | 30 719 002 | 31 127 020 | 30 847 454 | 33 485 690 | 31 448 300 | 33 841 267 | |
| | Billed unmetered consumption | kl/annum | 2 584 450 | 2 458 548 | 2 812 619 | 3 383 563 | 3 285 205 | 3 779 400 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 33 303 452 | 33 585 568 | 33 660 073 | 36 869 253 | 34 733 505 | 37 620 667 | 0 |
| | Non-Revenue water | kl/annum | 24 162 953 | 22 995 048 | 24 793 783 | 25 756 971 | 28 305 370 | 25 031 372 | 0 |
| | Water Losses | kl/annum | 24 162 953 | 22 995 048 | 24 793 783 | 25 756 971 | 28 305 370 | 25 031 372 | 0 |
| | % Non-revenue water | | 42.0% | 40.6% | 42.4% | 41.1% | 44.9% | 40.0% | No data |
| | % Water Losses | | 42.0% | 40.6% | 42.4% | 41.1% | 44.9% | 40.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 221 | 217 | 223 | 237 | 238 | 247 | No data |
| | Input: m³ / household / month | | 23 | 23 | 24 | 25 | 25 | 26 | No data |
| | Billed : Litres / capita / day | | 128 | 129 | 128 | 140 | 131 | 148 | No data |
| | Billed : m³ / household / month | | 14 | 14 | 14 | 15 | 14 | 16 | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.67% | 0.60% | -4.48% | |
| | % Water demand growth | | | -1.54% | 3.31% | 7.14% | 0.66% | -0.61% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

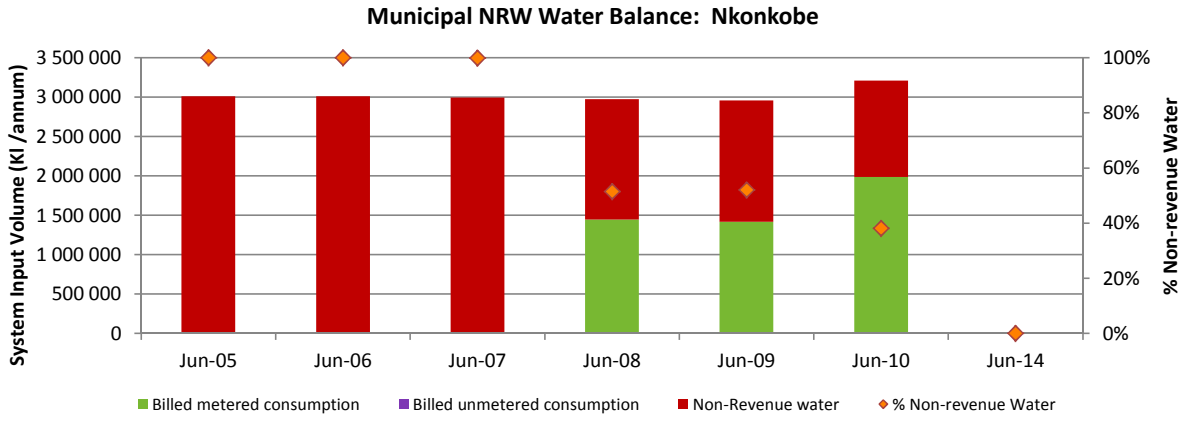
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Eastern Cape | | | | | | WSA |
| Municipal Code | | | EC126 | | | | | | No |
| District Municipality | | | Amathole | | | | | | Category |
| Municipality | | | Ngqushwa | | | | | | B4 |
| Settlements | | | Peddie | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 84 173 | 84 173 | 84 672 | 85 223 | 85 729 | 77 273 | |
| | Households | | 22 669 | 22 669 | 22 779 | 22 959 | 23 069 | 20 786 | |
| | Connections - metered | | ~~5 817~~ | ~~5 817~~ | ~~5 852~~ | 5 890 | ~~5 925~~ | 741 | |
| | Connections - Unmetered | | ~~16 972~~ | ~~16 972~~ | ~~17 054~~ | 17 189 | ~~17 271~~ | 726 | |
| | Length of mains (km) | | ~~456~~ | ~~456~~ | ~~458~~ | ~~462~~ | ~~464~~ | 572 960 | |
| | System input volume | kl/annum | 4 745 490 | 4 655 440 | ~~4 309 140~~ | ~~4 281 279~~ | ~~4 256 010~~ | 4 721 746 | |
| | Billed metered consumption | kl/annum | 563 540 | 655 199 | 180 765 | 316 077 | 237 888 | 359 829 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 563 540 | 655 199 | 180 765 | 316 077 | 237 888 | 359 829 | 0 |
| | Non-Revenue water | kl/annum | 4 181 950 | 4 000 241 | 4 128 375 | 3 965 202 | 4 018 122 | 4 361 917 | 0 |
| | Water Losses | kl/annum | 4 181 950 | 4 000 241 | 4 128 375 | 3 965 202 | 4 018 122 | 4 361 917 | 0 |
| | % Non-revenue water | | 88.1% | 85.9% | 95.8% | 92.6% | 94.4% | 92.4% | No data |
| | % Water Losses | | 88.1% | 85.9% | 95.8% | 92.6% | 94.4% | 92.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 154 | 152 | 139 | 138 | 136 | 167 | No data |
| | Input: m³ / household / month | | 17 | 17 | 16 | 16 | 15 | 19 | No data |
| | Billed : Litres / capita / day | | 18 | 21 | 6 | 10 | 8 | 13 | No data |
| | Billed : m³ / household / month | | 2 | 2 | 1 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.00% | 0.59% | 0.65% | 0.59% | -9.86% | |
| | % Water demand growth | | | -1.90% | -7.44% | -0.65% | -0.59% | 10.94% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

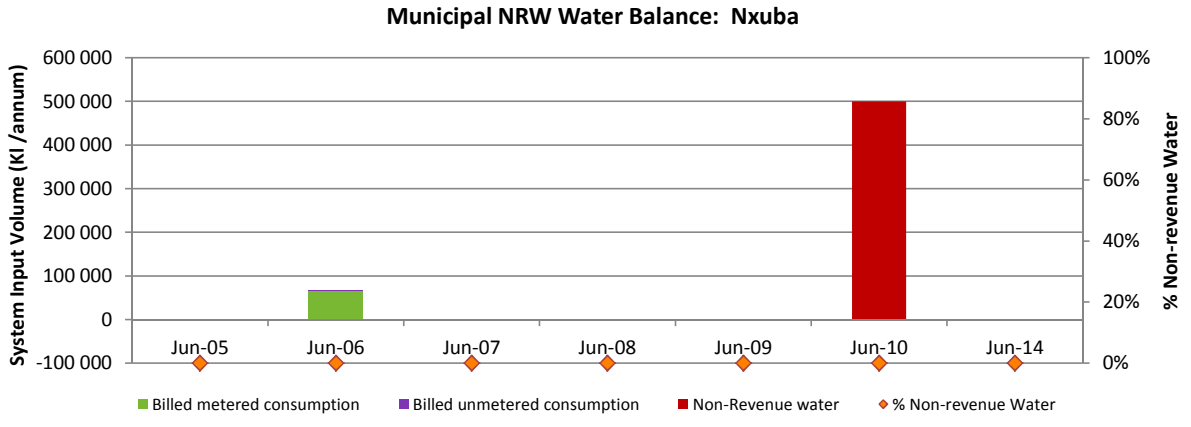
Fluctuating input volume? NRW cannot be negative for 2006?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC127 | | | | | | | | No |
| District Municipality | Amathole | | | | | | | | Category |
| Municipality | Nkonkobe | | | | | | | | B3 |
| Settlements | FORT BEAUFORT, ALICE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 129 420 | 129 420 | 130 200 | 131 078 | 131 863 | 121 475 | |
| | Households | | 33 913 | 33 913 | 34 092 | 34 351 | 34 533 | 31 816 | |
| | Connections - metered | | ~~15 085~~ | ~~15 085~~ | ~~15 176~~ | 15 278 | ~~15 369~~ | 4 546 | |
| | Connections - Unmetered | | ~~14 986~~ | ~~14 986~~ | ~~15 066~~ | 15 180 | ~~15 260~~ | 10 971 | |
| | Length of mains (km) | | ~~601~~ | ~~601~~ | ~~605~~ | ~~609~~ | ~~613~~ | 431 607 | |
| | System input volume | kl/annum | ~~3 011 993~~ | ~~3 011 993~~ | ~~2 993 949~~ | ~~2 973 895~~ | ~~2 956 191~~ | 3 208 991 | |
| | Billed metered consumption | kl/annum | 0 | 0 | 3 545 | 1 444 378 | 1 418 235 | 1 985 000 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 3 545 | 1 444 378 | 1 418 235 | 1 985 000 | 0 |
| | Non-Revenue water | kl/annum | 3 011 993 | 3 011 993 | 2 990 404 | 1 529 517 | 1 537 956 | 1 223 991 | 0 |
| | Water Losses | kl/annum | 3 011 993 | 3 011 993 | 2 990 404 | 1 529 517 | 1 537 956 | 1 223 991 | 0 |
| | % Non-revenue water | | 100.0% | 100.0% | 99.9% | 51.4% | 52.0% | 38.1% | No data |
| | % Water Losses | | 100.0% | 100.0% | 99.9% | 51.4% | 52.0% | 38.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 64 | 64 | 63 | 62 | 61 | 72 | No data |
| | Input: m³ / household / month | | 7 | 7 | 7 | 7 | 7 | 8 | No data |
| | Billed : Litres / capita / day | | 0 | 0 | 0 | 30 | 29 | 45 | No data |
| | Billed : m³ / household / month | | 0 | 0 | 0 | 4 | 3 | 5 | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.67% | 0.60% | -7.88% | |
| | % Water demand growth | | | 0.00% | -0.60% | -0.67% | -0.60% | 8.55% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

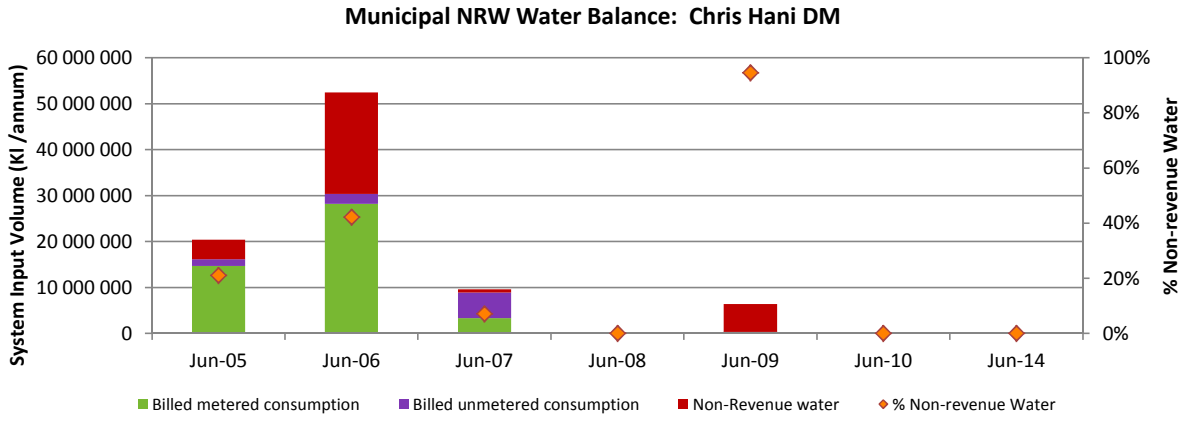
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC128 | | | | | | | | No |
| District Municipality | Amathole | | | | | | | | Category |
| Municipality | Nxuba | | | | | | | | B3 |
| Settlements | BEDFORD, ADELAIDE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 25 017 | 25 017 | 25 168 | 25 337 | 25 490 | 25 407 | |
| | Households | | 6 926 | 6 926 | 6 968 | 7 014 | 7 057 | 7 034 | |
| | Connections - metered | | ~~6 649~~ | ~~6 649~~ | ~~6 689~~ | 6 734 | ~~6 775~~ | 3 997 | |
| | Connections - Unmetered | | ~~319~~ | ~~319~~ | ~~321~~ | 323 | ~~325~~ | 600 | |
| | Length of mains (km) | | ~~139~~ | ~~139~~ | ~~140~~ | ~~141~~ | ~~142~~ | ~~134~~ | |
| | System input volume | kl/annum | | 66 500 | | | | 499 849 | |
| | Billed metered consumption | kl/annum | | 66 500 | | | | | |
| | Billed unmetered consumption | kl/annum | | 125 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 66 625 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | -125 | 0 | 0 | 0 | 499 849 | 0 |
| | Water Losses | kl/annum | 0 | -125 | 0 | 0 | 0 | 499 849 | 0 |
| | % Non-revenue water | | No data | Check data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | Check data | No data | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 7 | No data | No data | No data | 54 | No data |
| | Input: m³ / household / month | | No data | 1 | No data | No data | No data | 6 | No data |
| | Billed : Litres / capita / day | | No data | 7 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 1 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.00% | 0.60% | 0.67% | 0.60% | -0.33% | |
| | % Water demand growth | | | #DIV/0! | | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

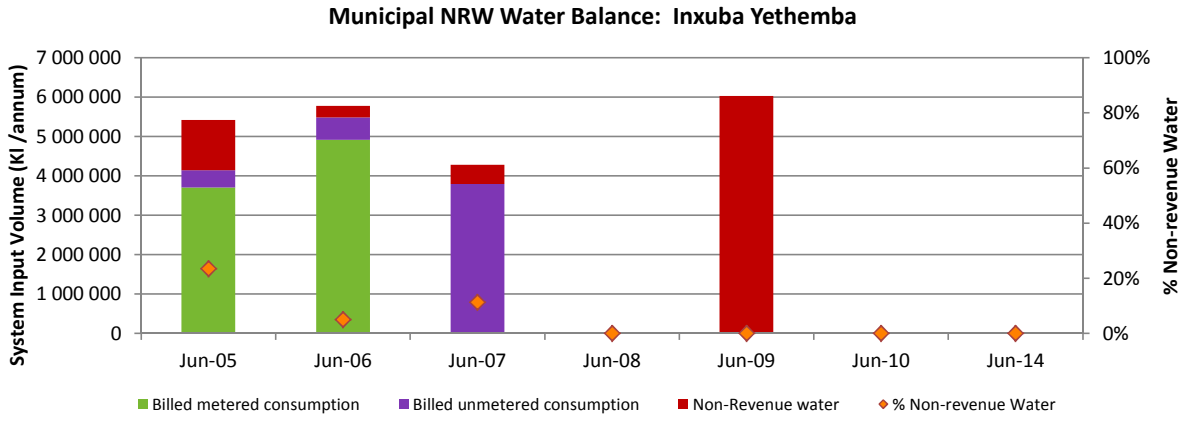
2006 input volume and billed metered consumption the same?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC13 | | | | | | | | Yes |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 815 133 | 811 409 | 816 279 | 821 745 | 826 668 | 761 383 | 0 |
| | Households | | 197 757 | 196 841 | 197 948 | 199 367 | 200 490 | 184 991 | 0 |
| | Connections - metered | | 90 987 | 90 569 | 91 113 | 91 721 | 92 270 | 87 016 | 0 |
| | Connections - Unmetered | | 87 793 | 87 387 | 87 870 | 88 510 | 89 001 | 80 671 | 0 |
| | Length of mains (km) | | 3 576 | 3 559 | 3 580 | 3 605 | 3 625 | 3 354 | 0 |
| | System input volume | kl/annum | 20 424 176 | 52 479 823 | 9 561 959 | 0 | 6 387 001 | 0 | 0 |
| | Billed metered consumption | kl/annum | 14 645 014 | 28 197 703 | 3 311 961 | 0 | 318 650 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 1 491 065 | 2 169 154 | 5 571 569 | 0 | 26 316 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 16 136 079 | 30 366 857 | 8 883 530 | 0 | 344 966 | 0 | 0 |
| | Non-Revenue water | kl/annum | 4 288 097 | 22 112 966 | 678 429 | 0 | 6 042 035 | 0 | 0 |
| | Water Losses | kl/annum | 4 288 097 | 22 112 966 | 678 429 | 0 | 6 042 035 | 0 | 0 |
| | % Non-revenue water | | 21.0% | 42.1% | 7.1% | No data | 94.6% | No data | No data |
| | % Water Losses | | 21.0% | 42.1% | 7.1% | No data | 94.6% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 69 | 177 | 32 | No data | 21 | No data | No data |
| | Input: m³ / household / month | | 9 | 22 | 4 | No data | 3 | No data | No data |
| | Billed : Litres / capita / day | | 54 | 103 | 30 | No data | 1 | No data | No data |
| | Billed : m³ / household / month | | 7 | 13 | 4 | No data | 0 | No data | No data |
| | % Population growth | | | -0.46% | 0.60% | 0.67% | 0.60% | -7.90% | |
| | % Water demand growth | | | 156.95% | -81.78% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

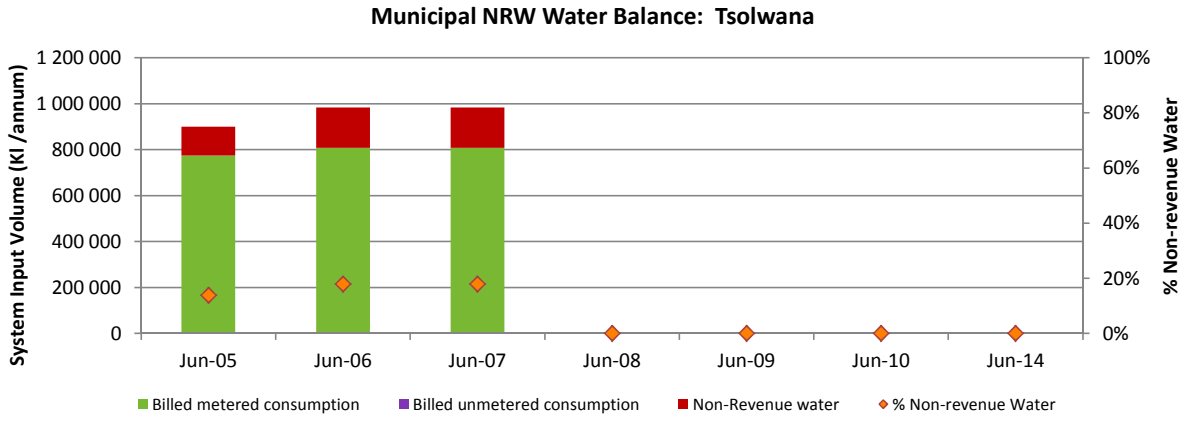
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC131 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Inxuba Yethemba | | | | | | | | B3 |
| Settlements | CRADOCK, LUSAKA, MIDDLEBURG | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 60 757 | 60 477 | 60 840 | 61 246 | 61 613 | 61 854 | |
| | Households | | 16 918 | 16 841 | 16 941 | 17 054 | 17 156 | 17 223 | |
| | Connections - metered | | ~~17 019~~ | ~~16 941~~ | ~~17 042~~ | 17 156 | ~~17 259~~ | ~~17 326~~ | |
| | Connections - Unmetered | | ~~0~~ | ~~0~~ | ~~0~~ | 0 | ~~0~~ | ~~0~~ | |
| | Length of mains (km) | | ~~340~~ | ~~339~~ | ~~341~~ | ~~343~~ | ~~345~~ | ~~347~~ | |
| | System input volume | kl/annum | 5 417 418 | 5 777 182 | 4 279 900 | | 6 027 781 | | |
| | Billed metered consumption | kl/annum | 3 702 509 | 4 916 481 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 442 773 | 571 680 | 3 797 608 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 145 282 | 5 488 161 | 3 797 608 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 272 136 | 289 021 | 482 292 | 0 | 6 027 781 | 0 | 0 |
| | Water Losses | kl/annum | 1 272 136 | 289 021 | 482 292 | 0 | 6 027 781 | 0 | 0 |
| | % Non-revenue water | | 23.5% | 5.0% | 11.3% | No data | No data | No data | No data |
| | % Water Losses | | 23.5% | 5.0% | 11.3% | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 244 | 262 | 193 | No data | 268 | No data | No data |
| | Input: m³ / household / month | | 27 | 29 | 21 | No data | 29 | No data | No data |
| | Billed : Litres / capita / day | | 187 | 249 | 171 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 20 | 27 | 19 | No data | No data | No data | No data |
| | % Population growth | | | -0.46% | 0.60% | 0.67% | 0.60% | 0.39% | |
| | % Water demand growth | | | 6.64% | -25.92% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

2007 Billed unmetered consumption very high? 2009 billed consumption?

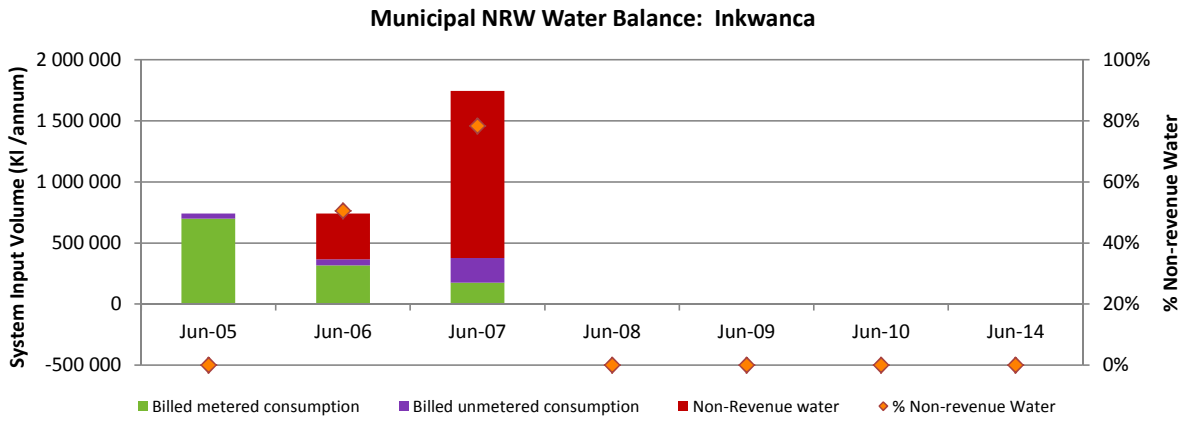
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC132 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Tsolwana | | | | | | | | B3 |
| Settlements | Tarkastad | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 32 745 | 32 594 | 32 786 | 32 999 | 33 193 | 30 094 | |
| | Households | | 8 269 | 8 232 | 8 281 | 8 334 | 8 383 | 7 603 | |
| | Connections - metered | | 4 946 | 4 923 | 4 952 | 4 984 | 5 013 | 4 545 | |
| | Connections - Unmetered | | 3 372 | 3 357 | 3 377 | 3 399 | 3 419 | 3 101 | |
| | Length of mains (km) | | 166 | 166 | 167 | 168 | 169 | 153 | |
| | System input volume | kl/annum | 899 471 | 983 406 | 983 406 | | | | |
| | Billed metered consumption | kl/annum | 775 084 | 807 412 | 807 412 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 775 084 | 807 412 | 807 412 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 124 387 | 175 994 | 175 994 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 124 387 | 175 994 | 175 994 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 13.8% | 17.9% | 17.9% | No data | No data | No data | No data |
| | % Water Losses | | 13.8% | 17.9% | 17.9% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 75 | 83 | 82 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 9 | 10 | 10 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 65 | 68 | 67 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 8 | 8 | 8 | No data | No data | No data | No data |
| | % Population growth | | | -0.46% | 0.59% | 0.65% | 0.59% | -9.34% | |
| | % Water demand growth | | | 9.33% | 0.00% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | | | |




**Comments**

Consistent values for 2006 and 2007?

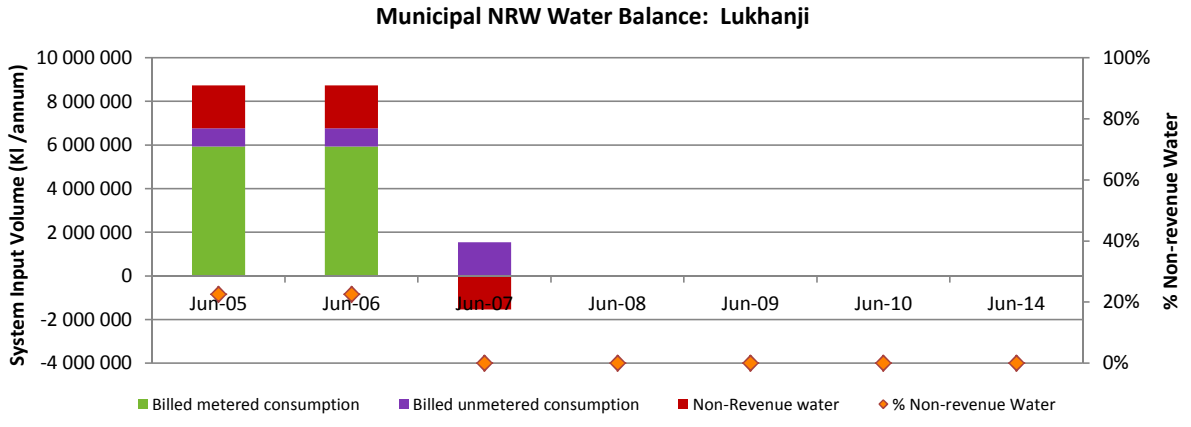
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC133 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Inkwanca | | | | | | | | B3 |
| Settlements | Molteno | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 20 398 | 20 303 | 20 424 | 20 559 | 20 682 | 20 003 | |
| | Households | | 5 700 | 5 673 | 5 706 | 5 744 | 5 777 | 5 587 | |
| | Connections - metered | | ~~5 715~~ | ~~5 688~~ | ~~5 722~~ | 5 760 | ~~5 794~~ | ~~5 604~~ | |
| | Connections - Unmetered | | ~~18~~ | ~~18~~ | ~~18~~ | 18 | ~~18~~ | ~~18~~ | |
| | Length of mains (km) | | ~~115~~ | ~~114~~ | ~~115~~ | ~~116~~ | ~~116~~ | ~~112~~ | |
| | System input volume | kl/annum | 741 397 | 741 398 | 1 743 945 | | | | |
| | Billed metered consumption | kl/annum | 697 953 | 315 302 | 173 899 | | | | |
| | Billed unmetered consumption | kl/annum | 43 445 | 51 562 | 203 760 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 741 398 | 366 864 | 377 659 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | -1 | 374 534 | 1 366 286 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | -1 | 374 534 | 1 366 286 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | 50.5% | 78.3% | No data | No data | No data | No data |
| | % Water Losses | | Check data | 50.5% | 78.3% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 100 | 100 | 234 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 11 | 11 | 25 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 100 | 50 | 51 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 11 | 5 | 6 | No data | No data | No data | No data |
| | % Population growth | | | -0.47% | 0.60% | 0.66% | 0.60% | -3.28% | |
| | % Water demand growth | | | 0.00% | 135.22% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |




**Comments**

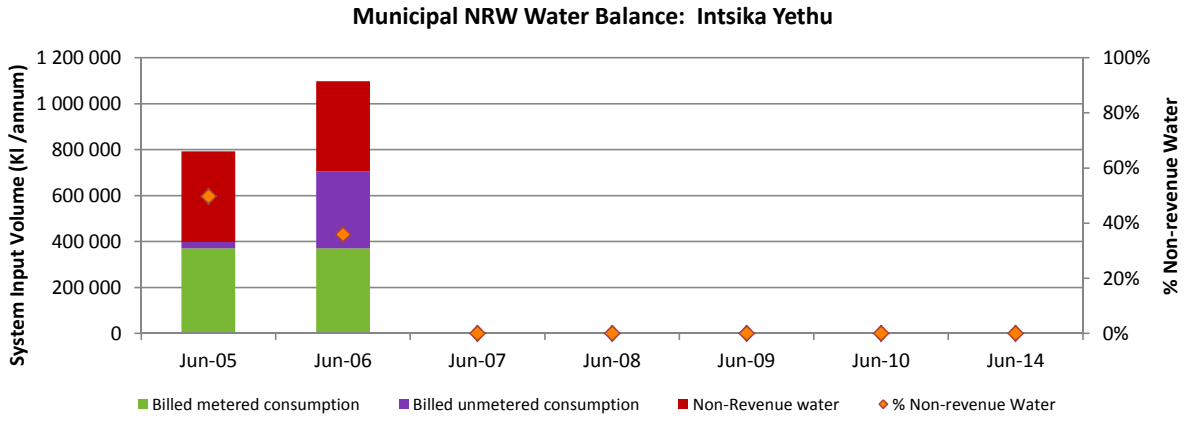
Fluctuating input volume? 2005 NRW cannot be negative?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC134 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Lukhanji | | | | | | | | B2 |
| Settlements | EZIBEWENI, QUEENSTOWN | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 185 846 | 184 997 | 186 109 | 187 352 | 188 475 | 177 410 | |
| | Households | | 46 803 | 46 586 | 46 856 | 47 185 | 47 457 | 44 667 | |
| | Connections - metered | | 36 219 | 36 053 | 36 270 | 36 512 | 36 731 | 34 574 | |
| | Connections - Unmetered | | 9 529 | 9 485 | 9 540 | 9 607 | 9 662 | 9 094 | |
| | Length of mains (km) | | 915 | 911 | 916 | 922 | 928 | 873 | |
| | System input volume | kl/annum | 8 736 475 | 8 736 475 | 0 | | | | |
| | Billed metered consumption | kl/annum | 5 932 067 | 5 932 067 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 836 928 | 836 928 | 1 540 080 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 6 768 995 | 6 768 995 | 1 540 080 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 967 480 | 1 967 480 | -1 540 080 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 1 967 480 | 1 967 480 | -1 540 080 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 22.5% | 22.5% | No data | No data | No data | No data | No data |
| | % Water Losses | | 22.5% | 22.5% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 129 | 129 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 16 | 16 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 100 | 100 | 23 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 12 | 12 | 3 | No data | No data | No data | No data |
| | % Population growth | | | -0.46% | 0.60% | 0.67% | 0.60% | -5.87% | |
| | % Water demand growth | | | 0.00% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |



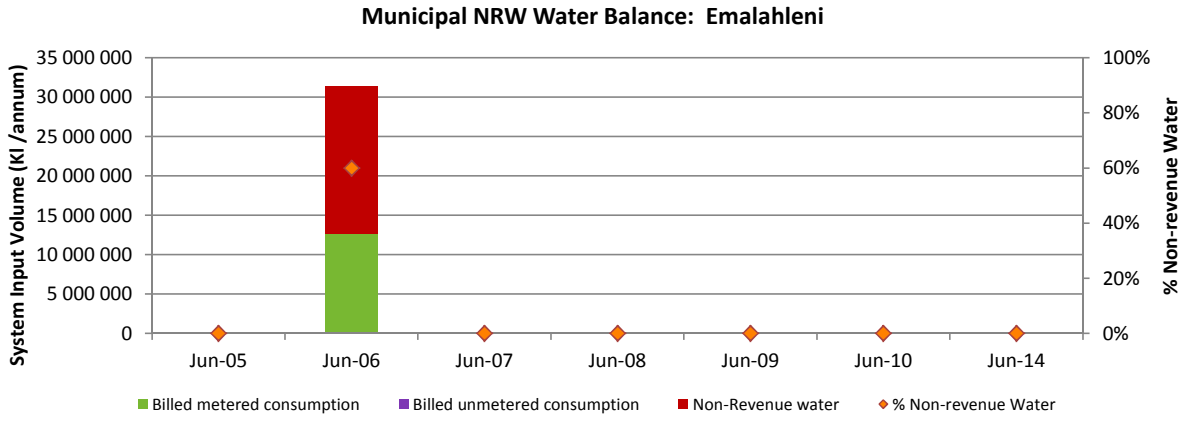

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC135 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Intsika Yethu | | | | | | | | B4 |
| Settlements | Cofimvaba | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 171 161 | 170 400 | 171 418 | 172 564 | 173 595 | 155 963 | |
| | Households | | 41 314 | 41 130 | 41 359 | 41 656 | 41 886 | 37 634 | |
| | Connections - metered | | ~~6 257~~ | ~~6 229~~ | ~~6 266~~ | 6 308 | ~~6 346~~ | ~~5 701~~ | |
| | Connections - Unmetered | | ~~28 809~~ | ~~28 680~~ | ~~28 840~~ | 29 047 | ~~29 207~~ | ~~26 242~~ | |
| | Length of mains (km) | | ~~701~~ | ~~698~~ | ~~702~~ | ~~707~~ | ~~711~~ | ~~639~~ | |
| | System input volume | kl/annum | 792 220 | 1 098 013 | 3 285 | | | | |
| | Billed metered consumption | kl/annum | 369 978 | 369 978 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 28 647 | 334 440 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 398 625 | 704 418 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 393 595 | 393 595 | 3 285 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 393 595 | 393 595 | 3 285 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 49.7% | 35.8% | No data | No data | No data | No data | No data |
| | % Water Losses | | 49.7% | 35.8% | 100.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 13 | 18 | 0 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 2 | 2 | 0 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 6 | 11 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 1 | 1 | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.44% | 0.60% | 0.67% | 0.60% | -10.16% | |
| | % Water demand growth | | | 38.60% | -99.70% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |



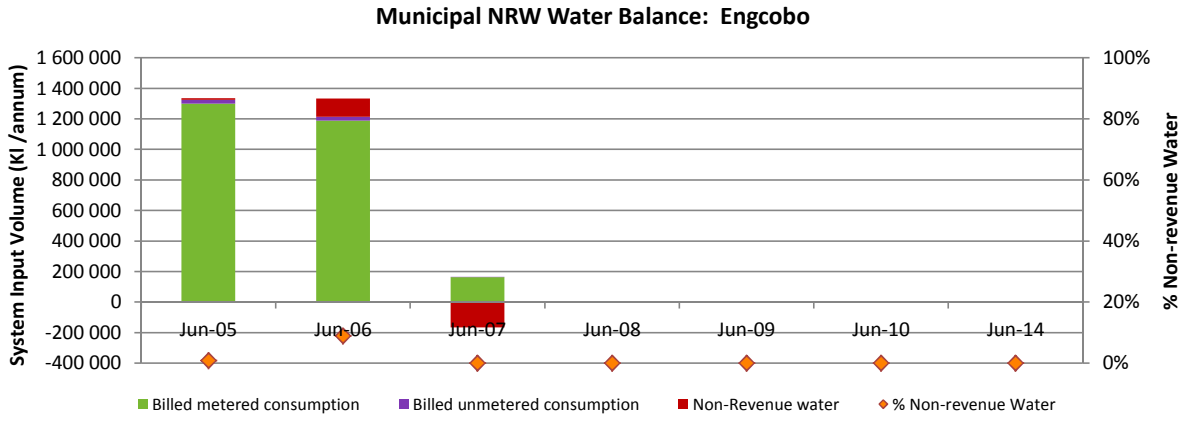

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC136 | | | | | | | No |
| District Municipality | | Chris Hani | | | | | | | Category |
| Municipality | | Emalahleni | | | | | | | B4 |
| Settlements | | INDWE, IDA, DORDRECHT, LADY FRERE | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 130 556 | 129 944 | 130 722 | 131 599 | 132 385 | 119 177 | |
| | Households | | 30 624 | 30 485 | 30 655 | 30 858 | 31 035 | 27 939 | |
| | Connections - metered | | ~~8 615~~ | ~~8 575~~ | ~~8 626~~ | 8 684 | ~~8 736~~ | ~~7 864~~ | |
| | Connections - Unmetered | | ~~19 111~~ | ~~19 024~~ | ~~19 130~~ | 19 257 | ~~19 367~~ | ~~17 435~~ | |
| | Length of mains (km) | | ~~555~~ | ~~552~~ | ~~555~~ | ~~559~~ | ~~562~~ | ~~506~~ | |
| | System input volume | kl/annum | 0 | 31 308 034 | 0 | | | | |
| | Billed metered consumption | kl/annum | 0 | 12 544 070 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 12 544 070 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 18 763 964 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 18 763 964 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | 59.9% | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | 59.9% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 660 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | 86 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 264 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 34 | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.47% | 0.60% | 0.67% | 0.60% | -9.98% | |
| | % Water demand growth | | | #DIV/0! | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |



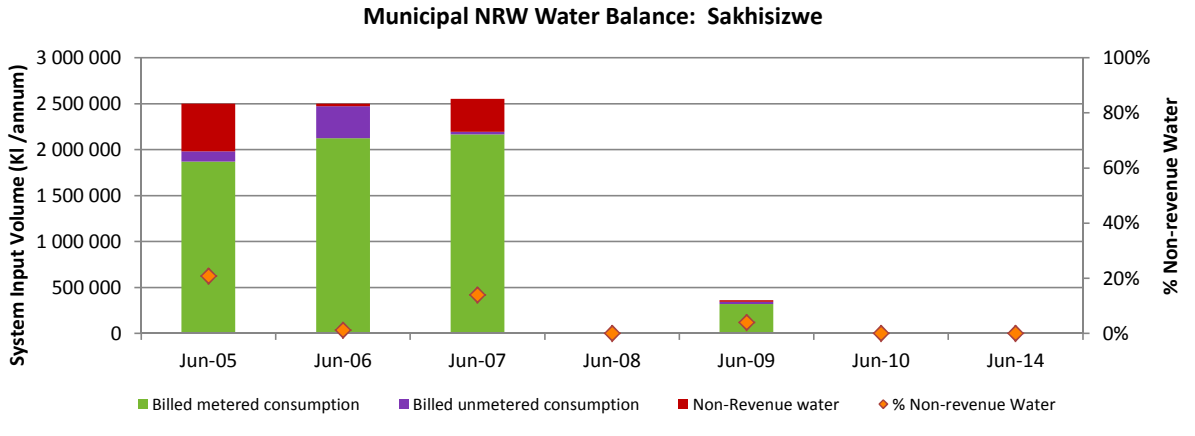

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Eastern Cape | | | | | | WSA |
| Municipal Code | | | EC137 | | | | | | No |
| District Municipality | | | Chris Hani | | | | | | Category |
| Municipality | | | Engcobo | | | | | | B4 |
| Settlements | | | Engcobo | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 149 594 | 148 911 | 149 810 | 150 825 | 151 735 | 136 542 | |
| | Households | | 32 546 | 32 383 | 32 550 | 32 821 | 32 989 | 29 663 | |
| | Connections - metered | | ~~3 590~~ | ~~3 574~~ | ~~3 596~~ | 3 620 | ~~3 642~~ | ~~3 277~~ | |
| | Connections - Unmetered | | ~~19 901~~ | ~~19 801~~ | ~~19 903~~ | 20 069 | ~~20 172~~ | ~~18 138~~ | |
| | Length of mains (km) | | ~~470~~ | ~~468~~ | ~~470~~ | ~~474~~ | ~~476~~ | ~~428~~ | |
| | System input volume | kl/annum | 1 335 811 | 1 333 919 | 0 | | | | |
| | Billed metered consumption | kl/annum | 1 298 871 | 1 187 846 | 163 613 | | | | |
| | Billed unmetered consumption | kl/annum | 25 848 | 26 640 | 1 609 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 324 719 | 1 214 486 | 165 222 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 11 092 | 119 433 | -165 222 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 11 092 | 119 433 | -165 222 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 0.8% | 9.0% | No data | No data | No data | No data | No data |
| | % Water Losses | | 0.8% | 9.0% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 24 | 25 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 3 | 3 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 24 | 22 | 3 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 3 | 3 | 0 | No data | No data | No data | No data |
| | % Population growth | | | -0.46% | 0.60% | 0.68% | 0.60% | -10.01% | |
| | % Water demand growth | | | -0.14% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |



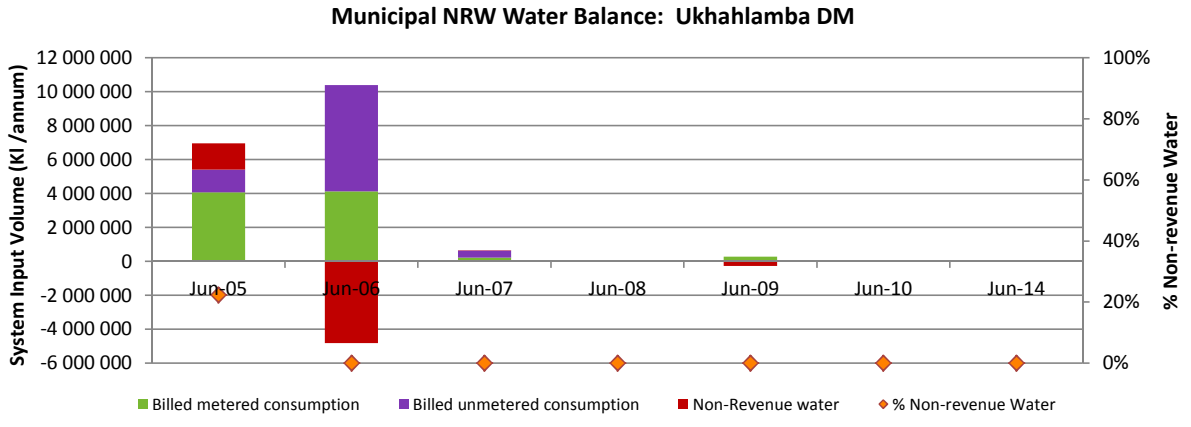

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC138 | | | | | | | | No |
| District Municipality | Chris Hani | | | | | | | | Category |
| Municipality | Sakhisizwe | | | | | | | | B3 |
| Settlements | Elliot | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 64 076 | 63 783 | 64 170 | 64 601 | 64 990 | 60 340 | |
| | Households | | 15 583 | 15 511 | 15 600 | 15 715 | 15 807 | 14 675 | |
| | Connections - metered | | ~~8 626~~ | ~~8 587~~ | ~~8 639~~ | 8 697 | ~~8 749~~ | ~~8 123~~ | |
| | Connections - Unmetered | | ~~7 053~~ | ~~7 021~~ | ~~7 061~~ | 7 113 | ~~7 155~~ | ~~6 642~~ | |
| | Length of mains (km) | | ~~314~~ | ~~312~~ | ~~314~~ | ~~316~~ | ~~318~~ | ~~295~~ | |
| | System input volume | kl/annum | 2 501 384 | 2 501 396 | 2 551 423 | | 359 220 | | |
| | Billed metered consumption | kl/annum | 1 868 552 | 2 124 547 | 2 167 037 | | 318 650 | | |
| | Billed unmetered consumption | kl/annum | 113 424 | 347 904 | 28 512 | | 26 316 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 981 976 | 2 472 451 | 2 195 549 | 0 | 344 966 | 0 | 0 |
| | Non-Revenue water | kl/annum | 519 408 | 28 945 | 355 874 | 0 | 14 254 | 0 | 0 |
| | Water Losses | kl/annum | 519 408 | 28 945 | 355 874 | 0 | 14 254 | 0 | 0 |
| | % Non-revenue water | | 20.8% | 1.2% | 13.9% | No data | 4.0% | No data | No data |
| | % Water Losses | | 20.8% | 1.2% | 13.9% | No data | 4.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 107 | 107 | 109 | No data | 15 | No data | No data |
| | Input: m³ / household / month | | 13 | 13 | 14 | No data | 2 | No data | No data |
| | Billed : Litres / capita / day | | 85 | 106 | 94 | No data | 15 | No data | No data |
| | Billed : m³ / household / month | | 11 | 13 | 12 | No data | 2 | No data | No data |
| | % Population growth | | | -0.46% | 0.61% | 0.67% | 0.60% | -7.15% | |
| | % Water demand growth | | | 0.00% | 2.00% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | |



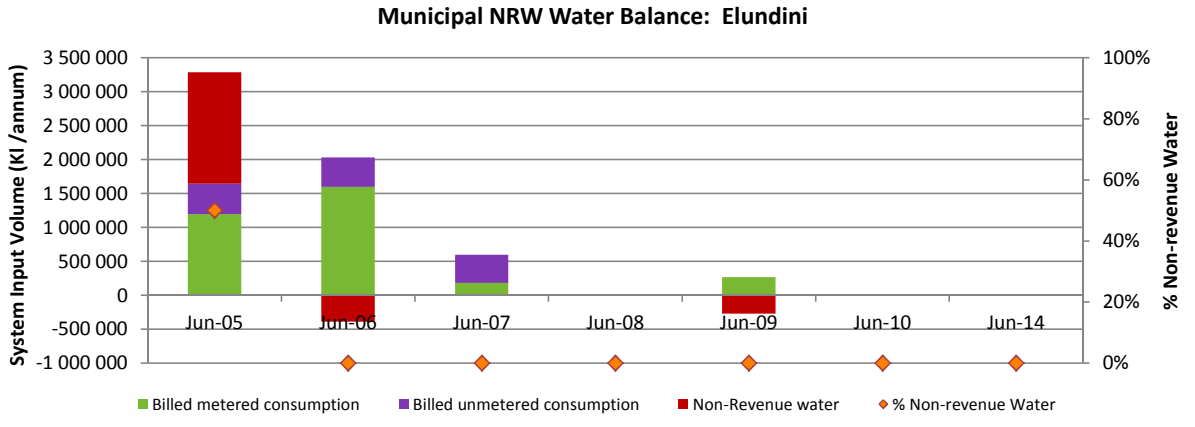

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC14 | | | | | | | | Yes |
| District Municipality | Ukhahlamba | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 347 695 | 346 868 | 348 955 | 351 277 | 353 397 | 325 645 | 0 |
| | Households | | 90 406 | 90 185 | 90 722 | 91 326 | 91 875 | 84 728 | 0 |
| | Connections - metered | | 38 683 | 38 591 | 38 822 | 39 079 | 39 316 | 37 113 | 0 |
| | Connections - Unmetered | | 33 868 | 33 784 | 33 984 | 34 214 | 34 416 | 31 224 | 0 |
| | Length of mains (km) | | 1 451 | 1 447 | 1 456 | 1 466 | 1 475 | 1 367 | 0 |
| | System input volume | kl/annum | 6 956 992 | 5 573 977 | 627 147 | 0 | 0 | 0 | 0 |
| | Billed metered consumption | kl/annum | 4 069 524 | 4 123 157 | 211 806 | 0 | 268 693 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 1 333 154 | 6 261 218 | 415 054 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 5 402 678 | 10 384 375 | 626 860 | 0 | 268 693 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 554 314 | -4 810 398 | 287 | 0 | -268 693 | 0 | 0 |
| | Water Losses | kl/annum | 1 554 314 | -4 810 398 | 287 | 0 | -268 693 | 0 | 0 |
| | % Non-revenue water | | 22.3% | Check data | 0.0% | No data | No data | No data | No data |
| | % Water Losses | | 22.3% | Check data | 0.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 55 | 44 | 5 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 6 | 5 | 1 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 43 | 82 | 5 | No data | 2 | No data | No data |
| | Billed : m³ / household / month | | 5 | 10 | 1 | No data | 0 | No data | No data |
| | % Population growth | | | -0.24% | 0.60% | 0.67% | 0.60% | -7.85% | |
| | % Water demand growth | | | -19.88% | -88.75% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |




Comments

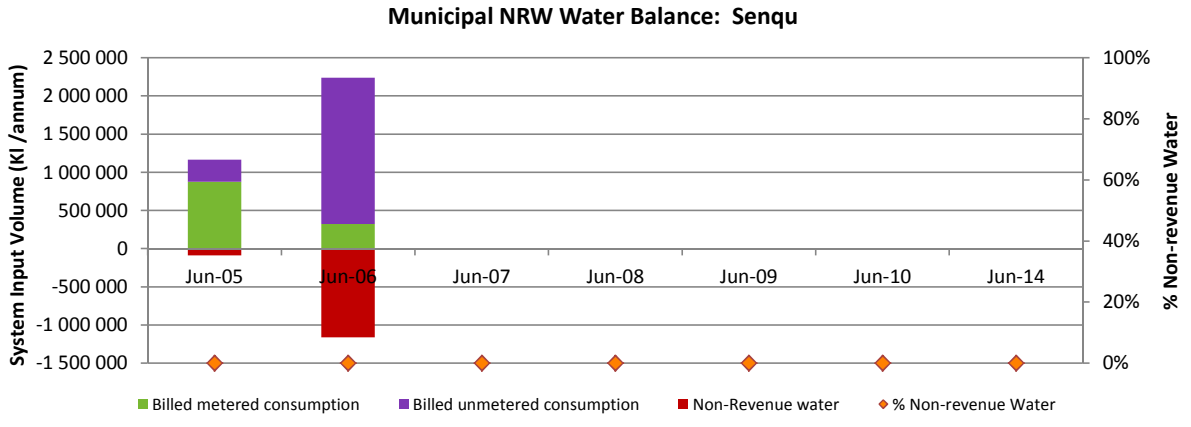
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC141 | | | | | | | | No |
| District Municipality | Ukhahlamba | | | | | | | | Category |
| Municipality | Elundini | | | | | | | | B4 |
| Settlements | Mount Fletcher | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 140 021 | 139 693 | 140 536 | 141 478 | 142 328 | 128 800 | |
| | Households | | 35 447 | 35 356 | 35 561 | 35 808 | 36 016 | 32 586 | |
| | Connections - metered | | ~~8 088~~ | ~~8 069~~ | ~~8 118~~ | 8 172 | ~~8 221~~ | ~~7 440~~ | |
| | Connections - Unmetered | | ~~19 852~~ | ~~19 801~~ | ~~19 916~~ | 20 054 | ~~20 170~~ | ~~18 250~~ | |
| | Length of mains (km) | | ~~559~~ | ~~557~~ | ~~561~~ | ~~565~~ | ~~568~~ | ~~514~~ | |
| | System input volume | kl/annum | 3 285 000 | 1 642 500 | 598 445 | | | | |
| | Billed metered consumption | kl/annum | 1 195 812 | 1 599 300 | 183 797 | | 268 693 | | |
| | Billed unmetered consumption | kl/annum | 446 688 | 432 000 | 414 648 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 642 500 | 2 031 300 | 598 445 | 0 | 268 693 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 642 500 | -388 800 | 0 | 0 | -268 693 | 0 | 0 |
| | Water Losses | kl/annum | 1 642 500 | -388 800 | 0 | 0 | -268 693 | 0 | 0 |
| | % Non-revenue water | | 50.0% | Check data | Check data | No data | No data | No data | No data |
| | % Water Losses | | 50.0% | Check data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 64 | 32 | 12 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 8 | 4 | 1 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 32 | 40 | 12 | No data | 5 | No data | No data |
| | Billed : m³ / household / month | | 4 | 5 | 1 | No data | 1 | No data | No data |
| | % Population growth | | | -0.23% | 0.60% | 0.67% | 0.60% | -9.50% | |
| | % Water demand growth | | | -50.00% | -63.56% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Fluctuating input volume and billed consumption?

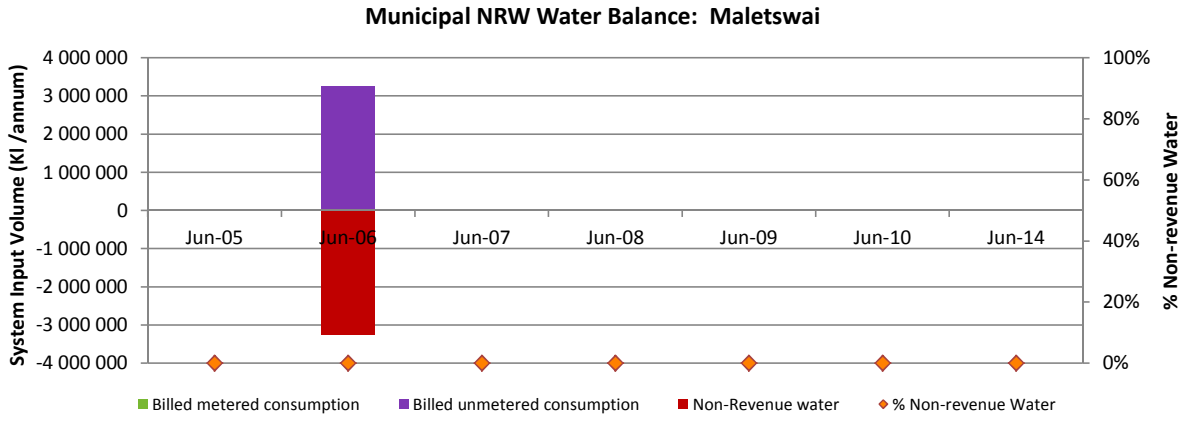
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC142 | | | | | | | | No |
| District Municipality | Ukhahlamba | | | | | | | | Category |
| Municipality | Senqu | | | | | | | | B4 |
| Settlements | Barkly East | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 137 747 | 137 418 | 138 244 | 139 166 | 140 004 | 126 459 | |
| | Households | | 35 998 | 35 913 | 36 131 | 36 368 | 36 587 | 33 050 | |
| | Connections - metered | | ~~12 709~~ | ~~12 679~~ | ~~12 755~~ | 12 840 | ~~12 917~~ | ~~11 668~~ | |
| | Connections - Unmetered | | ~~12 824~~ | ~~12 794~~ | ~~12 872~~ | 12 956 | ~~13 034~~ | ~~11 774~~ | |
| | Length of mains (km) | | ~~511~~ | ~~509~~ | ~~513~~ | ~~516~~ | ~~519~~ | ~~469~~ | |
| | System input volume | kl/annum | 1 076 736 | 1 076 736 | | | | | |
| | Billed metered consumption | kl/annum | 877 064 | 321 598 | | | | | |
| | Billed unmetered consumption | kl/annum | 287 858 | 1 917 864 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 164 922 | 2 239 462 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | -88 186 | -1 162 726 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | -88 186 | -1 162 726 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | No data | No data | No data | No data | No data |
| | % Water Losses | | Check data | Check data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 21 | 21 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 2 | 2 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 23 | 45 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 3 | 5 | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.24% | 0.60% | 0.67% | 0.60% | -9.67% | |
| | % Water demand growth | | | 0.00% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

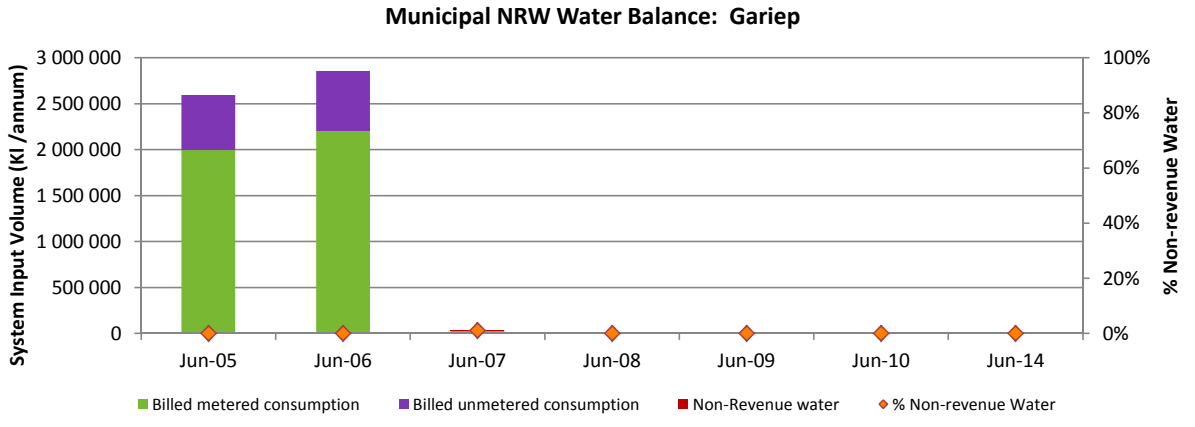
Consistent input volume? 2006 Billed unmetered very high?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC143 | | | | | | | | No |
| District Municipality | Ukhahlamba | | | | | | | | Category |
| Municipality | Maletswai | | | | | | | | B3 |
| Settlements | ALIWAL NORTH | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 38 017 | 37 924 | 38 151 | 38 405 | 38 634 | 38 085 | |
| | Households | | 10 154 | 10 129 | 10 191 | 10 257 | 10 320 | 10 174 | |
| | Connections - metered | | ~~9 567~~ | ~~9 544~~ | ~~9 601~~ | 9 665 | ~~9 723~~ | ~~9 584~~ | |
| | Connections - Unmetered | | ~~647~~ | ~~646~~ | ~~650~~ | 654 | ~~658~~ | ~~649~~ | |
| | Length of mains (km) | | ~~204~~ | ~~204~~ | ~~205~~ | ~~206~~ | ~~208~~ | ~~205~~ | |
| | System input volume | kl/annum | 0 | 0 | 0 | | | | |
| | Billed metered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 3 258 872 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 3 258 872 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | -3 258 872 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | -3 258 872 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 235 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 27 | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.24% | 0.60% | 0.67% | 0.60% | -1.42% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

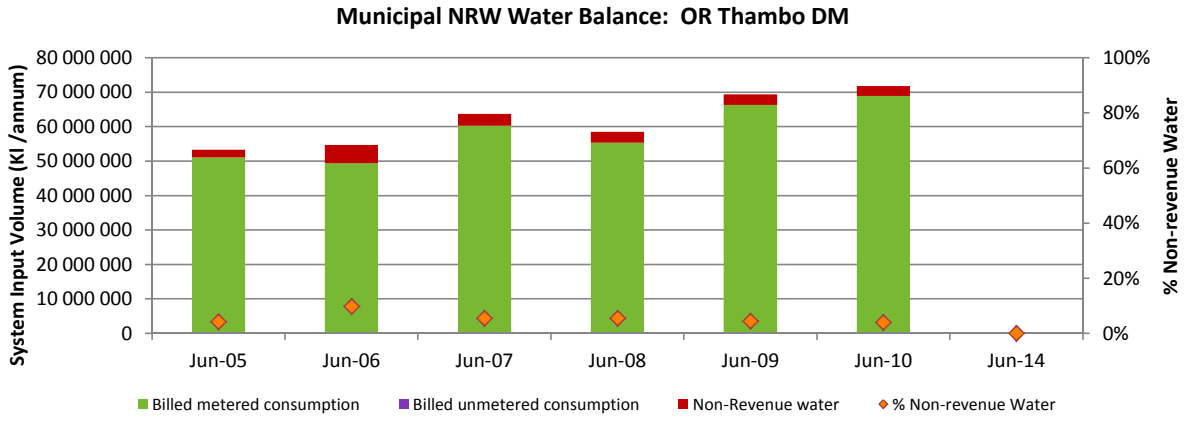
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC144 | | | | | | | | No |
| District Municipality | Ukhahlamba | | | | | | | | Category |
| Municipality | Gariep | | | | | | | | B3 |
| Settlements | Burgersdorp | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 31 910 | 31 833 | 32 024 | 32 228 | 32 431 | 32 301 | |
| | Households | | 8 807 | 8 787 | 8 839 | 8 893 | 8 952 | 8 918 | |
| | Connections - metered | | ~~8 319~~ | ~~8 299~~ | ~~8 349~~ | 8 402 | ~~8 455~~ | ~~8 421~~ | |
| | Connections - Unmetered | | ~~545~~ | ~~543~~ | ~~547~~ | 550 | ~~554~~ | ~~552~~ | |
| | Length of mains (km) | | ~~177~~ | ~~177~~ | ~~178~~ | ~~179~~ | ~~180~~ | ~~179~~ | |
| | System input volume | kl/annum | 2 595 256 | 2 854 741 | 28 702 | | | | |
| | Billed metered consumption | kl/annum | 1 996 648 | 2 202 259 | 28 009 | | | | |
| | Billed unmetered consumption | kl/annum | 598 608 | 652 482 | 406 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 595 256 | 2 854 741 | 28 415 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 287 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 287 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | 1.0% | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | 1.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 223 | 246 | 2 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 25 | 27 | 0 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 223 | 246 | 2 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 25 | 27 | 0 | No data | No data | No data | No data |
| | % Population growth | | | -0.24% | 0.60% | 0.64% | 0.63% | -0.40% | |
| | % Water demand growth | | | 10.00% | -98.99% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




**Comments**

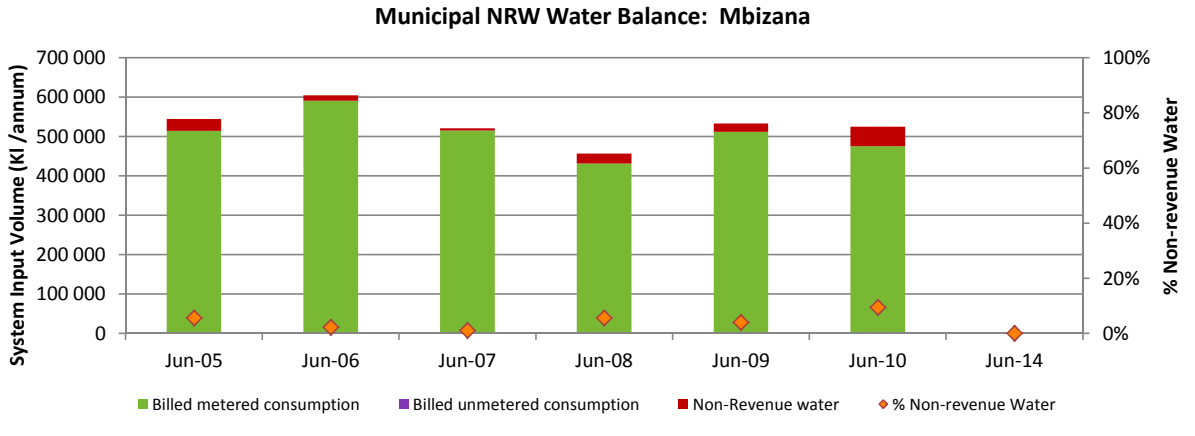
NRW cannot be zero? 2007 input volume cannot be correct?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC15 | | | | | | | | Yes |
| District Municipality | O.R. Tambo | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 707 203 | 1 714 314 | 1 724 609 | 1 736 098 | 1 746 501 | 1 576 165 | 0 |
| | Households | | 361 966 | 363 442 | 365 478 | 368 061 | 370 135 | 334 138 | 0 |
| | Connections - metered | | 11 136 | 12 016 | 12 738 | 13 240 | 13 688 | 14 940 | 0 |
| | Connections - Unmetered | | 350 830 | 351 426 | 352 192 | 354 821 | 356 447 | 319 198 | 0 |
| | Length of mains (km) | | 1 822 | 1 823 | 1 823 | 1 823 | 1 823 | 1 823 | 0 |
| | System input volume | kl/annum | 53 303 707 | 54 720 124 | 63 731 058 | 58 543 608 | 69 347 888 | 71 832 332 | 0 |
| | Billed metered consumption | kl/annum | 51 088 105 | 49 378 995 | 60 261 562 | 55 369 450 | 66 297 385 | 68 948 919 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 51 088 105 | 49 378 995 | 60 261 562 | 55 369 450 | 66 297 385 | 68 948 919 | 0 |
| | Non-Revenue water | kl/annum | 2 215 603 | 5 341 128 | 3 469 497 | 3 174 158 | 3 050 503 | 2 883 413 | 0 |
| | Water Losses | kl/annum | 2 215 603 | 5 341 128 | 3 469 497 | 3 174 158 | 3 050 503 | 2 883 413 | 0 |
| | % Non-revenue water | | 4.2% | 9.8% | 5.4% | 5.4% | 4.4% | 4.0% | No data |
| | % Water Losses | | 4.2% | 9.8% | 5.4% | 5.4% | 4.4% | 4.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 86 | 87 | 101 | 92 | 109 | 125 | No data |
| | Input: m³ / household / month | | 12 | 13 | 15 | 13 | 16 | 18 | No data |
| | Billed : Litres / capita / day | | 82 | 79 | 96 | 87 | 104 | 120 | No data |
| | Billed : m³ / household / month | | 12 | 11 | 14 | 13 | 15 | 17 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.67% | 0.60% | -9.75% | |
| | % Water demand growth | | | 2.66% | 16.47% | -8.14% | 18.46% | 3.58% | |
| Source of information | | | | | | | | | |



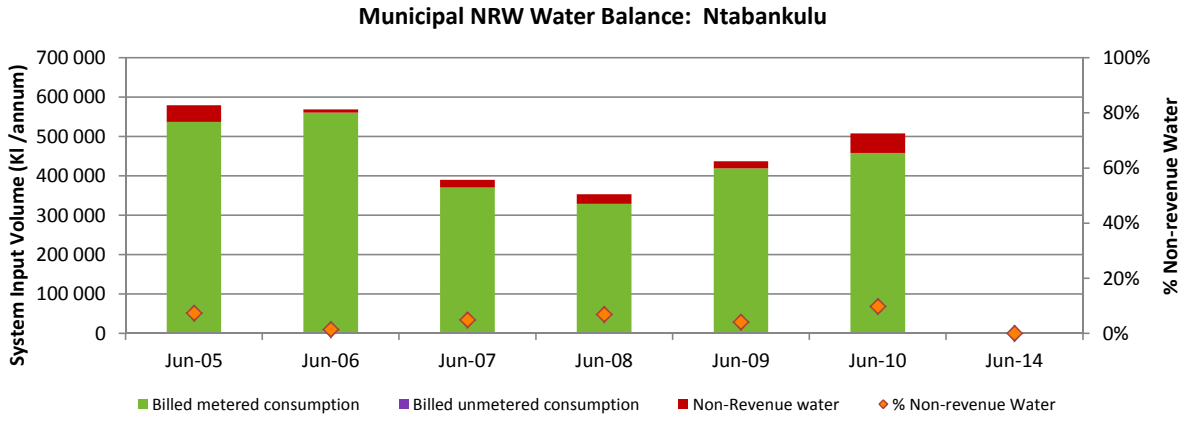

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC151 | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | Mbizana | | | | | | | B4 |
| Settlements | | Bizana | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 250 037 | 251 069 | 252 584 | 254 271 | 255 797 | 229 872 | |
| | Households | | 48 831 | 49 027 | 49 289 | 49 631 | 49 895 | 44 841 | |
| | Connections - metered | | 240 | 234 | 231 | 279 | 262 | 250 | |
| | Connections - Unmetered | | 48 591 | 48 793 | 49 058 | 49 352 | 49 633 | 44 591 | |
| | Length of mains (km) | | 174 | 175 | 175 | 175 | 175 | 175 | |
| | System input volume | kl/annum | ~~544 740~~ | ~~604 562~~ | 520 985 | 456 732 | 533 459 | ~~525 210~~ | |
| | Billed metered consumption | kl/annum | ~~514 164~~ | ~~591 051~~ | 515 303 | 431 289 | 512 059 | ~~475 580~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 514 164 | 591 051 | 515 303 | 431 289 | 512 059 | 475 580 | 0 |
| | Non-Revenue water | kl/annum | 30 576 | 13 512 | 5 682 | 25 443 | 21 400 | 49 630 | 0 |
| | Water Losses | kl/annum | 30 576 | 13 512 | 5 682 | 25 443 | 21 400 | 49 630 | 0 |
| | % Non-revenue water | | 5.6% | 2.2% | 1.1% | 5.6% | 4.0% | 9.4% | No data |
| | % Water Losses | | 5.6% | 2.2% | 1.1% | 5.6% | 4.0% | 9.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 6 | 7 | 6 | 5 | 6 | 6 | No data |
| | Input: m³ / household / month | | 1 | 1 | 1 | 1 | 1 | 1 | No data |
| | Billed : Litres / capita / day | | 6 | 6 | 6 | 5 | 5 | 6 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.41% | 0.60% | 0.67% | 0.60% | -10.13% | |
| | % Water demand growth | | | 10.98% | -13.82% | -12.33% | 16.80% | -1.55% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



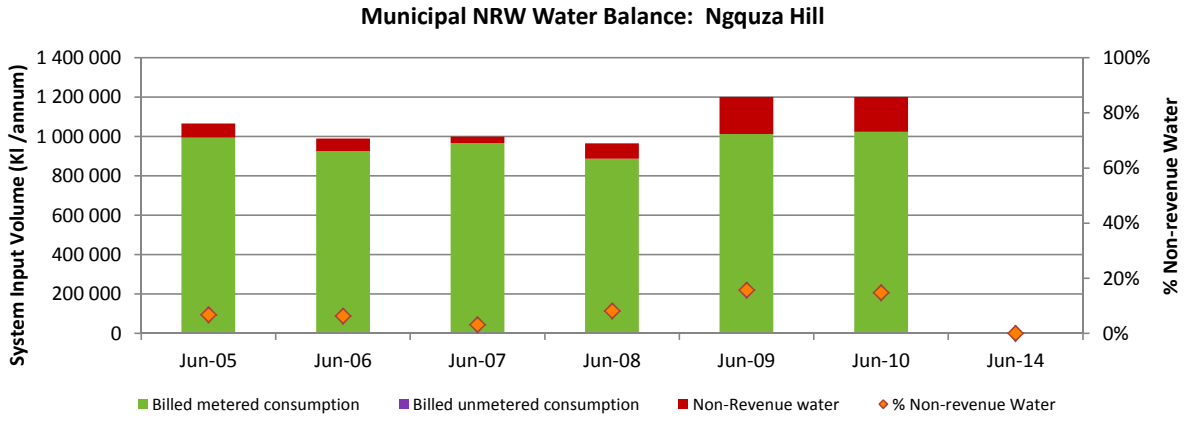

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC152 | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | Ntabankulu | | | | | | | B4 |
| Settlements | | Ntabankulu | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 139 974 | 140 563 | 141 405 | 142 347 | 143 196 | 128 619 | |
| | Households | | 29 030 | 29 140 | 29 297 | 29 518 | 29 677 | 26 659 | |
| | Connections - metered | | 160 | 243 | 248 | 248 | 212 | 134 | |
| | Connections - Unmetered | | 28 870 | 28 897 | 29 049 | 29 270 | 29 465 | 26 525 | |
| | Length of mains (km) | | 192 | 192 | 192 | 192 | 192 | 192 | |
| | System input volume | kl/annum | ~~579 502~~ | 568 729 | 389 675 | 352 954 | 437 044 | ~~507 740~~ | |
| | Billed metered consumption | kl/annum | ~~536 795~~ | 560 835 | 370 827 | 328 840 | 419 173 | ~~458 230~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 536 795 | 560 835 | 370 827 | 328 840 | 419 173 | 458 230 | 0 |
| | Non-Revenue water | kl/annum | 42 707 | 7 894 | 18 848 | 24 114 | 17 871 | 49 510 | 0 |
| | Water Losses | kl/annum | 42 707 | 7 894 | 18 848 | 24 114 | 17 871 | 49 510 | 0 |
| | % Non-revenue water | | 7.4% | 1.4% | 4.8% | 6.8% | 4.1% | 9.8% | No data |
| | % Water Losses | | 7.4% | 1.4% | 4.8% | 6.8% | 4.1% | 9.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 11 | 11 | 8 | 7 | 8 | 11 | No data |
| | Input: m³ / household / month | | 2 | 2 | 1 | 1 | 1 | 2 | No data |
| | Billed : Litres / capita / day | | 11 | 11 | 7 | 6 | 8 | 10 | No data |
| | Billed : m³ / household / month | | 2 | 2 | 1 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.67% | 0.60% | -10.18% | |
| | % Water demand growth | | | -1.86% | -31.48% | -9.42% | 23.82% | 16.18% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



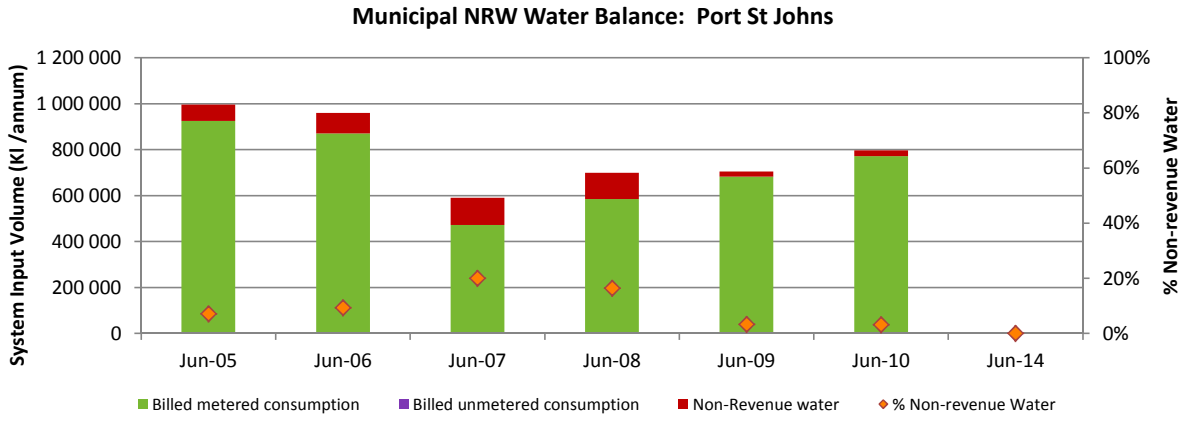

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC153 | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | Ngquza Hill | | | | | | | B4 |
| Settlements | | Flagstaff | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 260 511 | 261 586 | 263 150 | 264 891 | 266 478 | 239 593 | |
| | Households | | 53 831 | 54 037 | 54 339 | 54 728 | 55 034 | 49 485 | |
| | Connections - metered | | 201 | 418 | 531 | 430 | 497 | 601 | |
| | Connections - Unmetered | | 53 630 | 53 619 | 53 808 | 54 298 | 54 537 | 48 884 | |
| | Length of mains (km) | | 177 | 177 | 177 | 177 | 177 | 177 | |
| | System input volume | kl/annum | ~~1 066 650~~ | ~~989 086~~ | 998 975 | 965 920 | 1 200 720 | ~~1 201 456~~ | |
| | Billed metered consumption | kl/annum | ~~994 843~~ | ~~926 750~~ | 967 228 | 887 823 | 1 011 706 | ~~1 023 624~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 994 843 | 926 750 | 967 228 | 887 823 | 1 011 706 | 1 023 624 | 0 |
| | Non-Revenue water | kl/annum | 71 807 | 62 336 | 31 747 | 78 097 | 189 014 | 177 832 | 0 |
| | Water Losses | kl/annum | 71 807 | 62 336 | 31 747 | 78 097 | 189 014 | 177 832 | 0 |
| | % Non-revenue water | | 6.7% | 6.3% | 3.2% | 8.1% | 15.7% | 14.8% | No data |
| | % Water Losses | | 6.7% | 6.3% | 3.2% | 8.1% | 15.7% | 14.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 11 | 10 | 10 | 10 | 12 | 14 | No data |
| | Input: m³ / household / month | | 2 | 2 | 2 | 1 | 2 | 2 | No data |
| | Billed : Litres / capita / day | | 10 | 10 | 10 | 9 | 10 | 12 | No data |
| | Billed : m³ / household / month | | 2 | 1 | 1 | 1 | 2 | 2 | No data |
| | % Population growth | | | 0.41% | 0.60% | 0.66% | 0.60% | -10.09% | |
| | % Water demand growth | | | -7.27% | 1.00% | -3.31% | 24.31% | 0.06% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



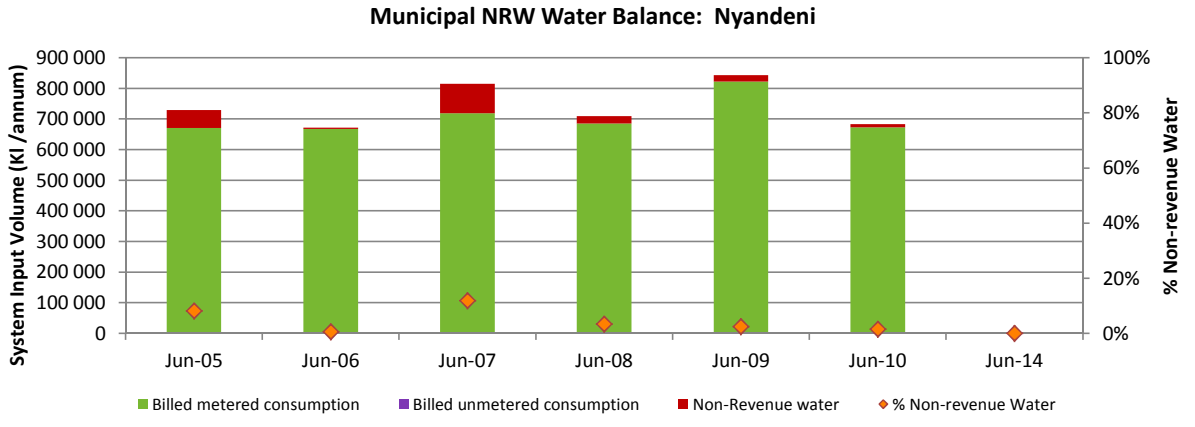

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC154 | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | Port St Johns | | | | | | | B4 |
| Settlements | | Port St Johns | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 148 150 | 148 770 | 149 656 | 150 642 | 151 542 | 136 487 | |
| | Households | | 30 469 | 30 597 | 30 772 | 30 995 | 31 175 | 28 077 | |
| | Connections - metered | | 152 | 231 | 252 | 241 | 201 | 169 | |
| | Connections - Unmetered | | 30 317 | 30 366 | 30 520 | 30 754 | 30 974 | 27 908 | |
| | Length of mains (km) | | 111 | 111 | 111 | 111 | 111 | 111 | |
| | System input volume | kl/annum | ~~995 788~~ | ~~959 452~~ | 590 043 | 698 704 | 704 765 | ~~796 750~~ | |
| | Billed metered consumption | kl/annum | ~~925 167~~ | ~~870 402~~ | 472 013 | 584 327 | 681 947 | ~~771 820~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 925 167 | 870 402 | 472 013 | 584 327 | 681 947 | 771 820 | 0 |
| | Non-Revenue water | kl/annum | 70 621 | 89 051 | 118 030 | 114 377 | 22 818 | 24 930 | 0 |
| | Water Losses | kl/annum | 70 621 | 89 051 | 118 030 | 114 377 | 22 818 | 24 930 | 0 |
| | % Non-revenue water | | 7.1% | 9.3% | 20.0% | 16.4% | 3.2% | 3.1% | No data |
| | % Water Losses | | 7.1% | 9.3% | 20.0% | 16.4% | 3.2% | 3.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 18 | 18 | 11 | 13 | 13 | 16 | No data |
| | Input: m³ / household / month | | 3 | 3 | 2 | 2 | 2 | 2 | No data |
| | Billed : Litres / capita / day | | 17 | 16 | 9 | 11 | 12 | 15 | No data |
| | Billed : m³ / household / month | | 3 | 2 | 1 | 2 | 2 | 2 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.66% | 0.60% | -9.93% | |
| | % Water demand growth | | | -3.65% | -38.50% | 18.42% | 0.87% | 13.05% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



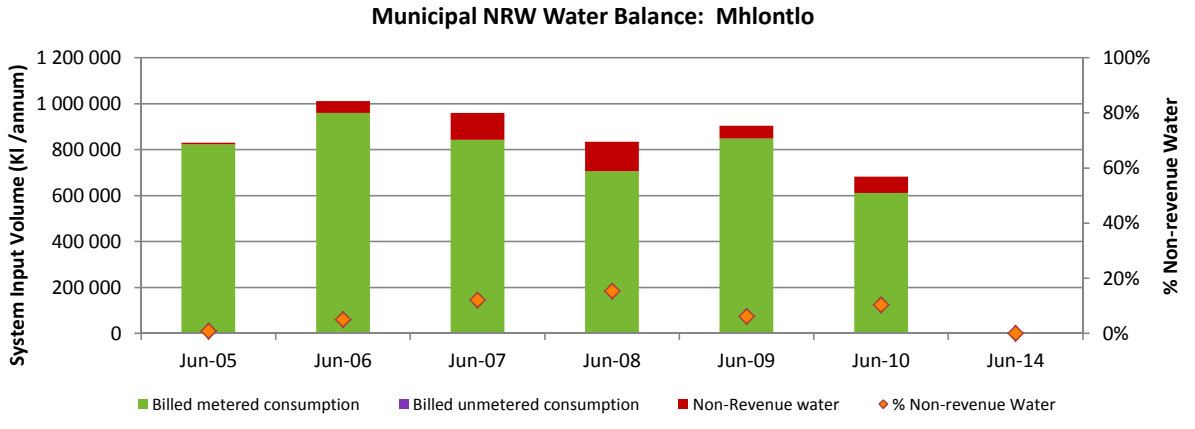

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | Nyandeni | | | | | | | B4 |
| Settlements | | Libode | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 279 974 | 281 149 | 282 834 | 284 715 | 286 417 | 257 212 | |
| | Households | | 58 186 | 58 430 | 58 767 | 59 179 | 59 523 | 53 458 | |
| | Connections - metered | | 250 | 205 | 289 | 173 | 266 | 290 | |
| | Connections - Unmetered | | 57 936 | 58 225 | 58 478 | 59 006 | 59 257 | 53 168 | |
| | Length of mains (km) | | 358 | 358 | 358 | 358 | 358 | 358 | |
| | System input volume | kl/annum | ~~729 740~~ | 672 004 | ~~815 282~~ | 709 002 | 843 345 | ~~683 400~~ | |
| | Billed metered consumption | kl/annum | ~~670 230~~ | 667 760 | ~~718 478~~ | 685 300 | 822 620 | ~~673 120~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 670 230 | 667 760 | 718 478 | 685 300 | 822 620 | 673 120 | 0 |
| | Non-Revenue water | kl/annum | 59 510 | 4 244 | 96 805 | 23 702 | 20 725 | 10 280 | 0 |
| | Water Losses | kl/annum | 59 510 | 4 244 | 96 805 | 23 702 | 20 725 | 10 280 | 0 |
| | % Non-revenue water | | 8.2% | 0.6% | 11.9% | 3.3% | 2.5% | 1.5% | No data |
| | % Water Losses | | 8.2% | 0.6% | 11.9% | 3.3% | 2.5% | 1.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 7 | 7 | 8 | 7 | 8 | 7 | No data |
| | Input: m³ / household / month | | 1 | 1 | 1 | 1 | 1 | 1 | No data |
| | Billed : Litres / capita / day | | 7 | 7 | 7 | 7 | 8 | 7 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.67% | 0.60% | -10.20% | |
| | % Water demand growth | | | -7.91% | 21.32% | -13.04% | 18.95% | -18.97% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



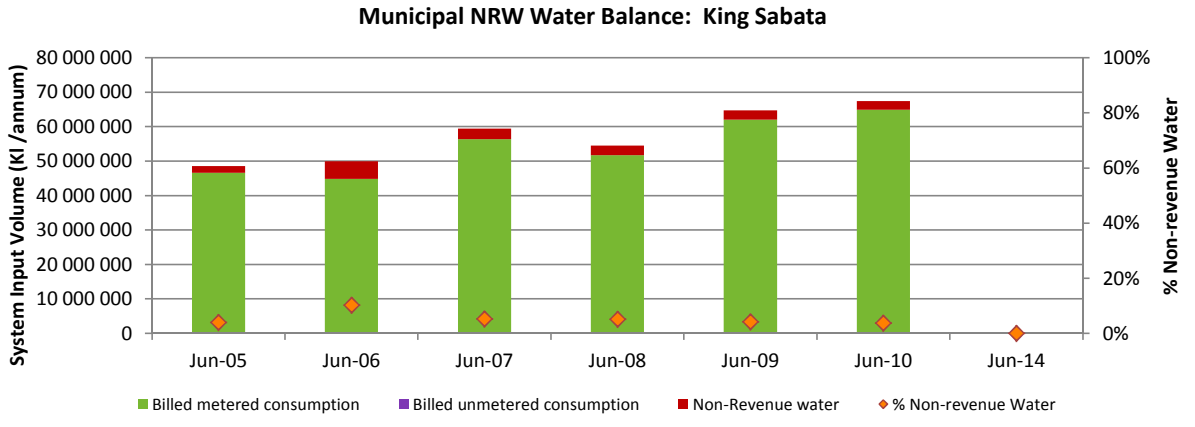

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Eastern Cape | | | | | | WSA |
| Municipal Code | | | EC156 | | | | | | No |
| District Municipality | | | OR Thambo | | | | | | Category |
| Municipality | | | Mhlontlo | | | | | | B4 |
| Settlements | | | Qumbu | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 204 292 | 205 147 | 206 386 | 207 774 | 209 025 | 187 948 | |
| | Households | | 45 867 | 46 059 | 46 314 | 46 645 | 46 907 | 42 176 | |
| | Connections - metered | | 180 | 173 | 170 | 165 | 155 | 153 | |
| | Connections - Unmetered | | 45 687 | 45 886 | 46 144 | 46 480 | 46 752 | 42 023 | |
| | Length of mains (km) | | 358 | 358 | 358 | 358 | 358 | 358 | |
| | System input volume | kl/annum | 830 567 | ~~1 010 803~~ | 959 348 | 834 902 | 903 432 | ~~682 640~~ | |
| | Billed metered consumption | kl/annum | 823 635 | ~~959 860~~ | 842 913 | 706 713 | 848 092 | ~~611 850~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 823 635 | 959 860 | 842 913 | 706 713 | 848 092 | 611 850 | 0 |
| | Non-Revenue water | kl/annum | 6 932 | 50 943 | 116 435 | 128 189 | 55 340 | 70 790 | 0 |
| | Water Losses | kl/annum | 6 932 | 50 943 | 116 435 | 128 189 | 55 340 | 70 790 | 0 |
| | % Non-revenue water | | 0.8% | 5.0% | 12.1% | 15.4% | 6.1% | 10.4% | No data |
| | % Water Losses | | 0.8% | 5.0% | 12.1% | 15.4% | 6.1% | 10.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 11 | 13 | 13 | 11 | 12 | 10 | No data |
| | Input: m³ / household / month | | 2 | 2 | 2 | 1 | 2 | 1 | No data |
| | Billed : Litres / capita / day | | 11 | 13 | 11 | 9 | 11 | 9 | No data |
| | Billed : m³ / household / month | | 1 | 2 | 2 | 1 | 2 | 1 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.67% | 0.60% | -10.08% | |
| | % Water demand growth | | | 21.70% | -5.09% | -12.97% | 8.21% | -24.44% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



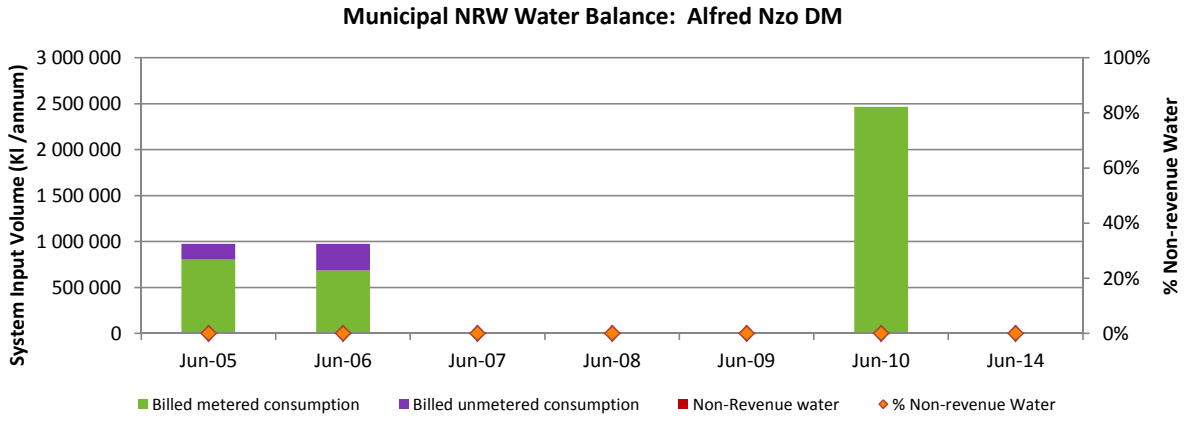

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Eastern Cape | | | | | | | WSA |
| Municipal Code | | EC157 | | | | | | | No |
| District Municipality | | OR Thambo | | | | | | | Category |
| Municipality | | King Sabata | | | | | | | B2 |
| Settlements | | MBUQE, UMTATA | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 424 265 | 426 030 | 428 594 | 431 458 | 434 046 | 396 434 | |
| | Households | | 95 752 | 96 152 | 96 700 | 97 365 | 97 924 | 89 442 | |
| | Connections - metered | | 9 953 | 10 512 | 11 017 | 11 704 | 12 095 | 13 343 | |
| | Connections - Unmetered | | 85 799 | 85 640 | 85 135 | 85 661 | 85 829 | 76 099 | |
| | Length of mains (km) | | 453 | 453 | 453 | 453 | 453 | 453 | |
| | System input volume | kl/annum | 48 556 721 | 49 915 488 | 59 456 750 | 54 525 394 | 64 725 123 | 67 435 136 | |
| | Billed metered consumption | kl/annum | 46 623 271 | 44 802 338 | 56 374 800 | 51 745 158 | 62 001 788 | 64 934 695 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 46 623 271 | 44 802 338 | 56 374 800 | 51 745 158 | 62 001 788 | 64 934 695 | 0 |
| | Non-Revenue water | kl/annum | 1 933 450 | 5 113 150 | 3 081 950 | 2 780 236 | 2 723 335 | 2 500 441 | 0 |
| | Water Losses | kl/annum | 1 933 450 | 5 113 150 | 3 081 950 | 2 780 236 | 2 723 335 | 2 500 441 | 0 |
| | % Non-revenue water | | 4.0% | 10.2% | 5.2% | 5.1% | 4.2% | 3.7% | No data |
| | % Water Losses | | 4.0% | 10.2% | 5.2% | 5.1% | 4.2% | 3.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 314 | 321 | 380 | 346 | 409 | 466 | No data |
| | Input: m³ / household / month | | 42 | 43 | 51 | 47 | 55 | 63 | No data |
| | Billed : Litres / capita / day | | 301 | 288 | 360 | 329 | 391 | 449 | No data |
| | Billed : m³ / household / month | | 41 | 39 | 49 | 44 | 53 | 60 | No data |
| | % Population growth | | | 0.42% | 0.60% | 0.67% | 0.60% | -8.67% | |
| | % Water demand growth | | | 2.80% | 19.11% | -8.29% | 18.71% | 4.19% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



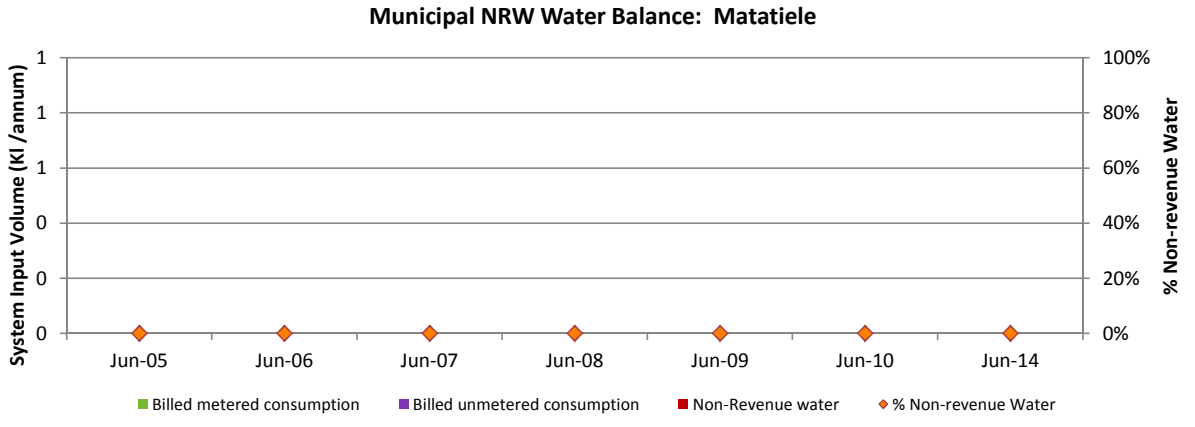

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | DC44 | | | | | | | | Yes |
| District Municipality | Alfred Nzo | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 399 584 | 401 742 | 404 149 | 406 838 | 409 267 | 367 884 | 0 |
| | Households | | 98 354 | 98 895 | 99 486 | 100 139 | 100 745 | 90 529 | 0 |
| | Connections - metered | | 23 321 | 23 448 | 23 588 | 23 745 | 23 887 | 21 474 | 0 |
| | Connections - Unmetered | | 53 303 | 53 595 | 53 914 | 54 270 | 54 597 | 49 060 | 0 |
| | Length of mains (km) | | 1 532 | 1 541 | 1 550 | 1 560 | 1 570 | 1 411 | 0 |
| | System input volume | kl/annum | 972 782 | 972 782 | 0 | 0 | 0 | 2 466 000 | 0 |
| | Billed metered consumption | kl/annum | 802 934 | 685 070 | 0 | 0 | 0 | 2 466 000 | 0 |
| | Billed unmetered consumption | kl/annum | 169 848 | 287 712 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 972 782 | 972 782 | 0 | 0 | 0 | 2 466 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | No data | No data | No data | Check data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 7 | 7 | No data | No data | No data | 18 | No data |
| | Input: m³ / household / month | | 1 | 1 | No data | No data | No data | 2 | No data |
| | Billed : Litres / capita / day | | 7 | 7 | No data | No data | No data | 18 | No data |
| | Billed : m³ / household / month | | 1 | 1 | No data | No data | No data | 2 | No data |
| | % Population growth | | | 0.54% | 0.60% | 0.67% | 0.60% | -10.11% | |
| | % Water demand growth | | | 0.00% | | | | #DIV/0! | |
| Source of information | | | | | | | | | |



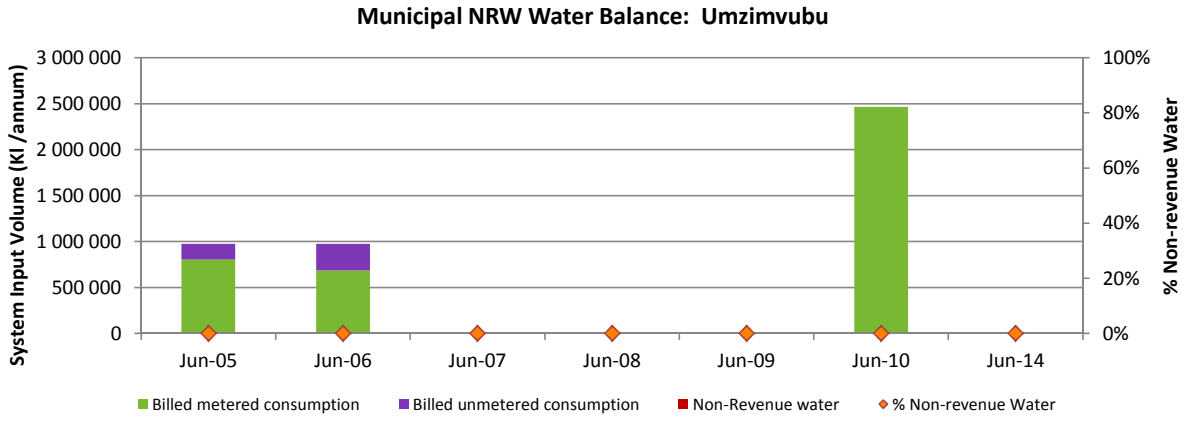

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC441 | | | | | | | | No |
| District Municipality | Alfred Nzo | | | | | | | | Category |
| Municipality | Matatiele | | | | | | | | B3 |
| Settlements | MOUNT CURRIE , MATATIELE | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 211 586 | 212 769 | 214 038 | 215 444 | 216 726 | 194 931 | |
| | Households | | 52 913 | 53 219 | 53 546 | 53 880 | 54 217 | 48 726 | |
| | Connections - metered | | ~~14 179~~ | ~~14 259~~ | ~~14 344~~ | 14 438 | ~~14 524~~ | ~~13 063~~ | |
| | Connections - Unmetered | | ~~25 724~~ | ~~25 873~~ | ~~26 032~~ | 26 194 | ~~26 358~~ | ~~23 688~~ | |
| | Length of mains (km) | | ~~798~~ | ~~803~~ | ~~808~~ | ~~813~~ | ~~818~~ | ~~735~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.56% | 0.60% | 0.66% | 0.60% | -10.06% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Eastern Cape | | | | | | | | WSA |
| Municipal Code | EC442 | | | | | | | | No |
| District Municipality | Alfred Nzo | | | | | | | | Category |
| Municipality | Umzimvubu | | | | | | | | B4 |
| Settlements | Mount Ayliff | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 187 998 | 188 973 | 190 111 | 191 394 | 192 541 | 172 953 | |
| | Households | | 45 441 | 45 676 | 45 940 | 46 259 | 46 528 | 41 803 | |
| | Connections - metered | | ~~9 142~~ | ~~9 189~~ | ~~9 245~~ | 9 307 | ~~9 363~~ | ~~8 410~~ | |
| | Connections - Unmetered | | ~~27 580~~ | ~~27 722~~ | ~~27 882~~ | 28 076 | ~~28 239~~ | ~~25 372~~ | |
| | Length of mains (km) | | ~~734~~ | ~~738~~ | ~~743~~ | ~~748~~ | ~~752~~ | ~~676~~ | |
| | System input volume | kl/annum | 972 782 | 972 782 | | | | 2 466 000 | |
| | Billed metered consumption | kl/annum | 802 934 | 685 070 | | | | 2 466 000 | |
| | Billed unmetered consumption | kl/annum | 169 848 | 287 712 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 972 782 | 972 782 | 0 | 0 | 0 | 2 466 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | No data | No data | No data | Check data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 14 | 14 | No data | No data | No data | 39 | No data |
| | Input: m³ / household / month | | 2 | 2 | No data | No data | No data | 5 | No data |
| | Billed : Litres / capita / day | | 14 | 14 | No data | No data | No data | 39 | No data |
| | Billed : m³ / household / month | | 2 | 2 | No data | No data | No data | 5 | No data |
| | % Population growth | | | 0.52% | 0.60% | 0.67% | 0.60% | -10.17% | |
| | % Water demand growth | | | 0.00% | | | | #DIV/0! | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS RPMS | |




**Comments**

Consistent input volume?

# National Non-Revenue Water Assessment

## Free State Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Introductory notes

### Terminology

| Acronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Measurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (preferred term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not preferred term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

**NON REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

**Unaccounted for Water (UAW / UFW)**

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

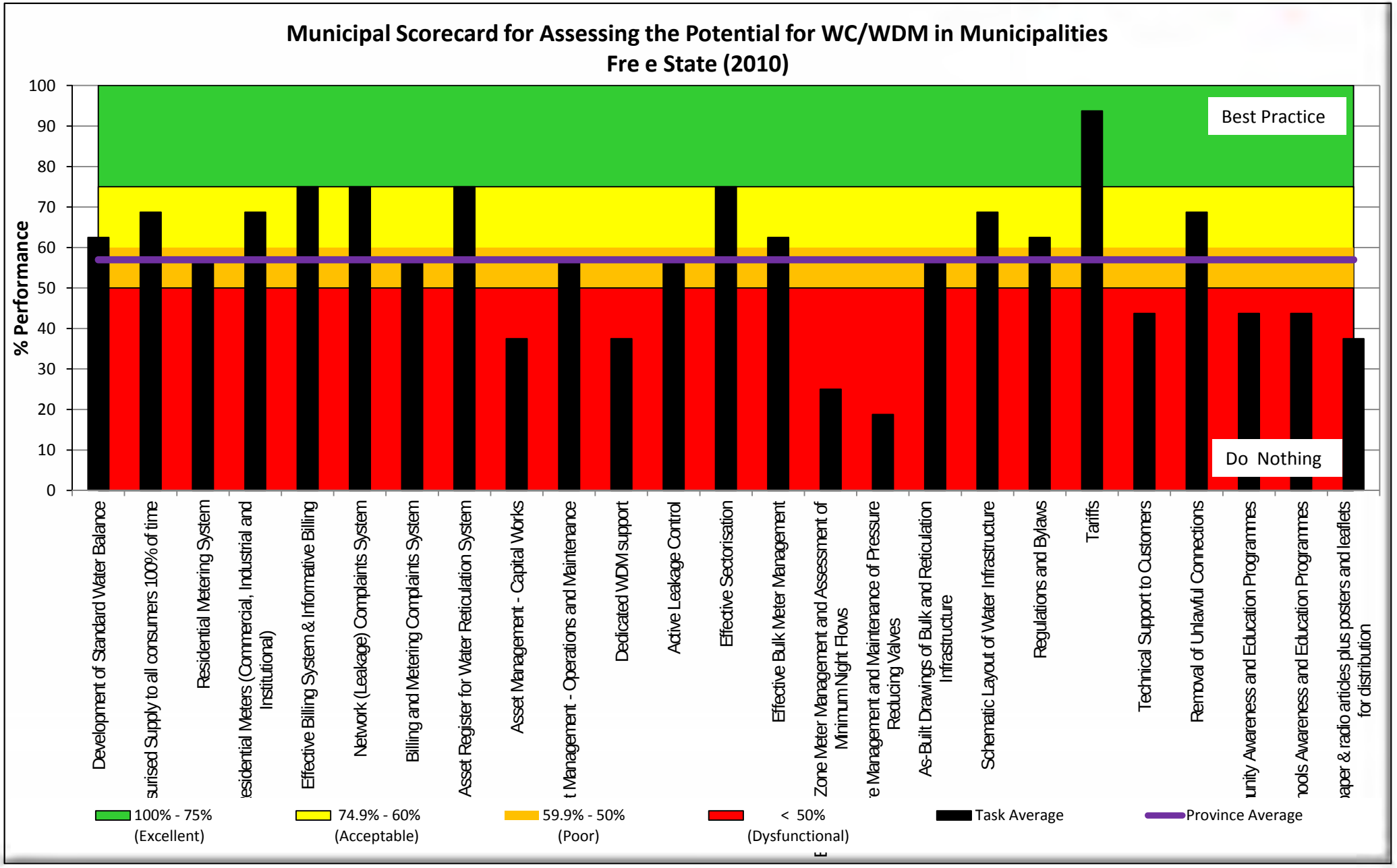
**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

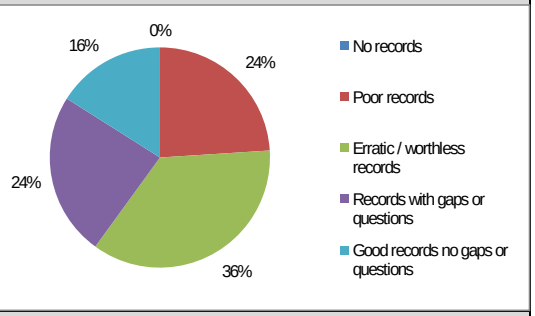
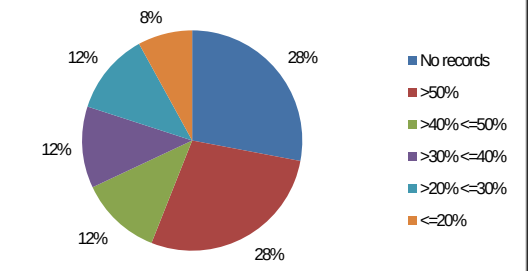
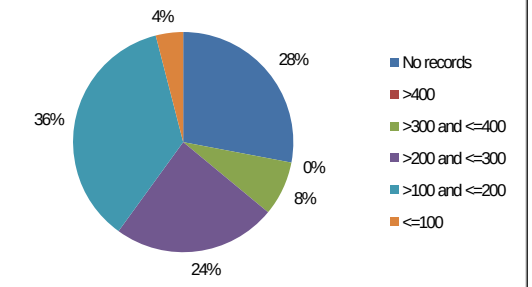
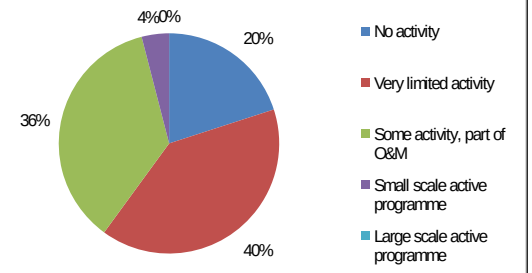
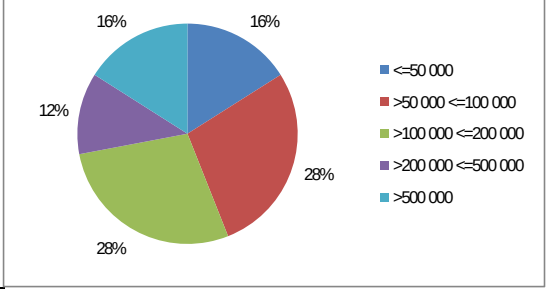
**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

| Province | Free State |
|---|---|

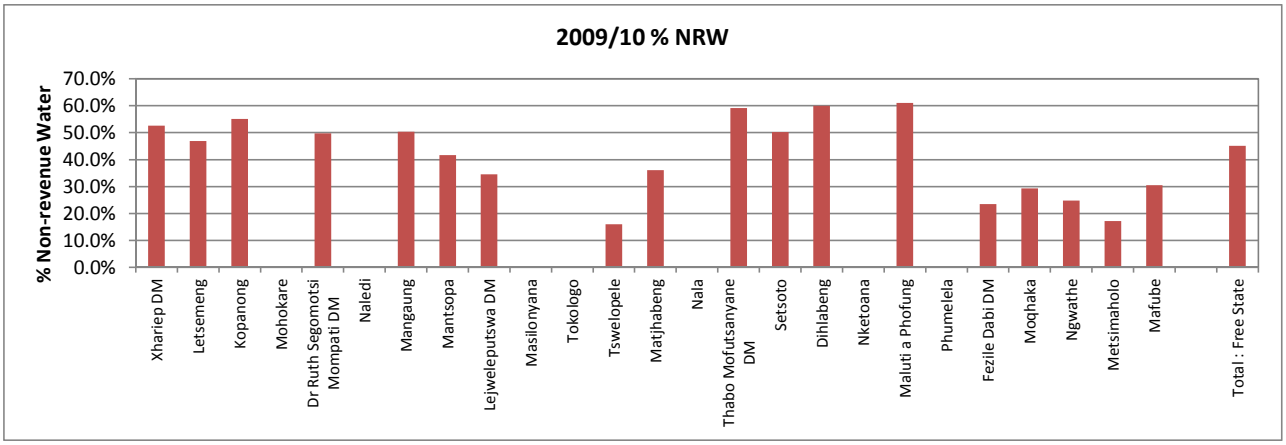
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | DC16 | Xhariep | Xhariep DM | C1 | No |
| 2 | FS161 | Xhariep | Letsemeng | B3 | Yes |
| 3 | FS162 | Xhariep | Kopanong | B3 | Yes |
| 4 | FS163 | Xhariep | Mohokare | B3 | Yes |
| 5 | DC17 | Dr Ruth Segomotsi Mompati | Dr Ruth Segomotsi Mompati DM | C1 | No |
| 6 | FS171 | Dr Ruth Segomotsi Mompati | Naledi | B3 | Yes |
| 7 | FS172 | Dr Ruth Segomotsi Mompati | Mangaung | B1 | Yes |
| 8 | FS173 | Dr Ruth Segomotsi Mompati | Mantsopa | B3 | Yes |
| 9 | DC18 | Lejweleputswa | Lejweleputswa DM | C1 | No |
| 10 | FS181 | Lejweleputswa | Masilonyana | B3 | Yes |
| 11 | FS182 | Lejweleputswa | Tokologo | B3 | Yes |
| 12 | FS183 | Lejweleputswa | Tswelopele | B3 | Yes |
| 13 | FS184 | Lejweleputswa | Matjhabeng | B1 | Yes |
| 14 | FS185 | Lejweleputswa | Nala | B3 | Yes |
| 15 | DC19 | Thabo Mofutsanyane | Thabo Mofutsanyane DM | C1 | No |
| 16 | FS191 | Thabo Mofutsanyana | Setsoto | B3 | Yes |
| 17 | FS192 | Thabo Mofutsanyana | Dihlabeng | B2 | Yes |
| 18 | FS193 | Thabo Mofutsanyana | Nketoana | B3 | Yes |
| 19 | FS194 | Thabo Mofutsanyana | Maluti-a-Phofung | B3 | Yes |
| 20 | FS195 | Thabo Mofutsanyana | Phumelela | B3 | Yes |
| 21 | DC20 | Fezile Dabi | Fezile Dabi DM | C1 | No |
| 22 | FS201 | Fezile Dabi | Moqhaka | B2 | Yes |
| 23 | FS203 | Fezile Dabi | Ngwathe | B3 | Yes |
| 24 | FS204 | Fezile Dabi | Metsimaholo | B2 | Yes |
| 25 | FS205 | Fezile Dabi | Mafube | B3 | Yes |

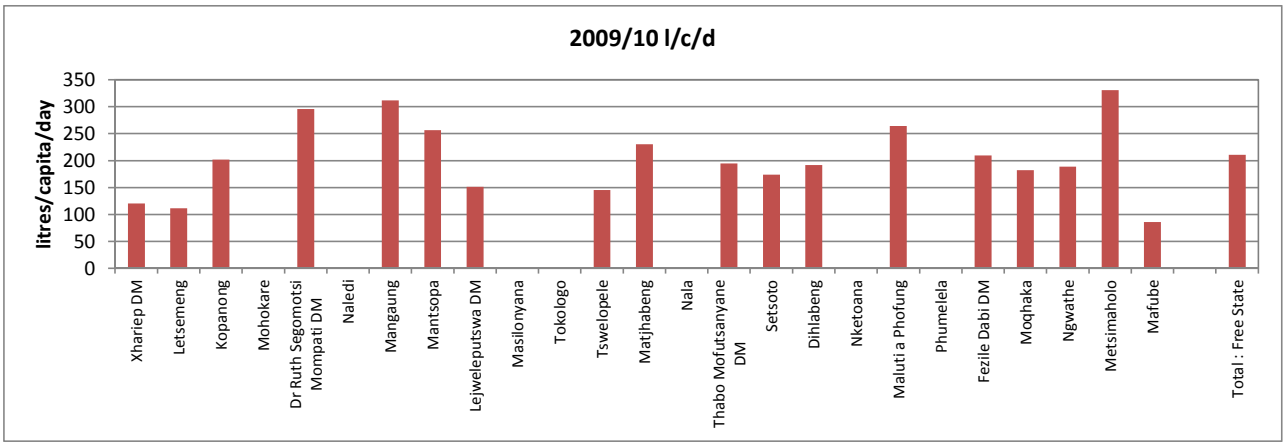
# National NRW Assessment

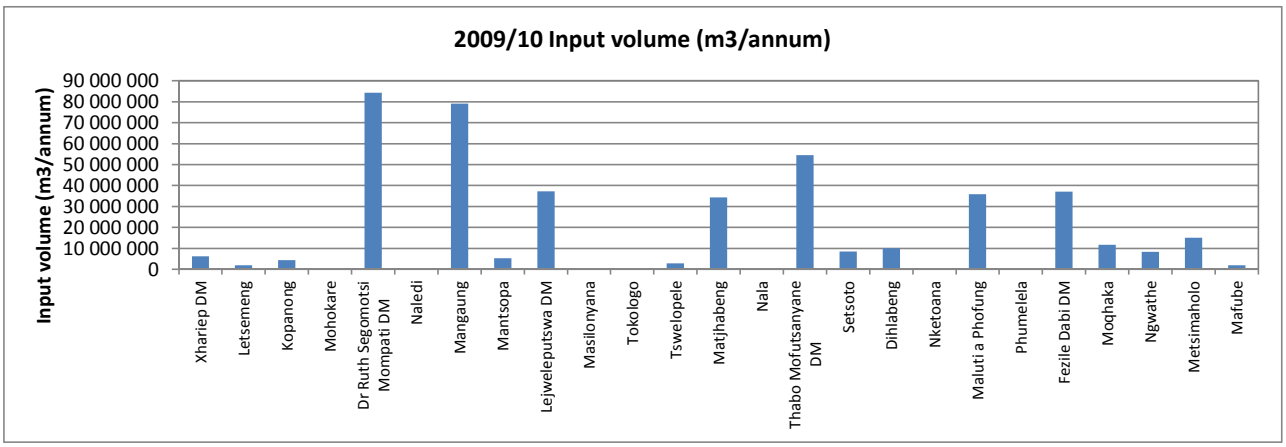


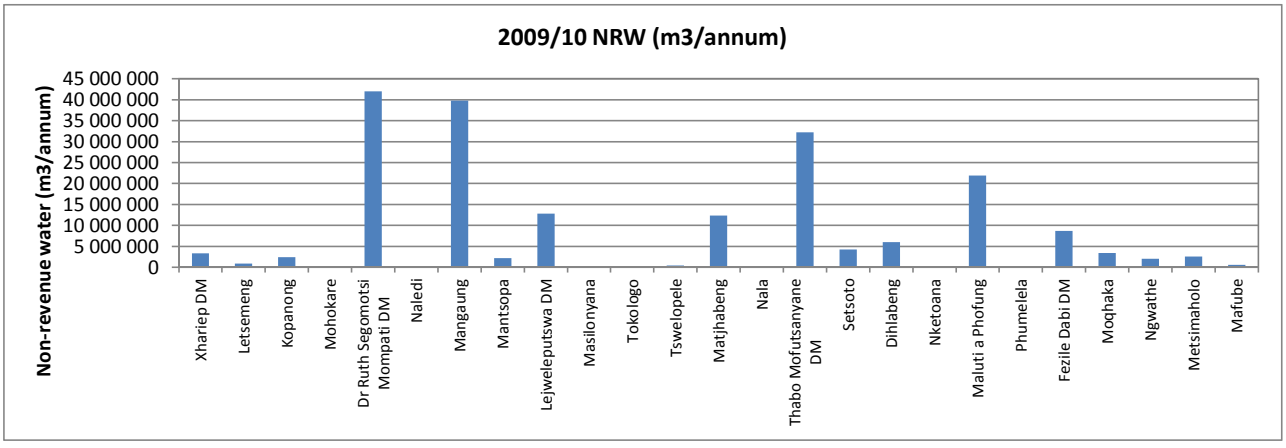
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 25 | | |
| 1 | No records | 0 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 6 | | |
| 3 | Erratic / worthless records | 9 | | |
| 4 | Records with gaps or questions | 6 | | |
| 5 | Good records no gaps or questions | 4 | | |
| | | | | |
| **% NRW** | | 25 | | |
| 0 | No records | 7 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 7 | | |
| 2 | >40% <=50% | 3 | | |
| 3 | >30% <=40% | 3 | | |
| 4 | >20% <=30% | 3 | | |
| 5 | <=20% | 2 | | |
| **litres / capita / day** | | 25 | | |
| 0 | No records | 7 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 0 | | |
| 2 | >300 and <=400 | 2 | | |
| 3 | >200 and <=300 | 6 | | |
| 4 | >100 and <=200 | 9 | | |
| 5 | <=100 | 1 | | |
| **NRW Activity** | | 25 | | |
| 1 | No activity | 5 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 10 | | |
| 3 | Some activity, part of O&M | 9 | | |
| 4 | Small scale active programme | 1 | | |
| 5 | Large scale active programme | 0 | | |
| | | | | |
| **Potential NRW Impact** | | 25 | | |
| 1 | <=50 000 | 4 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 7 | | |
| 3 | >100 000 <=200 000 | 7 | | |
| 4 | >200 000 <=500 000 | 3 | | |
| 5 | >500 000 | 4 | | |
| | | | | |

**Key Performance Indicators**

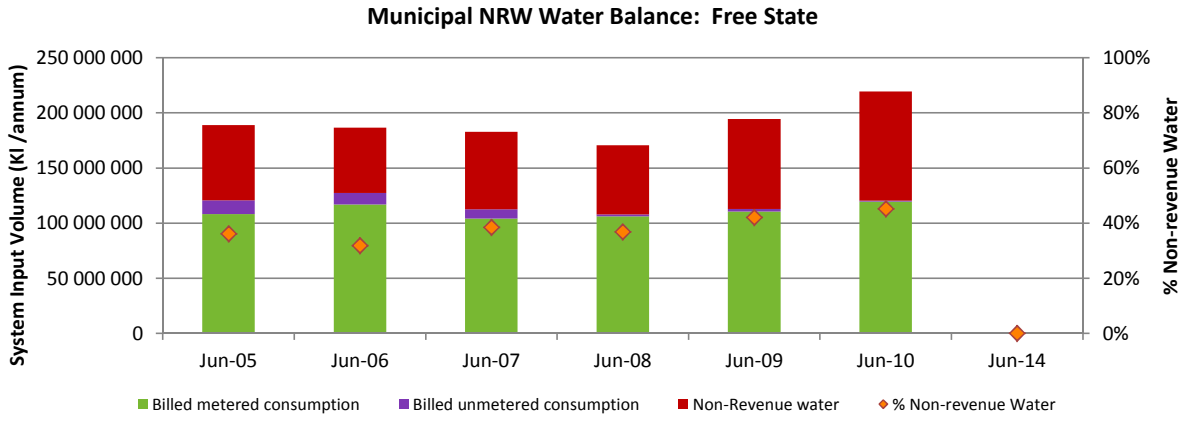


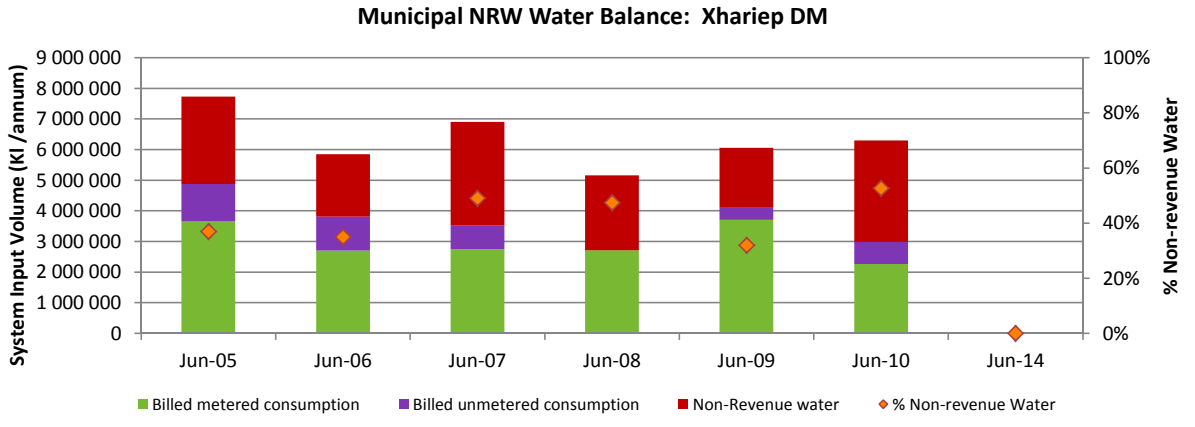



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target Jun-14 |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | |
| Input Data | Population | | 2 762 615 | 2 771 405 | 2 788 033 | 2 799 180 | 2 815 973 | 2 848 248 | 0 |
| | Households | | 785 481 | 787 958 | 792 696 | 795 862 | 800 643 | 810 108 | 0 |
| | Connections - metered | | 479 052 | 494 194 | 535 968 | 566 620 | 514 994 | 499 452 | 0 |
| | Connections - Unmetered | | 169 520 | 155 716 | 161 331 | 156 303 | 142 121 | 156 757 | 0 |
| | Length of mains (km) | | 12 656 | 12 692 | 12 749 | 12 796 | 12 855 | 12 536 | 0 |
| | System input volume | kl/annum | 189 046 957 | 186 728 267 | 182 873 752 | 170 660 078 | 194 488 393 | 219 402 981 | 0 |
| | Billed metered consumption | kl/annum | 108 076 159 | 116 900 828 | 104 187 682 | 106 300 822 | 110 464 210 | 119 598 352 | 0 |
| | Billed unmetered consumption | kl/annum | 12 683 569 | 10 421 504 | 8 341 990 | 1 512 833 | 2 291 658 | 739 864 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 120 759 729 | 127 322 332 | 112 529 672 | 107 813 655 | 112 755 868 | 120 338 216 | 0 |
| | Non-Revenue water | kl/annum | 68 287 228 | 59 405 935 | 70 344 080 | 62 846 423 | 81 732 525 | 99 064 765 | 0 |
| | Water Losses | kl/annum | 68 287 228 | 59 405 935 | 70 344 080 | 62 846 423 | 81 732 525 | 99 064 765 | 0 |
| | % Non-revenue water | | 36.1% | 31.8% | 38.5% | 36.8% | 42.0% | 45.2% | No data |
| | % Water Losses | | 36.1% | 31.8% | 38.5% | 36.8% | 42.0% | 45.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 187 | 185 | 180 | 167 | 189 | 211 | No data |
| | Input: m³ / household / month | | 20 | 20 | 19 | 18 | 20 | 23 | No data |
| | Billed : Litres / capita / day | | 120 | 126 | 111 | 106 | 110 | 116 | No data |
| | Billed : m³ / household / month | | 13 | 13 | 12 | 11 | 12 | 12 | No data |
| | % Population growth | | | 0.32% | 0.60% | 0.40% | 0.60% | 1.15% | |
| | % Water demand growth | | | -1.23% | -2.06% | -6.68% | 13.96% | 12.81% | |
| Source of information | | | | | | | | | |



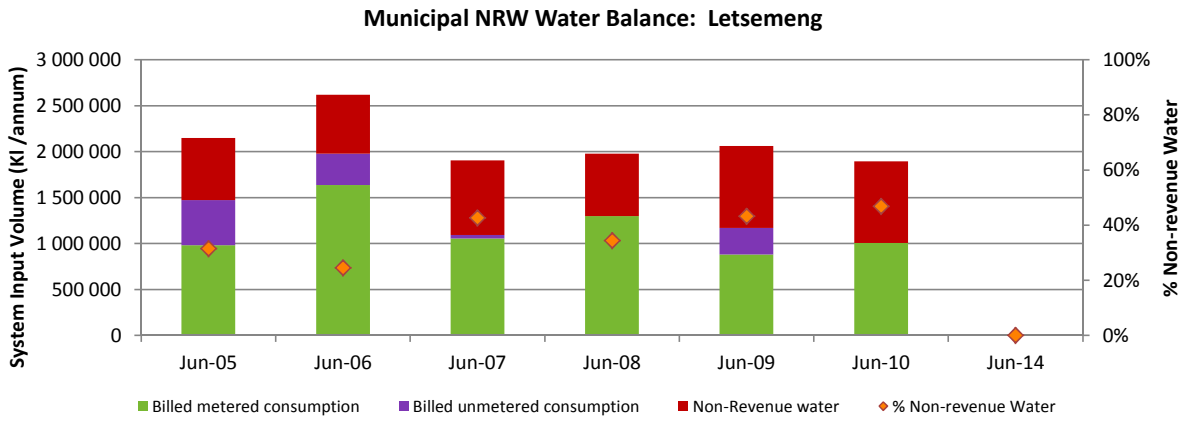

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS162 | | | | | | | | Yes |
| District Municipality | Xhariep | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 140 072 | 140 711 | 141 553 | 142 117 | 142 971 | 143 155 | 0 |
| | Households | | 42 338 | 42 529 | 42 785 | 42 957 | 43 215 | 43 308 | 0 |
| | Connections - metered | | 20 374 | 20 467 | 31 225 | 38 741 | 20 794 | 20 713 | 0 |
| | Connections - Unmetered | | 3 043 | 3 056 | 3 825 | 4 474 | 3 105 | 3 096 | 0 |
| | Length of mains (km) | | 468 | 470 | 473 | 475 | 478 | 476 | 0 |
| | System input volume | kl/annum | 7 728 755 | 5 853 472 | 6 903 305 | 5 159 566 | 6 063 891 | 6 301 728 | 0 |
| | Billed metered consumption | kl/annum | 3 652 902 | 2 703 601 | 2 746 865 | 2 715 166 | 3 708 000 | 2 263 337 | 0 |
| | Billed unmetered consumption | kl/annum | 1 223 575 | 1 105 926 | 773 936 | 0 | 421 000 | 724 000 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 4 876 478 | 3 809 527 | 3 520 801 | 2 715 166 | 4 129 000 | 2 987 337 | 0 |
| | Non-Revenue water | kl/annum | 2 852 277 | 2 043 945 | 3 382 504 | 2 444 400 | 1 934 891 | 3 314 391 | 0 |
| | Water Losses | kl/annum | 2 852 277 | 2 043 945 | 3 382 504 | 2 444 400 | 1 934 891 | 3 314 391 | 0 |
| | % Non-revenue water | | 36.9% | 34.9% | 49.0% | 47.4% | 31.9% | 52.6% | No data |
| | % Water Losses | | 36.9% | 34.9% | 49.0% | 47.4% | 31.9% | 52.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 151 | 114 | 134 | 99 | 116 | 121 | No data |
| | Input: m³ / household / month | | 15 | 11 | 13 | 10 | 12 | 12 | No data |
| | Billed : Litres / capita / day | | 95 | 74 | 68 | 52 | 79 | 57 | No data |
| | Billed : m³ / household / month | | 10 | 7 | 7 | 5 | 8 | 6 | No data |
| | % Population growth | | | 0.46% | 0.60% | 0.40% | 0.60% | 0.13% | |
| | % Water demand growth | | | -24.26% | 17.94% | -25.26% | 17.53% | 3.92% | |
| Source of information | | | | | | | | | |




Comments

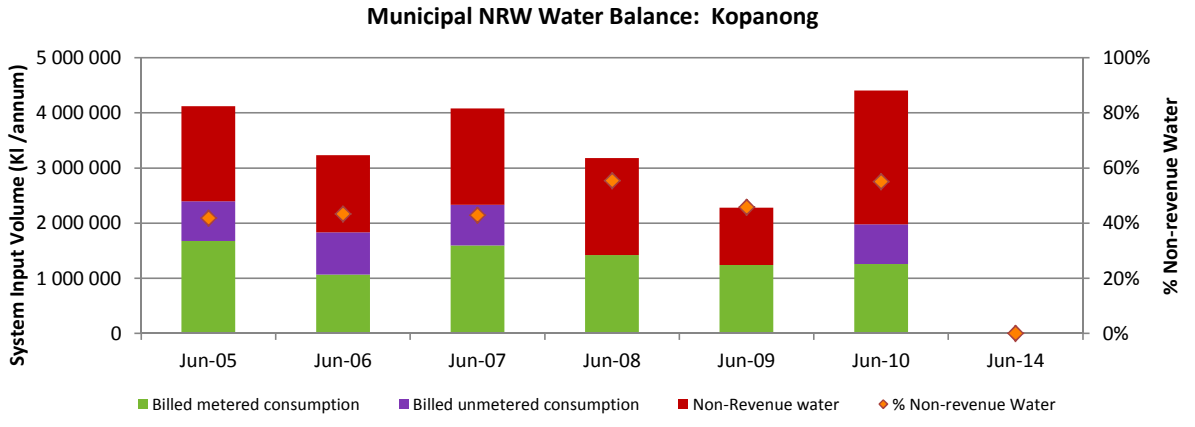
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS161 | | | | | | | | Yes |
| District Municipality | Xhariep | | | | | | | | Category |
| Municipality | Letsemeng | | | | | | | | B3 |
| Settlements | DITLHAKE, KOFFIEFONTEIN | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 45 228 | 45 434 | 45 704 | 45 884 | 46 160 | 46 591 | |
| | Households | | 13 268 | 13 326 | 13 405 | 13 460 | 13 540 | 13 667 | |
| | Connections - metered | | ~~11 553~~ | ~~11 606~~ | ~~11 675~~ | 11 721 | ~~11 792~~ | ~~11 902~~ | |
| | Connections - Unmetered | | ~~1 794~~ | ~~1 802~~ | ~~1 813~~ | 1 820 | ~~1 831~~ | ~~1 848~~ | |
| | Length of mains (km) | | ~~267~~ | ~~268~~ | ~~270~~ | ~~271~~ | ~~272~~ | ~~275~~ | |
| | System input volume | kl/annum | 2 149 223 | 2 620 409 | 1 902 960 | ~~1 977 597~~ | 2 060 000 | ~~1 895 728~~ | |
| | Billed metered consumption | kl/annum | 982 112 | 1 636 558 | 1 055 024 | ~~1 297 577~~ | 880 000 | ~~1 007 337~~ | |
| | Billed unmetered consumption | kl/annum | 489 816 | 340 134 | 37 592 | | 290 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 471 928 | 1 976 692 | 1 092 616 | 1 297 577 | 1 170 000 | 1 007 337 | 0 |
| | Non-Revenue water | kl/annum | 677 295 | 643 717 | 810 344 | 680 020 | 890 000 | 888 391 | 0 |
| | Water Losses | kl/annum | 677 295 | 643 717 | 810 344 | 680 020 | 890 000 | 888 391 | 0 |
| | % Non-revenue water | | 31.5% | 24.6% | 42.6% | 34.4% | 43.2% | 46.9% | No data |
| | % Water Losses | | 31.5% | 24.6% | 42.6% | 34.4% | 43.2% | 46.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 130 | 158 | 114 | 118 | 122 | 111 | No data |
| | Input: m³ / household / month | | 13 | 16 | 12 | 12 | 13 | 12 | No data |
| | Billed : Litres / capita / day | | 89 | 119 | 65 | 77 | 69 | 59 | No data |
| | Billed : m³ / household / month | | 9 | 12 | 7 | 8 | 7 | 6 | No data |
| | % Population growth | | | 0.46% | 0.59% | 0.39% | 0.60% | 0.93% | |
| | % Water demand growth | | | 21.92% | -27.38% | 3.92% | 4.17% | -7.97% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | DWA NIS RPMS | | |




**Comments**

2005 Input volume seems high?

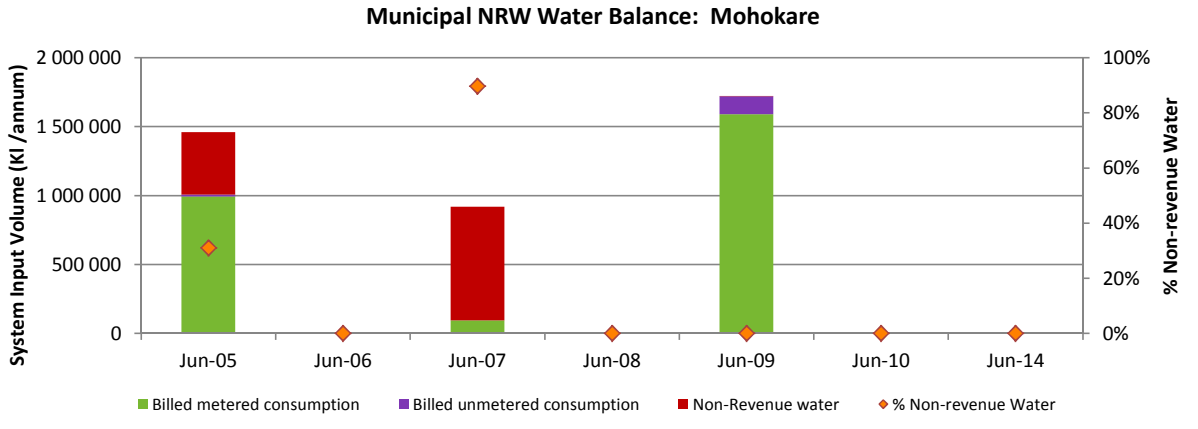
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS162 | | | | | | | | Yes |
| District Municipality | Xhariep | | | | | | | | Category |
| Municipality | Kopanong | | | | | | | | B3 |
| Settlements | Trompsburg | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 58 022 | 58 286 | 58 637 | 58 873 | 59 226 | 59 777 | |
| | Households | | 19 061 | 19 149 | 19 265 | 19 342 | 19 459 | 19 641 | |
| | Connections - metered | | | | 10 636 | 18 071 | | | |
| | Connections - Unmetered | | | | 750 | 1 387 | | | |
| | Length of mains (km) | | | | | | | | |
| | System input volume | kl/annum | 4 119 764 | 3 233 063 | 4 082 048 | 3 181 970 | 2 281 891 | 4 406 000 | |
| | Billed metered consumption | kl/annum | 1 676 313 | 1 067 043 | 1 597 179 | 1 417 590 | 1 238 000 | 1 256 000 | |
| | Billed unmetered consumption | kl/annum | 721 080 | 765 792 | 736 344 | | 0 | 724 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 397 393 | 1 832 835 | 2 333 523 | 1 417 590 | 1 238 000 | 1 980 000 | 0 |
| | Non-Revenue water | kl/annum | 1 722 371 | 1 400 228 | 1 748 525 | 1 764 380 | 1 043 891 | 2 426 000 | 0 |
| | Water Losses | kl/annum | 1 722 371 | 1 400 228 | 1 748 525 | 1 764 380 | 1 043 891 | 2 426 000 | 0 |
| | % Non-revenue water | | 41.8% | 43.3% | 42.8% | 55.4% | 45.7% | 55.1% | No data |
| | % Water Losses | | 41.8% | 43.3% | 42.8% | 55.4% | 45.7% | 55.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 195 | 152 | 191 | 148 | 106 | 202 | No data |
| | Input: m³ / household / month | | 18 | 14 | 18 | 14 | 10 | 19 | No data |
| | Billed : Litres / capita / day | | 113 | 86 | 109 | 66 | 57 | 91 | No data |
| | Billed : m³ / household / month | | 10 | 8 | 10 | 6 | 5 | 8 | No data |
| | % Population growth | | | 0.45% | 0.60% | 0.40% | 0.60% | 0.93% | |
| | % Water demand growth | | | -21.52% | 26.26% | -22.05% | -28.29% | 93.09% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

Fluctuating input volume?

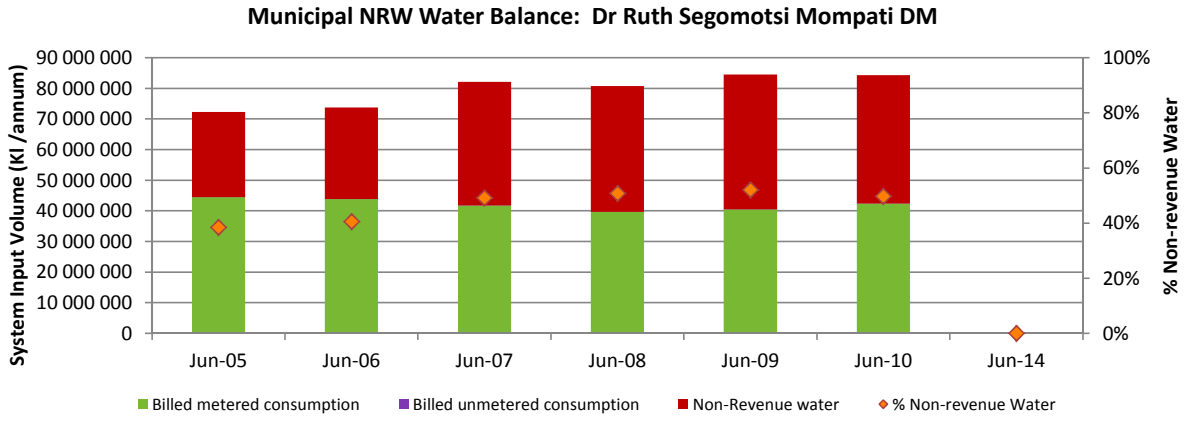
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS163 | | | | | | | | Yes |
| District Municipality | Xhariep | | | | | | | | Category |
| Municipality | Mohokare | | | | | | | | B3 |
| Settlements | SOUTH EASTERN , ZASTRON | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 36 822 | 36 991 | 37 212 | 37 360 | 37 585 | 36 787 | |
| | Households | | 10 009 | 10 054 | 10 115 | 10 155 | 10 216 | 10 000 | |
| | Connections - metered | | ~~8 820~~ | ~~8 861~~ | ~~8 914~~ | 8 949 | ~~9 003~~ | ~~8 812~~ | |
| | Connections - Unmetered | | ~~1 249~~ | ~~1 254~~ | ~~1 262~~ | 1 267 | ~~1 275~~ | ~~1 248~~ | |
| | Length of mains (km) | | ~~201~~ | ~~202~~ | ~~204~~ | ~~204~~ | ~~206~~ | ~~201~~ | |
| | System input volume | kl/annum | 1 459 768 | | 918 297 | | 1 722 000 | | |
| | Billed metered consumption | kl/annum | 994 477 | | 94 662 | | 1 590 000 | | |
| | Billed unmetered consumption | kl/annum | 12 679 | | 0 | | 131 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 007 157 | 0 | 94 662 | 0 | 1 721 000 | 0 | ~~0~~ |
| | Non-Revenue water | kl/annum | 452 611 | 0 | 823 635 | 0 | 1 000 | 0 | 0 |
| | Water Losses | kl/annum | 452 611 | 0 | 823 635 | 0 | 1 000 | 0 | 0 |
| | % Non-revenue water | | 31.0% | No data | 89.7% | No data | 0.1% | No data | No data |
| | % Water Losses | | 31.0% | No data | 89.7% | No data | 0.1% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 109 | No data | 68 | No data | 126 | No data | No data |
| | Input: m³ / household / month | | 12 | No data | 8 | No data | 14 | No data | No data |
| | Billed : Litres / capita / day | | 75 | No data | 7 | No data | 125 | No data | No data |
| | Billed : m³ / household / month | | 8 | No data | 1 | No data | 14 | No data | No data |
| | % Population growth | | | 0.46% | 0.60% | 0.40% | 0.60% | -2.12% | |
| | % Water demand growth | | | | #DIV/0! | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | DWA NIS RPMS | | |




**Comments**

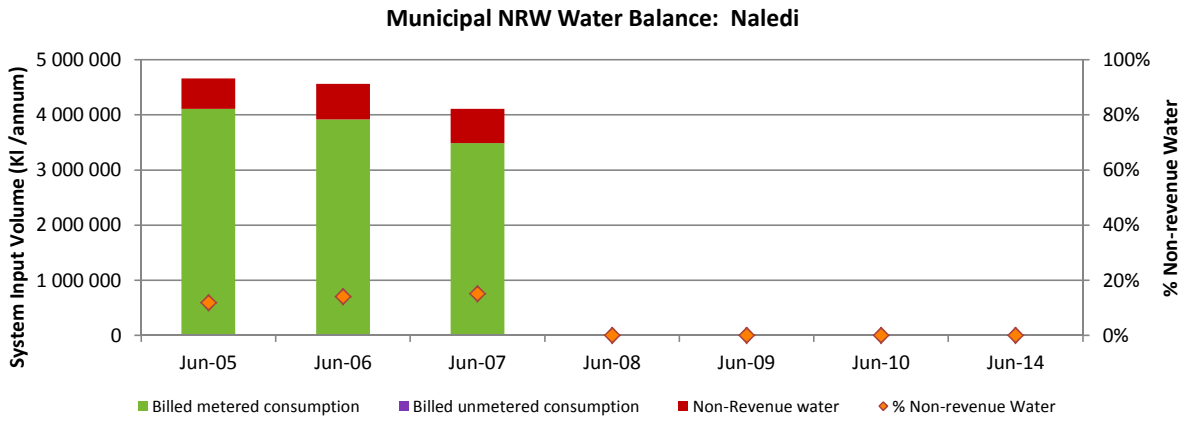
Fluctuating input volume?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | DC17 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 749 081 | 753 805 | 758 330 | 761 367 | 765 934 | 781 471 | 0 |
| | Households | | 222 811 | 224 217 | 225 562 | 226 464 | 227 822 | 232 570 | 0 |
| | Connections - metered | | 108 286 | 121 594 | 121 487 | 127 089 | 132 637 | 135 496 | 0 |
| | Connections - Unmetered | | 73 727 | 60 565 | 60 813 | 55 306 | 50 711 | 55 939 | 0 |
| | Length of mains (km) | | 3 639 | 3 651 | 3 664 | 3 680 | 3 693 | 3 704 | 0 |
| | System input volume | kl/annum | 72 263 352 | 73 798 140 | 82 076 003 | 80 715 973 | 84 566 554 | 84 358 852 | 0 |
| | Billed metered consumption | kl/annum | 44 485 757 | 43 867 193 | 41 764 056 | 39 697 040 | 40 543 586 | 42 364 873 | 0 |
| | Billed unmetered consumption | kl/annum | 22 236 | 19 854 | 20 400 | 20 106 | 20 658 | 15 864 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 44 507 993 | 43 887 047 | 41 784 456 | 39 717 146 | 40 564 244 | 42 380 737 | 0 |
| | Non-Revenue water | kl/annum | 27 755 359 | 29 911 093 | 40 291 547 | 40 998 827 | 44 002 310 | 41 978 115 | 0 |
| | Water Losses | kl/annum | 27 755 359 | 29 911 093 | 40 291 547 | 40 998 827 | 44 002 310 | 41 978 115 | 0 |
| | % Non-revenue water | | 38.4% | 40.5% | 49.1% | 50.8% | 52.0% | 49.8% | No data |
| | % Water Losses | | 38.4% | 40.5% | 49.1% | 50.8% | 52.0% | 49.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 264 | 268 | 297 | 290 | 302 | 296 | No data |
| | Input: m³ / household / month | | 27 | 27 | 30 | 30 | 31 | 30 | No data |
| | Billed : Litres / capita / day | | 163 | 160 | 151 | 143 | 145 | 149 | No data |
| | Billed : m³ / household / month | | 17 | 16 | 15 | 15 | 15 | 15 | No data |
| | % Population growth | | | 0.63% | 0.60% | 0.40% | 0.60% | 2.03% | |
| | % Water demand growth | | | 2.12% | 11.22% | -1.66% | 4.77% | -0.25% | |
| Source of information | | | | | | | | | |



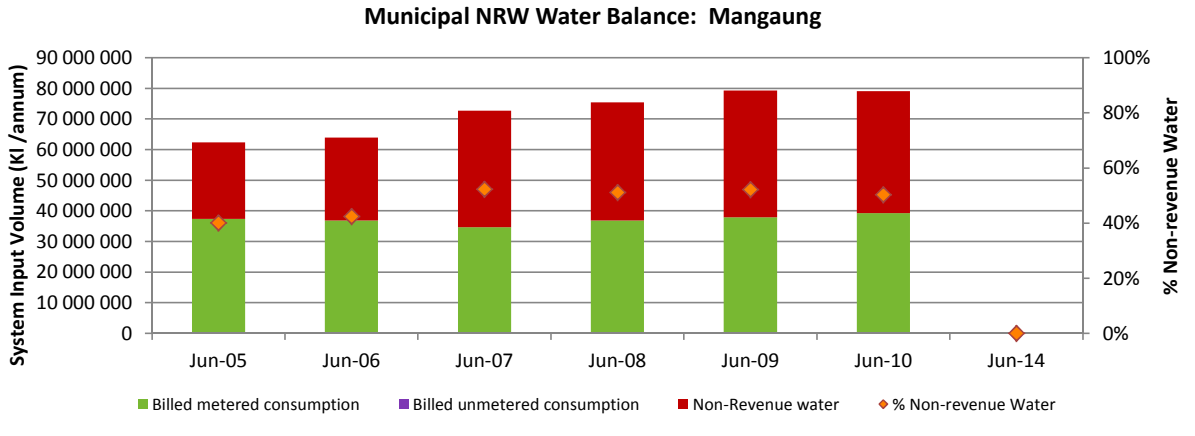

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | FS171 | | | | | | | | Yes |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Naledi | | | | | | | | B3 |
| Settlements | HUHUDI, VRYBURG | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 28 414 | 28 593 | 28 765 | 28 880 | 29 052 | 30 023 | |
| | Households | | 8 236 | 8 289 | 8 338 | 8 372 | 8 422 | 8 704 | |
| | Connections - metered | | ~~7 276~~ | ~~7 322~~ | ~~7 366~~ | 7 395 | ~~7 439~~ | ~~7 688~~ | |
| | Connections - Unmetered | | ~~1 010~~ | ~~1 017~~ | ~~1 023~~ | 1 027 | ~~1 033~~ | ~~1 068~~ | |
| | Length of mains (km) | | ~~166~~ | ~~167~~ | ~~168~~ | ~~168~~ | ~~169~~ | ~~175~~ | |
| | System input volume | kl/annum | 4 661 938 | 4 562 705 | 4 106 789 | | | | |
| | Billed metered consumption | kl/annum | 4 107 267 | 3 919 591 | 3 488 267 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 107 267 | 3 919 591 | 3 488 267 | 0 | 0 | 0 | ~~0~~ |
| | Non-Revenue water | kl/annum | 554 671 | 643 114 | 618 522 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 554 671 | 643 114 | 618 522 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 11.9% | 14.1% | 15.1% | No data | No data | No data | No data |
| | % Water Losses | | 11.9% | 14.1% | 15.1% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 450 | 437 | 391 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 47 | 46 | 41 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 396 | 376 | 332 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 42 | 39 | 35 | No data | No data | No data | No data |
| | % Population growth | | | 0.63% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | -2.13% | -9.99% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



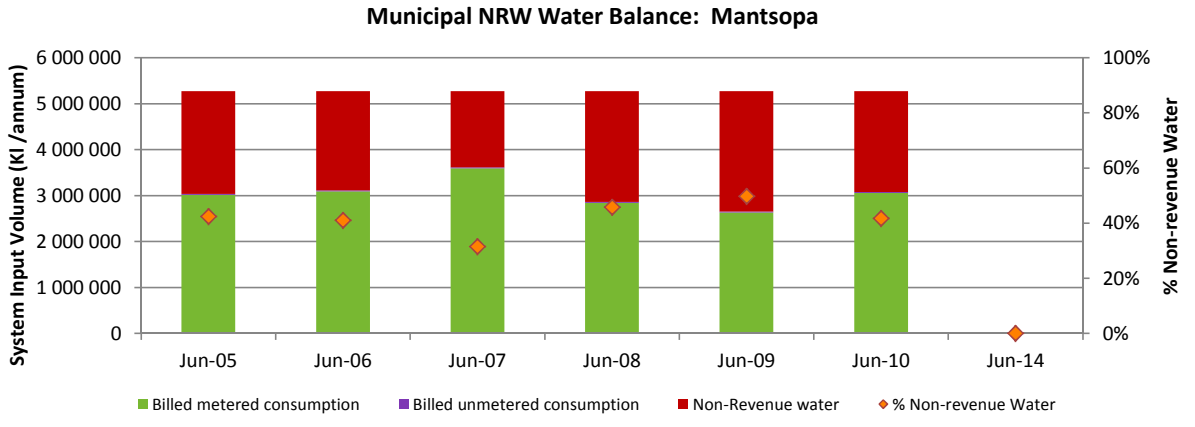

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS172 | | | | | | | Yes |
| District Municipality | | Dr Ruth Segomotsi Mompati | | | | | | | Category |
| Municipality | | Mangaung | | | | | | | B1 |
| Settlements | | BLOEMFONTEIN, BOTSHABELO, MANGAUNG, BULTFONTEIN | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 663 407 | 667 591 | 671 597 | 674 285 | 678 330 | 695 083 | |
| | Households | | 199 616 | 200 876 | 202 081 | 202 887 | 204 103 | 209 141 | |
| | Connections - metered | | 89 757 | 102 529 | 102 378 | 107 840 | 113 344 | 115 727 | |
| | Connections - Unmetered | | ~~69 011~~ | ~~56 239~~ | ~~56 390~~ | ~~50 928~~ | ~~46 235~~ | ~~52 227~~ | |
| | Length of mains (km) | | 3 345 | 3 356 | 3 368 | 3 384 | 3 396 | 3 401 | |
| | System input volume | kl/annum | 62 328 407 | 63 962 428 | 72 696 207 | 75 442 966 | 79 293 547 | 79 085 845 | |
| | Billed metered consumption | kl/annum | 37 363 127 | 36 855 554 | 34 681 776 | 36 855 554 | 37 912 025 | 39 305 132 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 37 363 127 | 36 855 554 | 34 681 776 | 36 855 554 | 37 912 025 | 39 305 132 | ~~0~~ |
| | Non-Revenue water | kl/annum | 24 965 280 | 27 106 874 | 38 014 431 | 38 587 412 | 41 381 522 | 39 780 713 | 0 |
| | Water Losses | kl/annum | 24 965 280 | 27 106 874 | 38 014 431 | 38 587 412 | 41 381 522 | 39 780 713 | 0 |
| | % Non-revenue water | | 40.1% | 42.4% | 52.3% | 51.1% | 52.2% | 50.3% | No data |
| | % Water Losses | | 40.1% | 42.4% | 52.3% | 51.1% | 52.2% | 50.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 257 | 262 | 297 | 307 | 320 | 312 | No data |
| | Input: m³ / household / month | | 26 | 27 | 30 | 31 | 32 | 32 | No data |
| | Billed : Litres / capita / day | | 154 | 151 | 141 | 150 | 153 | 155 | No data |
| | Billed : m³ / household / month | | 16 | 15 | 14 | 15 | 15 | 16 | No data |
| | % Population growth | | | 0.63% | 0.60% | 0.40% | 0.60% | 2.47% | |
| | % Water demand growth | | | 2.62% | 13.65% | 3.78% | 5.10% | -0.26% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



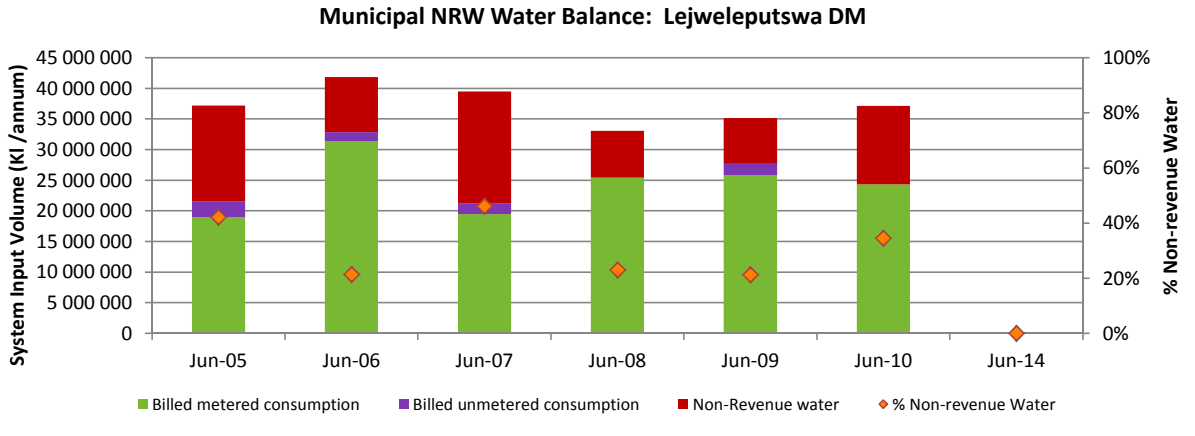

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS173 | | | | | | | Yes |
| District Municipality | | Dr Ruth Segomotsi Mompati | | | | | | | Category |
| Municipality | | Mantsopa | | | | | | | B3 |
| Settlements | | MALUTI, LADYBRAND | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 57 260 | 57 621 | 57 968 | 58 202 | 58 552 | 56 365 | |
| | Households | | 14 959 | 15 052 | 15 143 | 15 205 | 15 297 | 14 725 | |
| | Connections - metered | | 11 253 | 11 743 | 11 743 | 11 854 | 11 854 | 12 081 | |
| | Connections - Unmetered | | 3 706 | 3 309 | 3 400 | 3 351 | 3 443 | 2 644 | |
| | Length of mains (km) | | 128 | 128 | 128 | 128 | 128 | 128 | |
| | System input volume | kl/annum | 5 273 007 | 5 273 007 | 5 273 007 | 5 273 007 | 5 273 007 | 5 273 007 | |
| | Billed metered consumption | kl/annum | 3 015 363 | 3 092 048 | 3 594 013 | 2 841 486 | 2 631 561 | 3 059 741 | |
| | Billed unmetered consumption | kl/annum | 22 236 | 19 854 | 20 400 | 20 106 | 20 658 | 15 864 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 037 599 | 3 111 902 | 3 614 413 | 2 861 592 | 2 652 219 | 3 075 605 | 0 |
| | Non-Revenue water | kl/annum | 2 235 408 | 2 161 105 | 1 658 594 | 2 411 415 | 2 620 788 | 2 197 402 | 0 |
| | Water Losses | kl/annum | 2 235 408 | 2 161 105 | 1 658 594 | 2 411 415 | 2 620 788 | 2 197 402 | 0 |
| | % Non-revenue water | | 42.4% | 41.0% | 31.5% | 45.7% | 49.7% | 41.7% | No data |
| | % Water Losses | | 42.4% | 41.0% | 31.5% | 45.7% | 49.7% | 41.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 252 | 251 | 249 | 248 | 247 | 256 | No data |
| | Input: m³ / household / month | | 29 | 29 | 29 | 29 | 29 | 30 | No data |
| | Billed : Litres / capita / day | | 145 | 148 | 171 | 135 | 124 | 149 | No data |
| | Billed : m³ / household / month | | 17 | 17 | 20 | 16 | 14 | 17 | No data |
| | % Population growth | | | 0.63% | 0.60% | 0.40% | 0.60% | -3.74% | |
| | % Water demand growth | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |



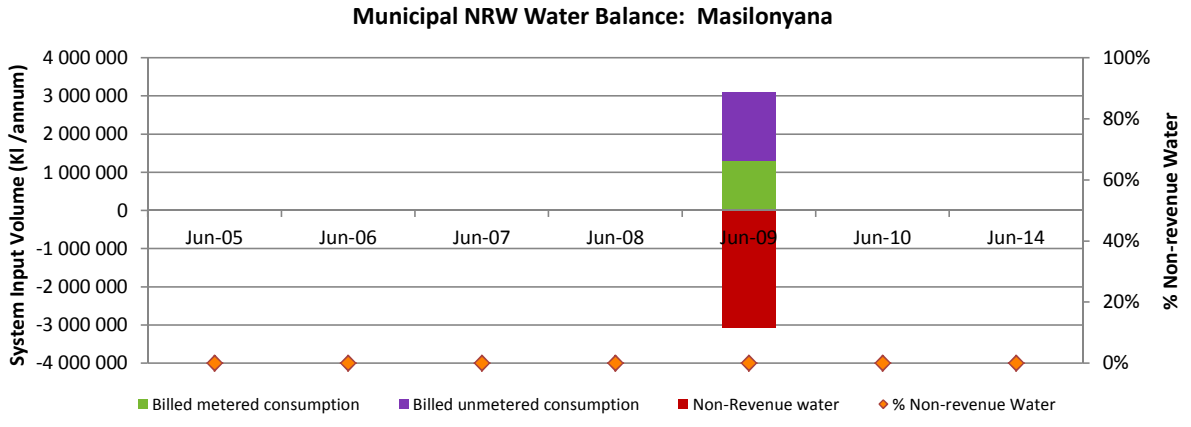

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | DC18 | | | | | | | No |
| District Municipality | | Lejweleputswa | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 658 213 | 656 379 | 660 319 | 662 961 | 666 939 | 671 443 | 0 |
| | Households | | 193 761 | 193 219 | 194 382 | 195 158 | 196 332 | 197 676 | 0 |
| | Connections - metered | | 124 647 | 125 312 | 126 757 | 127 766 | 131 095 | 132 062 | 0 |
| | Connections - Unmetered | | 39 750 | 38 890 | 37 865 | 37 138 | 34 243 | 34 148 | 0 |
| | Length of mains (km) | | 2 974 | 2 970 | 2 978 | 2 984 | 2 992 | 3 009 | 0 |
| | System input volume | kl/annum | 37 174 453 | 41 843 811 | 39 511 712 | 33 045 866 | 35 136 497 | 37 168 428 | 0 |
| | Billed metered consumption | kl/annum | 18 926 682 | 31 382 719 | 19 463 396 | 25 453 797 | 25 828 402 | 24 331 515 | 0 |
| | Billed unmetered consumption | kl/annum | 2 565 024 | 1 490 002 | 1 801 450 | 0 | 1 850 000 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 21 491 706 | 32 872 721 | 21 264 846 | 25 453 797 | 27 678 402 | 24 331 515 | 0 |
| | Non-Revenue water | kl/annum | 15 682 747 | 8 971 090 | 18 246 866 | 7 592 068 | 7 458 095 | 12 836 912 | 0 |
| | Water Losses | kl/annum | 15 682 747 | 8 971 090 | 18 246 866 | 7 592 068 | 7 458 095 | 12 836 912 | 0 |
| | % Non-revenue water | | 42.2% | 21.4% | 46.2% | 23.0% | 21.2% | 34.5% | No data |
| | % Water Losses | | 42.2% | 21.4% | 46.2% | 23.0% | 21.2% | 34.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 155 | 175 | 164 | 137 | 144 | 152 | No data |
| | Input: m³ / household / month | | 16 | 18 | 17 | 14 | 15 | 16 | No data |
| | Billed : Litres / capita / day | | 89 | 137 | 88 | 105 | 114 | 99 | No data |
| | Billed : m³ / household / month | | 9 | 14 | 9 | 11 | 12 | 10 | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.40% | 0.60% | 0.68% | |
| | % Water demand growth | | | 12.56% | -5.57% | -16.36% | 6.33% | 5.78% | |
| Source of information | | | | | | | | | |



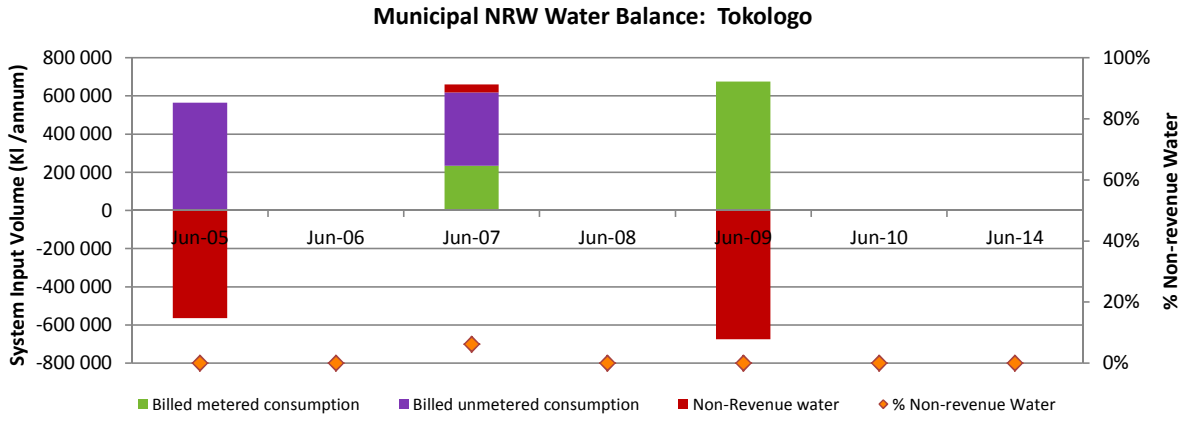

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS181 | | | | | | | | Yes |
| District Municipality | Lejweleputswa | | | | | | | | Category |
| Municipality | Masilonyana | | | | | | | | B3 |
| Settlements | LUSAKA, MASILO, MAKELEKETLA, THEUNISSEN | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 64 973 | 64 793 | 65 183 | 65 444 | 65 838 | 68 038 | |
| | Households | | 18 079 | 18 030 | 18 140 | 18 211 | 18 321 | 18 932 | |
| | Connections - metered | | ~~15 956~~ | ~~15 912~~ | ~~16 008~~ | 16 072 | ~~16 169~~ | ~~16 709~~ | |
| | Connections - Unmetered | | ~~2 233~~ | ~~2 227~~ | ~~2 240~~ | 2 249 | ~~2 263~~ | ~~2 338~~ | |
| | Length of mains (km) | | ~~364~~ | ~~363~~ | ~~365~~ | ~~366~~ | ~~369~~ | ~~381~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | 1 300 000 | | |
| | Billed unmetered consumption | kl/annum | | | | | 1 800 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 3 100 000 | 0 | ~~0~~ |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | -3 100 000 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | -3 100 000 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | 129 | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | 14 | No data | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

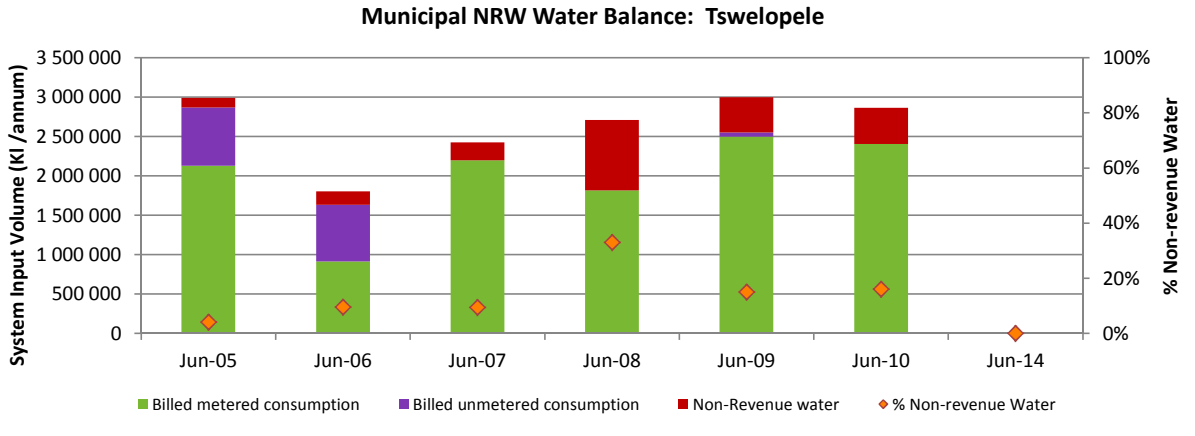
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS182 | | | | | | | | Yes |
| District Municipality | Lejweleputswa | | | | | | | | Category |
| Municipality | Tokologo | | | | | | | | B3 |
| Settlements | MODDERVAAL, DEALESVILLE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 34 174 | 34 079 | 34 285 | 34 424 | 34 631 | 33 621 | |
| | Households | | 9 789 | 9 759 | 9 818 | 9 859 | 9 919 | 9 630 | |
| | Connections - metered | | 8 585 | 8 561 | 8 613 | 8 648 | 8 700 | 8 446 | |
| | Connections - Unmetered | | 1 262 | 1 258 | 1 266 | 1 271 | 1 279 | 1 241 | |
| | Length of mains (km) | | 197 | 196 | 198 | 198 | 200 | 194 | |
| | System input volume | kl/annum | 0 | 0 | 660 128 | | | | |
| | Billed metered consumption | kl/annum | 0 | 0 | 234 000 | | 675 125 | | |
| | Billed unmetered consumption | kl/annum | 564 144 | 0 | 385 128 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 564 144 | 0 | 619 128 | 0 | 675 125 | 0 | 0 |
| | Non-Revenue water | kl/annum | -564 144 | 0 | 41 000 | 0 | -675 125 | 0 | 0 |
| | Water Losses | kl/annum | -564 144 | 0 | 41 000 | 0 | -675 125 | 0 | 0 |
| | % Non-revenue water | | No data | No data | 6.2% | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | 6.2% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 53 | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | 6 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 45 | No data | 49 | No data | 53 | No data | No data |
| | Billed : m³ / household / month | | 5 | No data | 5 | No data | 6 | No data | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.41% | 0.60% | -2.92% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | |




Comments

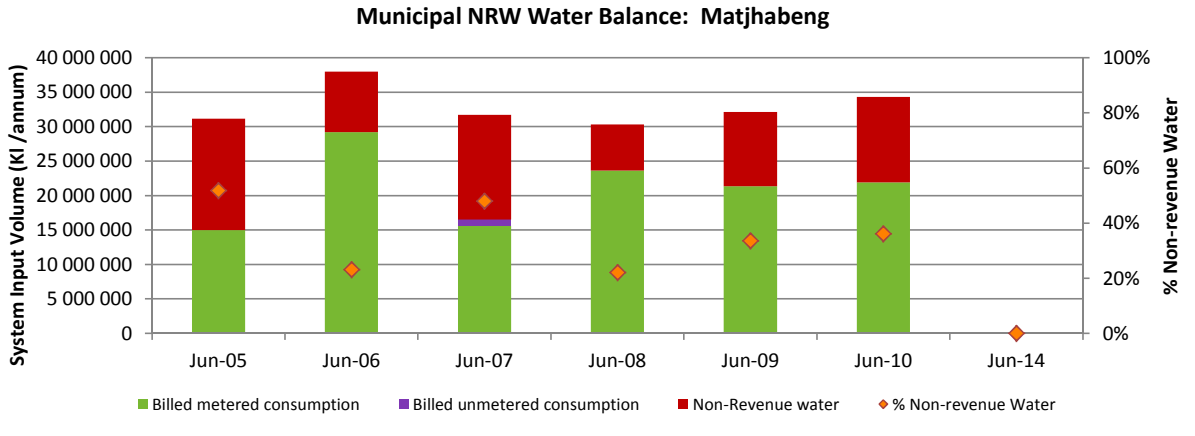
Inconsistent data

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS183 | | | | | | | | Yes |
| District Municipality | Lejweleputswa | | | | | | | | Category |
| Municipality | Tswelopele | | | | | | | | B3 |
| Settlements | PHAHAMENG, VETVAAL, HOOPSTAD | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 54 894 | 54 741 | 55 069 | 55 289 | 55 621 | 53 892 | |
| | Households | | 13 334 | 13 296 | 13 377 | 13 430 | 13 512 | 13 092 | |
| | Connections - metered | | 9 082 | 9 056 | 9 111 | 9 147 | 9 202 | 8 916 | |
| | Connections - Unmetered | | 4 332 | 4 319 | 4 346 | 4 363 | 4 390 | 4 253 | |
| | Length of mains (km) | | 268 | 268 | 269 | 270 | 272 | 263 | |
| | System input volume | kl/annum | 2 991 894 | 1 804 881 | 2 423 589 | 2 711 795 | 3 000 000 | 2 863 509 | |
| | Billed metered consumption | kl/annum | 2 127 282 | 914 871 | 2 196 663 | 1 815 748 | 2 500 000 | 2 404 671 | |
| | Billed unmetered consumption | kl/annum | 741 384 | 718 920 | 0 | | 50 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 868 666 | 1 633 791 | 2 196 663 | 1 815 748 | 2 550 000 | 2 404 671 | 0 |
| | Non-Revenue water | kl/annum | 123 228 | 171 090 | 226 926 | 896 046 | 450 000 | 458 837 | 0 |
| | Water Losses | kl/annum | 123 228 | 171 090 | 226 926 | 896 046 | 450 000 | 458 837 | 0 |
| | % Non-revenue water | | 4.1% | 9.5% | 9.4% | 33.0% | 15.0% | 16.0% | No data |
| | % Water Losses | | 4.1% | 9.5% | 9.4% | 33.0% | 15.0% | 16.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 149 | 90 | 121 | 134 | 148 | 146 | No data |
| | Input: m³ / household / month | | 19 | 11 | 15 | 17 | 19 | 18 | No data |
| | Billed : Litres / capita / day | | 143 | 82 | 109 | 90 | 126 | 122 | No data |
| | Billed : m³ / household / month | | 18 | 10 | 14 | 11 | 16 | 15 | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.40% | 0.60% | -3.11% | |
| | % Water demand growth | | | -39.67% | 34.28% | 11.89% | 10.63% | -4.55% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |



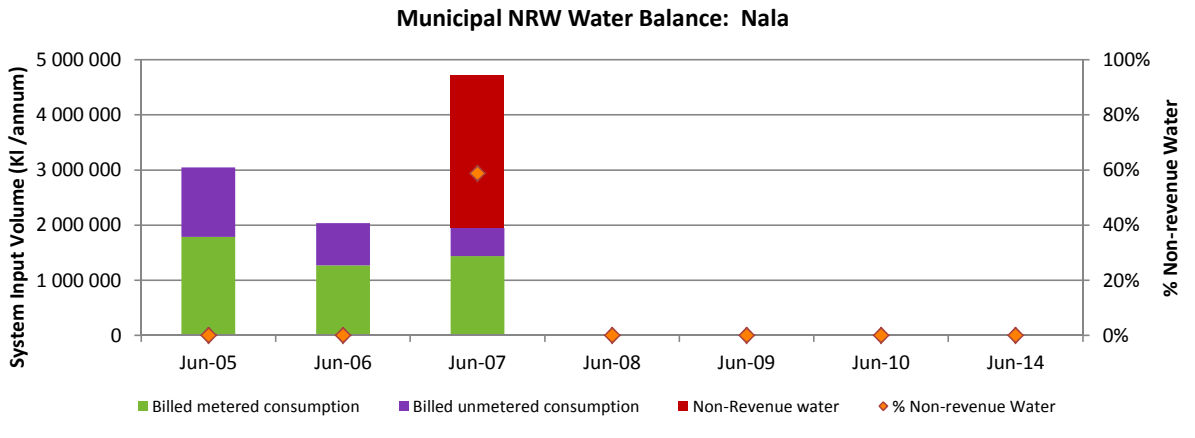

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS184 | | | | | | | | Yes |
| District Municipality | Lejweleputswa | | | | | | | | Category |
| Municipality | Matjhabeng | | | | | | | | B1 |
| Settlements | BRONVILLE, SANDRIVER, KUTLWANONG, MELODING, WELKOM | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 400 946 | 399 828 | 402 226 | 403 834 | 406 255 | 407 800 | |
| | Households | | 124 055 | 123 709 | 124 452 | 124 948 | 125 698 | 126 175 | |
| | Connections - metered | | 66 418 | 67 245 | 68 341 | 69 116 | 72 093 | 72 225 | |
| | Connections - Unmetered | | 27 854 | 27 027 | 25 931 | 25 156 | 22 188 | 22 054 | |
| | Length of mains (km) | | ~~1 571~~ | ~~1 571~~ | ~~1 571~~ | ~~1 571~~ | ~~1 571~~ | 1 570 | |
| | System input volume | kl/annum | 31 134 867 | 38 000 000 | 31 700 976 | 30 334 071 | 32 136 497 | 34 304 919 | |
| | Billed metered consumption | kl/annum | 15 011 204 | 29 200 000 | 15 596 016 | 23 638 049 | 21 353 277 | 21 926 844 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 902 569 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 15 011 204 | 29 200 000 | 16 498 585 | 23 638 049 | 21 353 277 | 21 926 844 | ~~0~~ |
| | Non-Revenue water | kl/annum | 16 123 663 | 8 800 000 | 15 202 391 | 6 696 022 | 10 783 220 | 12 378 075 | 0 |
| | Water Losses | kl/annum | 16 123 663 | 8 800 000 | 15 202 391 | 6 696 022 | 10 783 220 | 12 378 075 | 0 |
| | % Non-revenue water | | 51.8% | 23.2% | 48.0% | 22.1% | 33.6% | 36.1% | No data |
| | % Water Losses | | 51.8% | 23.2% | 48.0% | 22.1% | 33.6% | 36.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 213 | 260 | 216 | 206 | 217 | 230 | No data |
| | Input: m³ / household / month | | 21 | 26 | 21 | 20 | 21 | 23 | No data |
| | Billed : Litres / capita / day | | 103 | 200 | 112 | 160 | 144 | 147 | No data |
| | Billed : m³ / household / month | | 10 | 20 | 11 | 16 | 14 | 14 | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.40% | 0.60% | 0.38% | |
| | % Water demand growth | | | 22.05% | -16.58% | -4.31% | 5.94% | 6.75% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

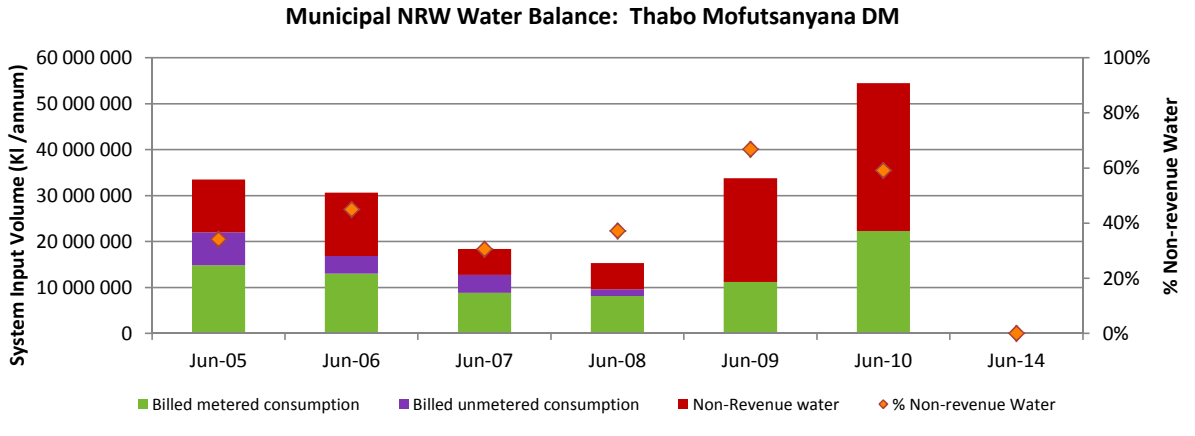
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS185 | | | | | | | | Yes |
| District Municipality | Lejweleputswa | | | | | | | | Category |
| Municipality | Nala | | | | | | | | B3 |
| Settlements | KGOTSONG, MONYAKENG, BOTHAVILLE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 103 226 | 102 938 | 103 556 | 103 970 | 104 594 | 108 092 | |
| | Households | | 28 504 | 28 425 | 28 595 | 28 710 | 28 882 | 29 847 | |
| | Connections - metered | | ~~24 606~~ | ~~24 537~~ | ~~24 684~~ | 24 783 | ~~24 932~~ | ~~25 766~~ | |
| | Connections - Unmetered | | ~~4 070~~ | ~~4 058~~ | ~~4 083~~ | 4 099 | ~~4 124~~ | ~~4 261~~ | |
| | Length of mains (km) | | ~~574~~ | ~~572~~ | ~~575~~ | ~~578~~ | ~~581~~ | ~~601~~ | |
| | System input volume | kl/annum | 3 047 692 | 2 038 930 | 4 727 019 | | | | |
| | Billed metered consumption | kl/annum | 1 788 196 | 1 267 848 | 1 436 717 | | | | |
| | Billed unmetered consumption | kl/annum | 1 259 496 | 771 082 | 513 753 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 047 692 | 2 038 930 | 1 950 470 | 0 | 0 | 0 | ~~0~~ |
| | Non-Revenue water | kl/annum | 0 | 0 | 2 776 549 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 2 776 549 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | Check data | 58.7% | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | 58.7% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 81 | 54 | 125 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 9 | 6 | 14 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 81 | 54 | 52 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 9 | 6 | 6 | No data | No data | No data | No data |
| | % Population growth | | | -0.28% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | -33.10% | 131.84% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | | | |




**Comments**

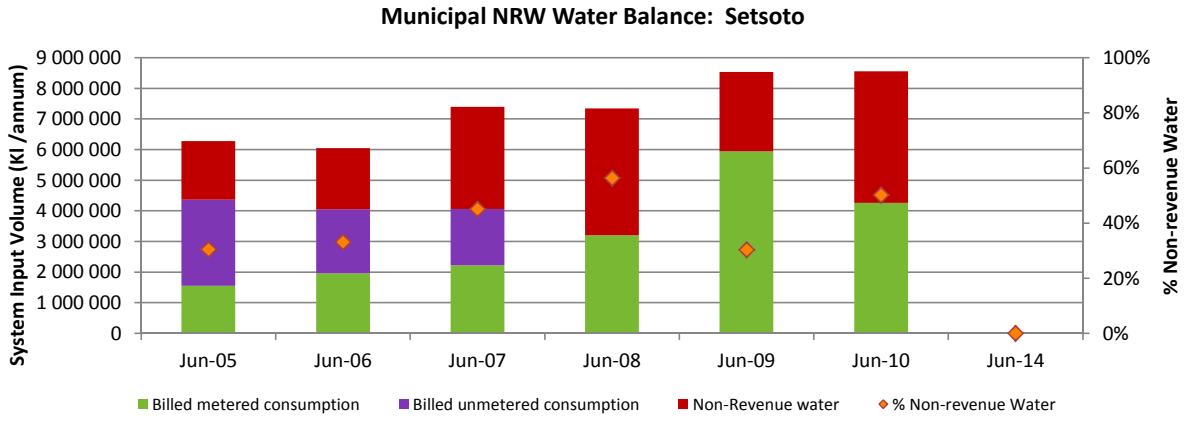
2005 and 2006 NRW cannot be zero? Fluctuating input volume?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | DC19 | | | | | | | No |
| District Municipality | | Thabo Mofutsanyana | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 746 337 | 748 596 | 753 088 | 756 096 | 760 630 | 767 614 | 0 |
| | Households | | 197 622 | 198 216 | 199 406 | 200 206 | 201 406 | 203 327 | 0 |
| | Connections - metered | | 109 439 | 109 770 | 138 746 | 154 800 | 111 534 | 91 044 | 0 |
| | Connections - Unmetered | | 39 581 | 39 701 | 45 242 | 45 745 | 40 339 | 49 689 | 0 |
| | Length of mains (km) | | 2 980 | 2 989 | 3 007 | 3 019 | 3 037 | 2 666 | 0 |
| | System input volume | kl/annum | 33 478 199 | 30 608 320 | 18 350 819 | 15 319 970 | 33 752 488 | 54 490 905 | 0 |
| | Billed metered consumption | kl/annum | 14 798 824 | 13 010 657 | 8 795 249 | 8 128 713 | 11 190 126 | 22 253 893 | 0 |
| | Billed unmetered consumption | kl/annum | 7 226 788 | 3 848 278 | 3 946 204 | 1 492 727 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 22 025 612 | 16 858 935 | 12 741 453 | 9 621 440 | 11 190 126 | 22 253 893 | 0 |
| | Non-Revenue water | kl/annum | 11 452 587 | 13 749 385 | 5 609 366 | 5 698 530 | 22 562 362 | 32 237 012 | 0 |
| | Water Losses | kl/annum | 11 452 587 | 13 749 385 | 5 609 366 | 5 698 530 | 22 562 362 | 32 237 012 | 0 |
| | % Non-revenue water | | 34.2% | 44.9% | 30.6% | 37.2% | 66.8% | 59.2% | No data |
| | % Water Losses | | 34.2% | 44.9% | 30.6% | 37.2% | 66.8% | 59.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 123 | 112 | 67 | 56 | 122 | 194 | No data |
| | Input: m³ / household / month | | 14 | 13 | 8 | 6 | 14 | 22 | No data |
| | Billed : Litres / capita / day | | 81 | 62 | 46 | 35 | 40 | 79 | No data |
| | Billed : m³ / household / month | | 9 | 7 | 5 | 4 | 5 | 9 | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | 0.92% | |
| | % Water demand growth | | | -8.57% | -40.05% | -16.52% | 120.32% | 61.44% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



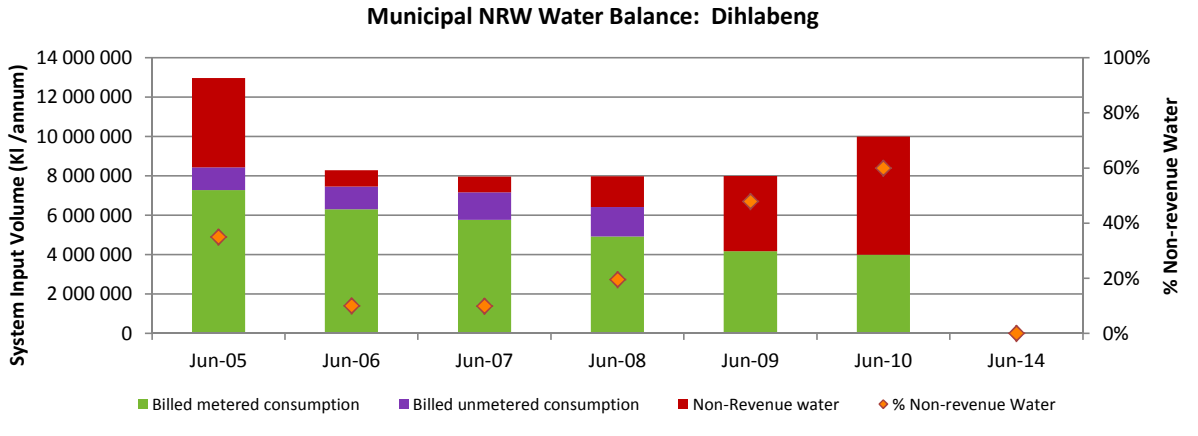

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS191 | | | | | | | No |
| District Municipality | | Thabo Mofutsanyana | | | | | | | Category |
| Municipality | | Setsoto | | | | | | | B3 |
| Settlements | | HLOHLOWANE, MATWABENG, MOEMANENG, SENEKAL | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 127 864 | 128 251 | 129 021 | 129 536 | 130 313 | 134 668 | |
| | Households | | 35 679 | 35 785 | 36 000 | 36 146 | 36 363 | 37 579 | |
| | Connections - metered | | ~~22 774~~ | ~~22 843~~ | ~~22 980~~ | 23 072 | ~~23 210~~ | 3 504 | |
| | Connections - Unmetered | | ~~13 119~~ | ~~13 158~~ | ~~13 237~~ | 13 291 | ~~13 371~~ | 22 925 | |
| | Length of mains (km) | | ~~718~~ | ~~720~~ | ~~724~~ | ~~727~~ | ~~732~~ | 380 | |
| | System input volume | kl/annum | 6 273 957 | 6 052 126 | 7 398 736 | 7 341 520 | 8 534 000 | 8 560 905 | |
| | Billed metered consumption | kl/annum | 1 552 271 | 1 964 153 | 2 217 588 | 3 202 204 | 5 944 462 | 4 263 893 | |
| | Billed unmetered consumption | kl/annum | 2 814 328 | 2 084 688 | 1 846 800 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 366 599 | 4 048 841 | 4 064 388 | 3 202 204 | 5 944 462 | 4 263 893 | ~~0~~ |
| | Non-Revenue water | kl/annum | 1 907 358 | 2 003 285 | 3 334 348 | 4 139 316 | 2 589 538 | 4 297 012 | 0 |
| | Water Losses | kl/annum | 1 907 358 | 2 003 285 | 3 334 348 | 4 139 316 | 2 589 538 | 4 297 012 | 0 |
| | % Non-revenue water | | 30.4% | 33.1% | 45.1% | 56.4% | 30.3% | 50.2% | No data |
| | % Water Losses | | 30.4% | 33.1% | 45.1% | 56.4% | 30.3% | 50.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 134 | 129 | 157 | 155 | 179 | 174 | No data |
| | Input: m³ / household / month | | 15 | 14 | 17 | 17 | 20 | 19 | No data |
| | Billed : Litres / capita / day | | 94 | 86 | 86 | 68 | 125 | 87 | No data |
| | Billed : m³ / household / month | | 10 | 9 | 9 | 7 | 14 | 9 | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | -3.54% | 22.25% | -0.77% | 16.24% | 0.32% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

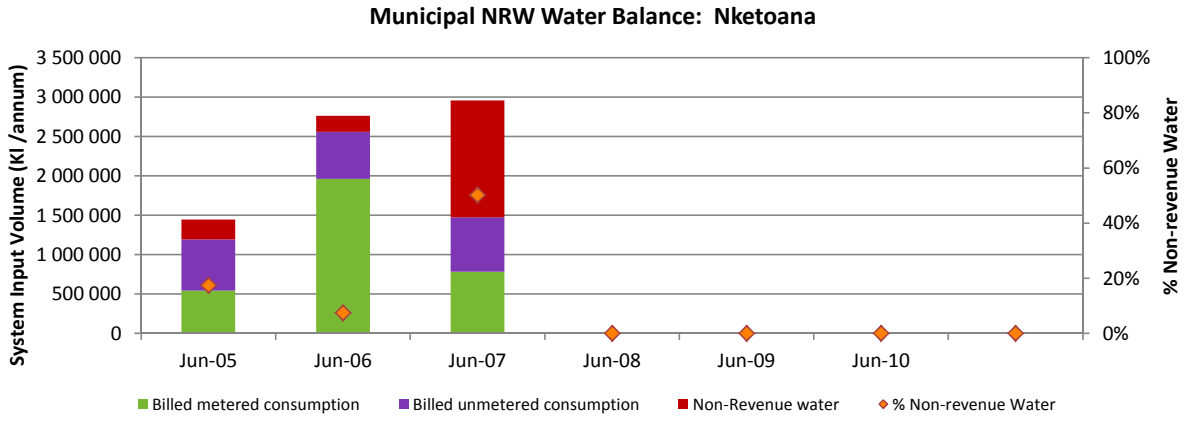
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS192 | | | | | | | Yes |
| District Municipality | | Thabo Mofutsanyana | | | | | | | Category |
| Municipality | | Dihlabeng | | | | | | | B2 |
| Settlements | | BETHLEHEM, BOHLOKONG, MASHAENG | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 135 626 | 136 036 | 136 853 | 137 401 | 138 225 | 142 846 | |
| | Households | | 36 482 | 36 591 | 36 810 | 36 960 | 37 181 | 38 424 | |
| | Connections - metered | | | | 19 318 | 31 786 | | | |
| | Connections - Unmetered | | | | 5 303 | 4 534 | | | |
| | Length of mains (km) | | | | | | | | |
| | System input volume | kl/annum | 12 973 170 | 8 294 043 | 7 956 900 | ~~7 978 450~~ | 8 000 000 | 10 000 000 | |
| | Billed metered consumption | kl/annum | 7 283 637 | 6 296 805 | 5 764 060 | ~~4 926 509~~ | ~~4 166 720~~ | 4 000 000 | |
| | Billed unmetered consumption | kl/annum | 1 153 740 | 1 168 632 | 1 404 000 | ~~1 492 727~~ | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 8 437 377 | 7 465 437 | 7 168 060 | 6 419 236 | 4 166 720 | 4 000 000 | ~~0~~ |
| | Non-Revenue water | kl/annum | 4 535 793 | 828 606 | 788 840 | 1 559 214 | 3 833 280 | 6 000 000 | 0 |
| | Water Losses | kl/annum | 4 535 793 | 828 606 | 788 840 | 1 559 214 | 3 833 280 | 6 000 000 | 0 |
| | % Non-revenue water | | 35.0% | 10.0% | 9.9% | 19.5% | 47.9% | 60.0% | No data |
| | % Water Losses | | 35.0% | 10.0% | 9.9% | 19.5% | 47.9% | 60.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 262 | 167 | 159 | 159 | 159 | 192 | No data |
| | Input: m³ / household / month | | 30 | 19 | 18 | 18 | 18 | 22 | No data |
| | Billed : Litres / capita / day | | 170 | 150 | 144 | 128 | 83 | 77 | No data |
| | Billed : m³ / household / month | | 19 | 17 | 16 | 14 | 9 | 9 | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | -36.07% | -4.06% | 0.27% | 0.27% | 25.00% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |




**Comments**

2005 Input volume seems high?

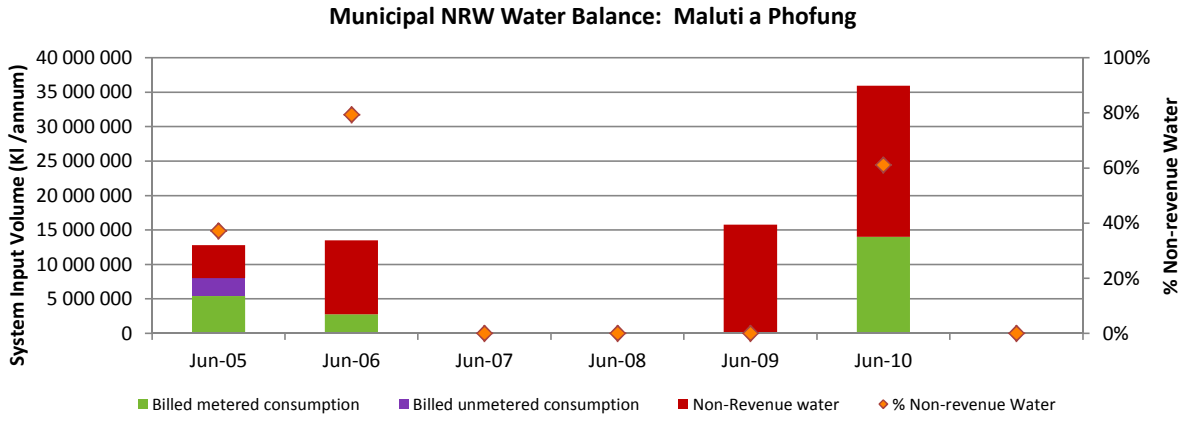
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS193 | | | | | | | | Yes |
| District Municipality | Thabo Mofutsanyana | | | | | | | | Category |
| Municipality | Nketoana | | | | | | | | B3 |
| Settlements | RIEMLAND, RIETZ | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 62 383 | 62 571 | 62 946 | 63 196 | 63 575 | 62 178 | |
| | Households | | 15 759 | 15 807 | 15 902 | 15 965 | 16 060 | 15 708 | |
| | Connections - metered | | ~~13 790~~ | ~~13 832~~ | ~~13 915~~ | 13 970 | ~~14 054~~ | ~~13 745~~ | |
| | Connections - Unmetered | | ~~2 063~~ | ~~2 069~~ | ~~2 082~~ | 2 090 | ~~2 102~~ | ~~2 056~~ | |
| | Length of mains (km) | | ~~317~~ | ~~318~~ | ~~320~~ | ~~321~~ | ~~323~~ | ~~316~~ | |
| | System input volume | kl/annum | 1 444 069 | 2 763 045 | 2 957 287 | | | | |
| | Billed metered consumption | kl/annum | 543 432 | 1 962 696 | 781 067 | | | | |
| | Billed unmetered consumption | kl/annum | 648 936 | ~~594 958~~ | 692 644 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 192 368 | 2 557 654 | 1 473 711 | 0 | 0 | 0 | ~~0~~ |
| | Non-Revenue water | kl/annum | 251 701 | 205 391 | 1 483 576 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 251 701 | 205 391 | 1 483 576 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 17.4% | 7.4% | 50.2% | No data | No data | No data | No data |
| | % Water Losses | | 17.4% | 7.4% | 50.2% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 63 | 121 | 129 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 8 | 15 | 15 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 52 | 112 | 64 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 6 | 13 | 8 | No data | No data | No data | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | -2.20% | |
| | % Water demand growth | | | 91.34% | 7.03% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | | | | | | |




**Comments**

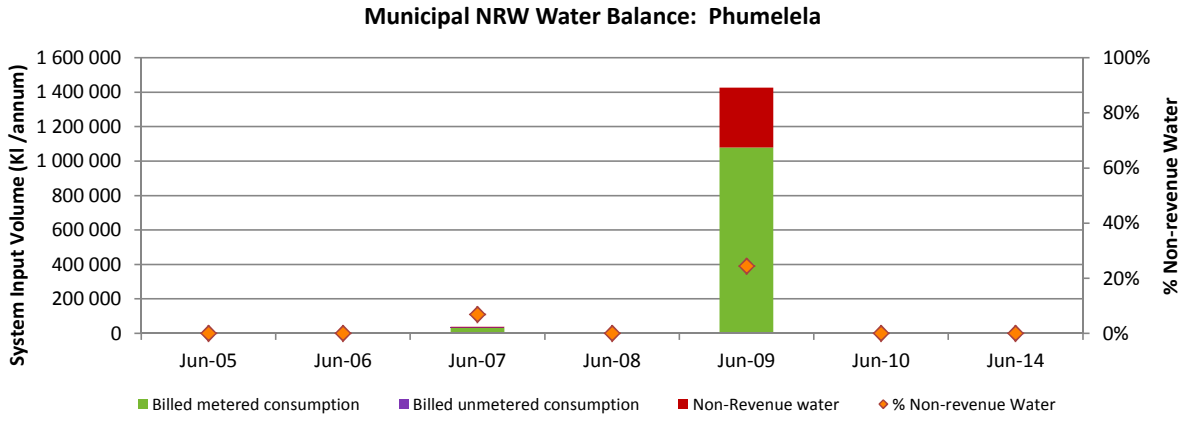
Inconsistent input volume?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Free State | | | | | | WSA |
| Municipal Code | | | FS194 | | | | | | Yes |
| District Municipality | | | Thabo Mofutsanyana | | | | | | Category |
| Municipality | | | Maluti a Phofung | | | | | | B3 |
| Settlements | | | BOLATA, DRAKENSBURG, HARANKOPANE, PHUTHADITJABA, MAKWANE, QWAQWA | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 367 621 | 368 735 | 370 947 | 372 428 | 374 662 | 372 267 | |
| | Households | | 96 693 | 96 986 | 97 568 | 97 957 | 98 544 | 97 915 | |
| | Connections - metered | | ~~72 874~~ | ~~73 095~~ | ~~73 533~~ | 73 827 | ~~74 270~~ | ~~73 795~~ | |
| | Connections - Unmetered | | ~~24 399~~ | ~~24 473~~ | ~~24 620~~ | 24 718 | ~~24 866~~ | ~~24 707~~ | |
| | Length of mains (km) | | ~~1 945~~ | ~~1 951~~ | ~~1 963~~ | ~~1 971~~ | ~~1 983~~ | ~~1 970~~ | |
| | System input volume | kl/annum | 12 787 003 | 13 499 106 | | | 15 792 000 | 35 930 000 | |
| | Billed metered consumption | kl/annum | 5 419 484 | 2 787 003 | | | | 13 990 000 | |
| | Billed unmetered consumption | kl/annum | 2 609 784 | 0 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 8 029 268 | 2 787 003 | 0 | 0 | 0 | 13 990 000 | ~~0~~ |
| | Non-Revenue water | kl/annum | 4 757 735 | 10 712 103 | 0 | 0 | 15 792 000 | 21 940 000 | 0 |
| | Water Losses | kl/annum | 4 757 735 | 10 712 103 | 0 | 0 | 15 792 000 | 21 940 000 | 0 |
| | % Non-revenue water | | 37.2% | 79.4% | No data | No data | No data | 61.1% | No data |
| | % Water Losses | | 37.2% | 79.4% | No data | No data | 100.0% | 61.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 95 | 100 | No data | No data | 115 | 264 | No data |
| | Input: m³ / household / month | | 11 | 12 | No data | No data | 13 | 31 | No data |
| | Billed : Litres / capita / day | | 60 | 21 | No data | No data | No data | 103 | No data |
| | Billed : m³ / household / month | | 7 | 2 | No data | No data | No data | 12 | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | -0.64% | |
| | % Water demand growth | | | 5.57% | | | #DIV/0! | 127.52% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | | DWA NIS RPMS | DWA NIS RPMS | |




Comments

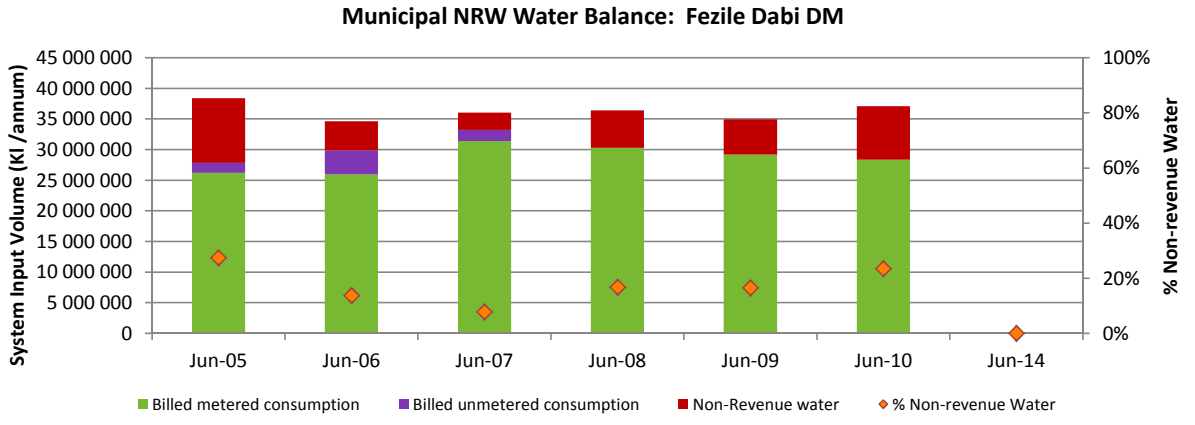
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS195 | | | | | | | Yes |
| District Municipality | | Thabo Mofutsanyana | | | | | | | Category |
| Municipality | | Phumelela | | | | | | | B3 |
| Settlements | | EZENZELENI, THEMBALIHLE, VREDE | | | | | | | Target |
| Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | | Jun-14 |
| Input Data | Population | | 52 843 | 53 003 | 53 321 | 53 535 | 53 855 | 55 655 | |
| | Households | | 13 009 | 13 047 | 13 126 | 13 178 | 13 258 | 13 701 | |
| | Connections - metered | | | | 9 000 | 12 145 | | | |
| | Connections - Unmetered | | | | | 1 112 | | | |
| | Length of mains (km) | | | | | | | | |
| | System input volume | kl/annum | | | 37 896 | | 1 426 488 | | |
| | Billed metered consumption | kl/annum | | | 32 534 | | 1 078 944 | | |
| | Billed unmetered consumption | kl/annum | | | 2 760 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 35 294 | 0 | 1 078 944 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 2 602 | 0 | 347 544 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 2 602 | 0 | 347 544 | 0 | 0 |
| | % Non-revenue water | | No data | No data | 6.9% | No data | 24.4% | No data | No data |
| | % Water Losses | | No data | No data | 6.9% | No data | 24.4% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 2 | No data | 73 | No data | No data |
| | Input: m³ / household / month | | No data | No data | 0 | No data | 9 | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | 2 | No data | 55 | No data | No data |
| | Billed : m³ / household / month | | No data | No data | 0 | No data | 7 | No data | No data |
| | % Population growth | | | 0.30% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | | #DIV/0! | | #DIV/0! | | |
| Source of information | | | | | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | |




**Comments**

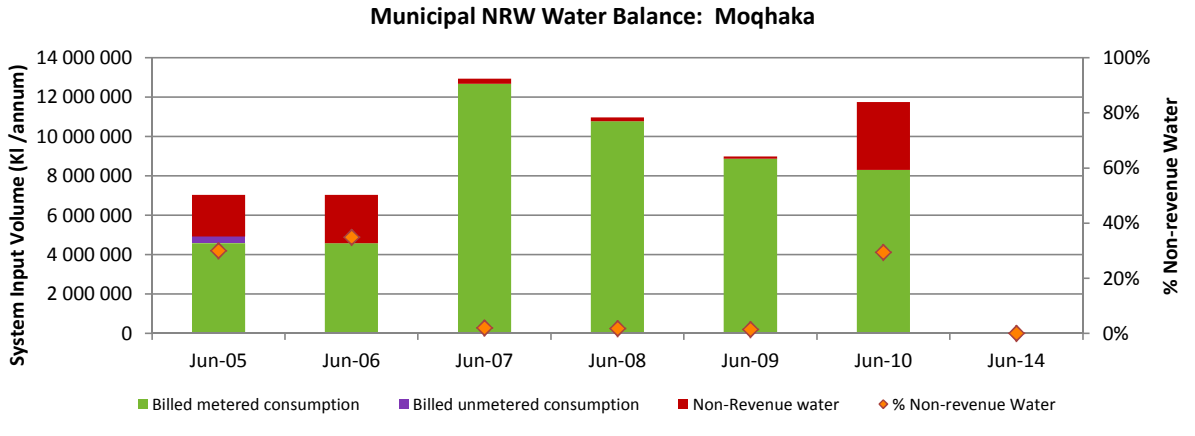
2007 data seems incorrect?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | DC20 | | | | | | | No |
| District Municipality | | Fezile Dabi | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 468 912 | 471 914 | 474 743 | 476 639 | 479 499 | 484 565 | 0 |
| | Households | | 128 949 | 129 777 | 130 561 | 131 077 | 131 868 | 133 227 | 0 |
| | Connections - metered | | 116 307 | 117 052 | 117 754 | 118 224 | 118 933 | 120 137 | 0 |
| | Connections - Unmetered | | 13 419 | 13 505 | 13 586 | 13 640 | 13 722 | 13 886 | 0 |
| | Length of mains (km) | | 2 595 | 2 611 | 2 627 | 2 637 | 2 653 | 2 680 | 0 |
| | System input volume | kl/annum | 38 402 198 | 34 624 524 | 36 031 913 | 36 418 703 | 34 968 963 | 37 083 069 | 0 |
| | Billed metered consumption | kl/annum | 26 211 994 | 25 936 658 | 31 418 116 | 30 306 106 | 29 194 096 | 28 384 734 | 0 |
| | Billed unmetered consumption | kl/annum | 1 645 946 | 3 957 444 | 1 800 000 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 27 857 940 | 29 894 102 | 33 218 116 | 30 306 106 | 29 194 096 | 28 384 734 | 0 |
| | Non-Revenue water | kl/annum | 10 544 258 | 4 730 422 | 2 813 797 | 6 112 597 | 5 774 867 | 8 698 335 | 0 |
| | Water Losses | kl/annum | 10 544 258 | 4 730 422 | 2 813 797 | 6 112 597 | 5 774 867 | 8 698 335 | 0 |
| | % Non-revenue water | | 27.5% | 13.7% | 7.8% | 16.8% | 16.5% | 23.5% | No data |
| | % Water Losses | | 27.5% | 13.7% | 7.8% | 16.8% | 16.5% | 23.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 224 | 201 | 208 | 209 | 200 | 210 | No data |
| | Input: m³ / household / month | | 25 | 22 | 23 | 23 | 22 | 23 | No data |
| | Billed : Litres / capita / day | | 163 | 174 | 192 | 174 | 167 | 160 | No data |
| | Billed : m³ / household / month | | 18 | 19 | 21 | 19 | 18 | 18 | No data |
| | % Population growth | | | 0.64% | 0.60% | 0.40% | 0.60% | 1.06% | |
| | % Water demand growth | | | -9.84% | 4.06% | 1.07% | -3.98% | 6.05% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | DWA NIS StatsSA NFC | | |




| Comments |
|---|
| |

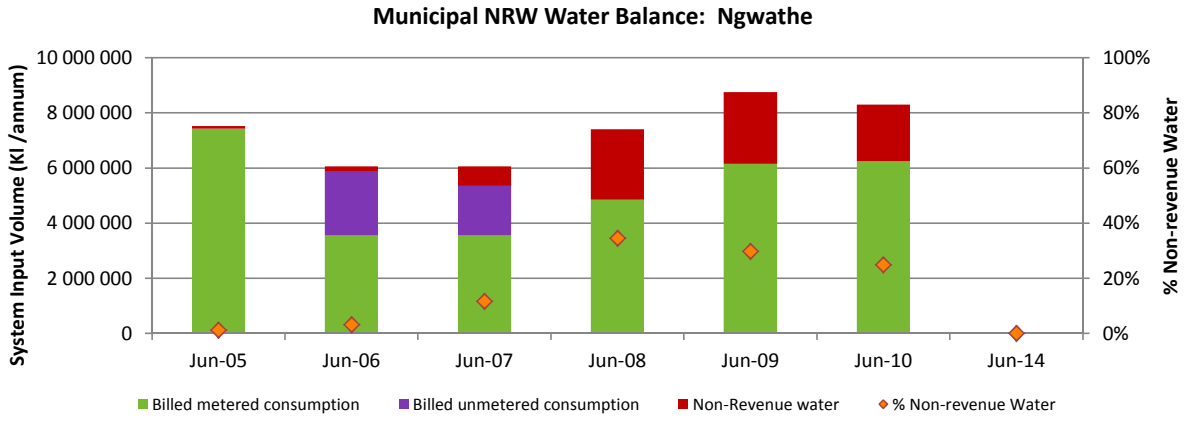
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS201 | | | | | | | Yes |
| District Municipality | | Fezile Dabi | | | | | | | Category |
| Municipality | | Moqhaka | | | | | | | B2 |
| Settlements | | KROONKOP, KROONSTAD, MAOKENG | | | | | | | Target |
| Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | | Jun-14 |
| Input Data | Population | | 169 863 | 170 951 | 171 976 | 172 663 | 173 699 | 176 473 | |
| | Households | | 44 092 | 44 374 | 44 641 | 44 818 | 45 087 | 45 806 | |
| | Connections - metered | | ~~38 828~~ | ~~39 077~~ | ~~39 311~~ | 39 468 | ~~39 705~~ | ~~40 339~~ | |
| | Connections - Unmetered | | ~~5 528~~ | ~~5 563~~ | ~~5 597~~ | 5 619 | ~~5 653~~ | ~~5 743~~ | |
| | Length of mains (km) | | ~~887~~ | ~~893~~ | ~~898~~ | ~~902~~ | ~~907~~ | ~~922~~ | |
| | System input volume | kl/annum | 7 028 760 | 7 028 760 | 12 944 105 | ~~10 965 368~~ | 8 986 630 | ~~11 744 810~~ | |
| | Billed metered consumption | kl/annum | ~~4 580 676~~ | 4 580 676 | 12 685 222 | ~~10 774 960~~ | 8 864 697 | ~~8 297 246~~ | |
| | Billed unmetered consumption | kl/annum | 339 456 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 920 132 | 4 580 676 | 12 685 222 | 10 774 960 | 8 864 697 | 8 297 246 | ~~0~~ |
| | Non-Revenue water | kl/annum | 2 108 628 | 2 448 084 | 258 883 | 190 408 | 121 933 | 3 447 564 | 0 |
| | Water Losses | kl/annum | 2 108 628 | 2 448 084 | 258 883 | 190 408 | 121 933 | 3 447 564 | 0 |
| | % Non-revenue water | | 30.0% | 34.8% | 2.0% | 1.7% | 1.4% | 29.4% | No data |
| | % Water Losses | | 30.0% | 34.8% | 2.0% | 1.7% | 1.4% | 29.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 113 | 113 | 206 | 174 | 142 | 182 | No data |
| | Input: m³ / household / month | | 13 | 13 | 24 | 20 | 17 | 21 | No data |
| | Billed : Litres / capita / day | | 79 | 73 | 202 | 171 | 140 | 129 | No data |
| | Billed : m³ / household / month | | 9 | 9 | 24 | 20 | 16 | 15 | No data |
| | % Population growth | | | 0.64% | 0.60% | 0.40% | 0.60% | 1.60% | |
| | % Water demand growth | | | 0.00% | 84.16% | -15.29% | -18.05% | 30.69% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

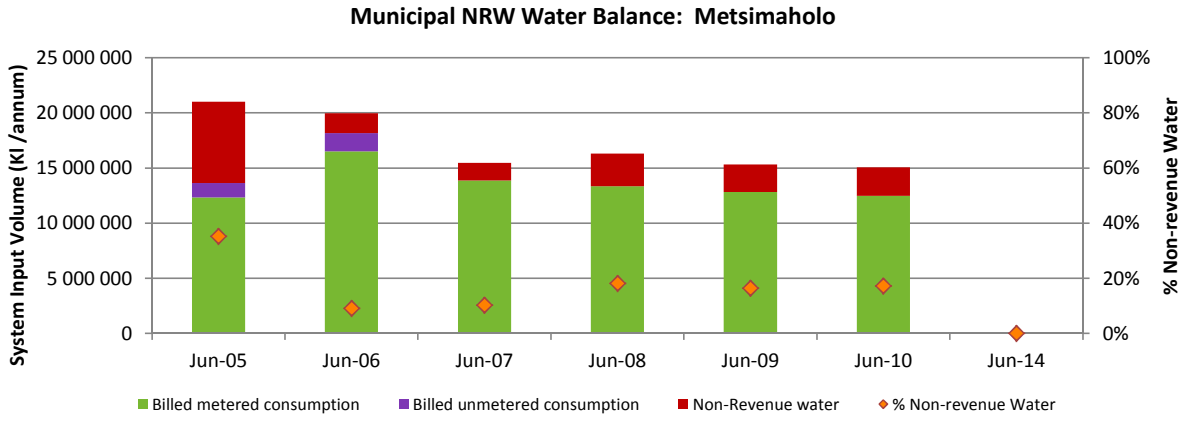
2007 input volume seems high?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Free State | | | | | | WSA |
| Municipal Code | | | FS203 | | | | | | Yes |
| District Municipality | | | Fezile Dabi | | | | | | Category |
| Municipality | | | Ngwathe | | | | | | B3 |
| Settlements | | | KOEPEL, PHIRITONA, TUMAHOLE, PARYS | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 120 258 | 121 027 | 121 751 | 122 237 | 122 970 | 120 546 | |
| | Households | | 34 118 | 34 338 | 34 546 | 34 681 | 34 892 | 34 205 | |
| | Connections - metered | | 31 622 | 31 824 | 32 014 | 32 142 | 32 335 | 31 697 | |
| | Connections - Unmetered | | 2 702 | 2 720 | 2 736 | 2 747 | 2 764 | 2 709 | |
| | Length of mains (km) | | 686 | 691 | 695 | 698 | 702 | 688 | |
| | System input volume | kl/annum | 7 521 708 | 6 053 850 | 6 053 850 | 7 404 969 | 8 756 088 | 8 304 317 | |
| | Billed metered consumption | kl/annum | 7 429 542 | 3 552 289 | 3 552 289 | 4 853 105 | 6 153 920 | 6 240 000 | |
| | Billed unmetered consumption | kl/annum | 0 | 2 308 392 | 1 800 000 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 7 429 542 | 5 860 681 | 5 352 289 | 4 853 105 | 6 153 920 | 6 240 000 | 0 |
| | Non-Revenue water | kl/annum | 92 166 | 193 169 | 701 561 | 2 551 865 | 2 602 168 | 2 064 317 | 0 |
| | Water Losses | kl/annum | 92 166 | 193 169 | 701 561 | 2 551 865 | 2 602 168 | 2 064 317 | 0 |
| | % Non-revenue water | | 1.2% | 3.2% | 11.6% | 34.5% | 29.7% | 24.9% | No data |
| | % Water Losses | | 1.2% | 3.2% | 11.6% | 34.5% | 29.7% | 24.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 171 | 137 | 136 | 166 | 195 | 189 | No data |
| | Input: m³ / household / month | | 18 | 15 | 15 | 18 | 21 | 20 | No data |
| | Billed : Litres / capita / day | | 169 | 133 | 120 | 109 | 137 | 142 | No data |
| | Billed : m³ / household / month | | 18 | 14 | 13 | 12 | 15 | 15 | No data |
| | % Population growth | | | 0.64% | 0.60% | 0.40% | 0.60% | -1.97% | |
| | % Water demand growth | | | -19.51% | 0.00% | 22.32% | 18.25% | -5.16% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | | DWA NIS RPMS | DWA NIS RPMS | |



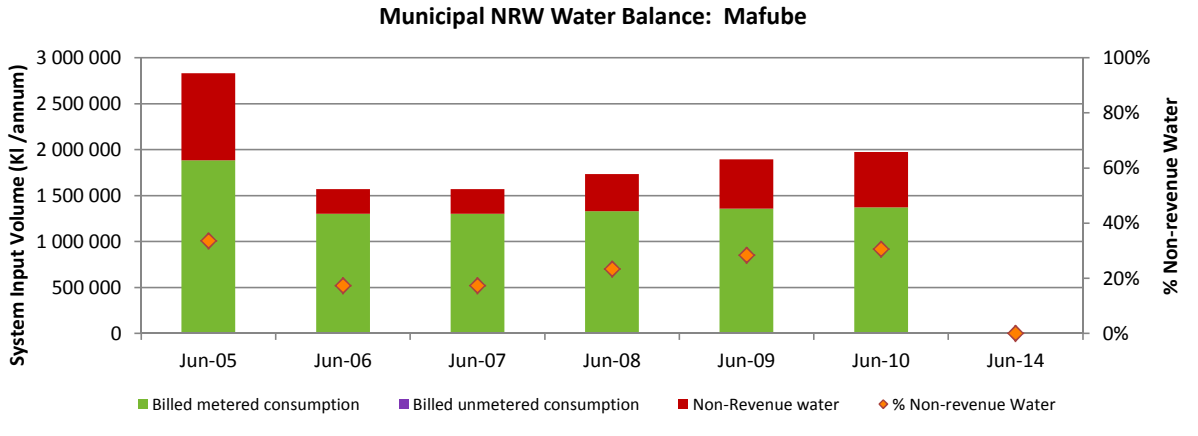

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Free State | | | | | | | WSA |
| Municipal Code | | FS204 | | | | | | | Yes |
| District Municipality | | Fezile Dabi | | | | | | | Category |
| Municipality | | Metsimaholo | | | | | | | B2 |
| Settlements | | REFENGKGOTSO, SASOLBURG, VAALPARK, ZAMDELA | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 119 423 | 120 187 | 120 909 | 121 391 | 122 120 | 124 806 | |
| | Households | | 34 888 | 35 111 | 35 322 | 35 464 | 35 677 | 36 462 | |
| | Connections - metered | | ~~30 859~~ | ~~31 057~~ | ~~31 243~~ | 31 368 | ~~31 556~~ | ~~32 250~~ | |
| | Connections - Unmetered | | ~~4 239~~ | ~~4 266~~ | ~~4 292~~ | 4 309 | ~~4 335~~ | ~~4 430~~ | |
| | Length of mains (km) | | ~~702~~ | ~~706~~ | ~~711~~ | ~~714~~ | ~~718~~ | ~~734~~ | |
| | System input volume | kl/annum | 21 020 000 | 19 970 356 | 15 462 400 | 16 315 802 | 15 332 674 | 15 060 000 | |
| | Billed metered consumption | kl/annum | 12 319 510 | 16 503 503 | ~~13 880 415~~ | ~~13 349 324~~ | 12 818 232 | 12 476 000 | |
| | Billed unmetered consumption | kl/annum | 1 306 490 | 1 649 052 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 13 626 000 | 18 152 555 | 13 880 415 | 13 349 324 | 12 818 232 | 12 476 000 | ~~0~~ |
| | Non-Revenue water | kl/annum | 7 394 000 | 1 817 801 | 1 581 985 | 2 966 479 | 2 514 442 | 2 584 000 | 0 |
| | Water Losses | kl/annum | 7 394 000 | 1 817 801 | 1 581 985 | 2 966 479 | 2 514 442 | 2 584 000 | 0 |
| | % Non-revenue water | | 35.2% | 9.1% | 10.2% | 18.2% | 16.4% | 17.2% | No data |
| | % Water Losses | | 35.2% | 9.1% | 10.2% | 18.2% | 16.4% | 17.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 482 | 455 | 350 | 368 | 344 | 331 | No data |
| | Input: m³ / household / month | | 50 | 47 | 36 | 38 | 36 | 34 | No data |
| | Billed : Litres / capita / day | | 313 | 414 | 315 | 301 | 288 | 274 | No data |
| | Billed : m³ / household / month | | 33 | 43 | 33 | 31 | 30 | 29 | No data |
| | % Population growth | | | 0.64% | 0.60% | 0.40% | 0.60% | 2.20% | |
| | % Water demand growth | | | -4.99% | -22.57% | 5.52% | -6.03% | -1.78% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Free State | | | | | | | | WSA |
| Municipal Code | FS205 | | | | | | | | Yes |
| District Municipality | Fezile Dabi | | | | | | | | Category |
| Municipality | Mafube | | | | | | | | B3 |
| Settlements | NAMAHADI, QALABOTJHA, FRANKFORT | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 59 368 | 59 749 | 60 107 | 60 348 | 60 710 | 62 740 | |
| | Households | | 15 851 | 15 954 | 16 052 | 16 114 | 16 212 | 16 754 | |
| | Connections - metered | | ~~14 998~~ | ~~15 095~~ | ~~15 185~~ | 15 246 | ~~15 337~~ | ~~15 850~~ | |
| | Connections - Unmetered | | ~~949~~ | ~~955~~ | ~~961~~ | 965 | ~~971~~ | ~~1 003~~ | |
| | Length of mains (km) | | ~~319~~ | ~~321~~ | ~~323~~ | ~~324~~ | ~~326~~ | ~~337~~ | |
| | System input volume | kl/annum | 2 831 730 | 1 571 558 | 1 571 558 | ~~1 732 565~~ | 1 893 571 | ~~1 973 942~~ | |
| | Billed metered consumption | kl/annum | 1 882 266 | 1 300 190 | 1 300 190 | ~~1 328 719~~ | 1 357 247 | ~~1 371 488~~ | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 882 266 | 1 300 190 | 1 300 190 | 1 328 719 | 1 357 247 | 1 371 488 | ~~0~~ |
| | Non-Revenue water | kl/annum | 949 464 | 271 368 | 271 368 | 403 846 | 536 324 | 602 454 | 0 |
| | Water Losses | kl/annum | 949 464 | 271 368 | 271 368 | 403 846 | 536 324 | 602 454 | 0 |
| | % Non-revenue water | | 33.5% | 17.3% | 17.3% | 23.3% | 28.3% | 30.5% | No data |
| | % Water Losses | | 33.5% | 17.3% | 17.3% | 23.3% | 28.3% | 30.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 131 | 72 | 72 | 79 | 85 | 86 | No data |
| | Input: m³ / household / month | | 15 | 8 | 8 | 9 | 10 | 10 | No data |
| | Billed : Litres / capita / day | | 87 | 60 | 59 | 60 | 61 | 60 | No data |
| | Billed : m³ / household / month | | 10 | 7 | 7 | 7 | 7 | 7 | No data |
| | % Population growth | | | 0.64% | 0.60% | 0.40% | 0.60% | 3.34% | |
| | % Water demand growth | | | -44.50% | 0.00% | 10.25% | 9.29% | 4.24% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

2009 input volume seems incorrect?

# National Non-Revenue Water Assessment

## Gauteng Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Introductory notes

### Terminology

| Acronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Measurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (preferred term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not preferred term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

**Unaccounted for Water (UAW / UFW)**

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

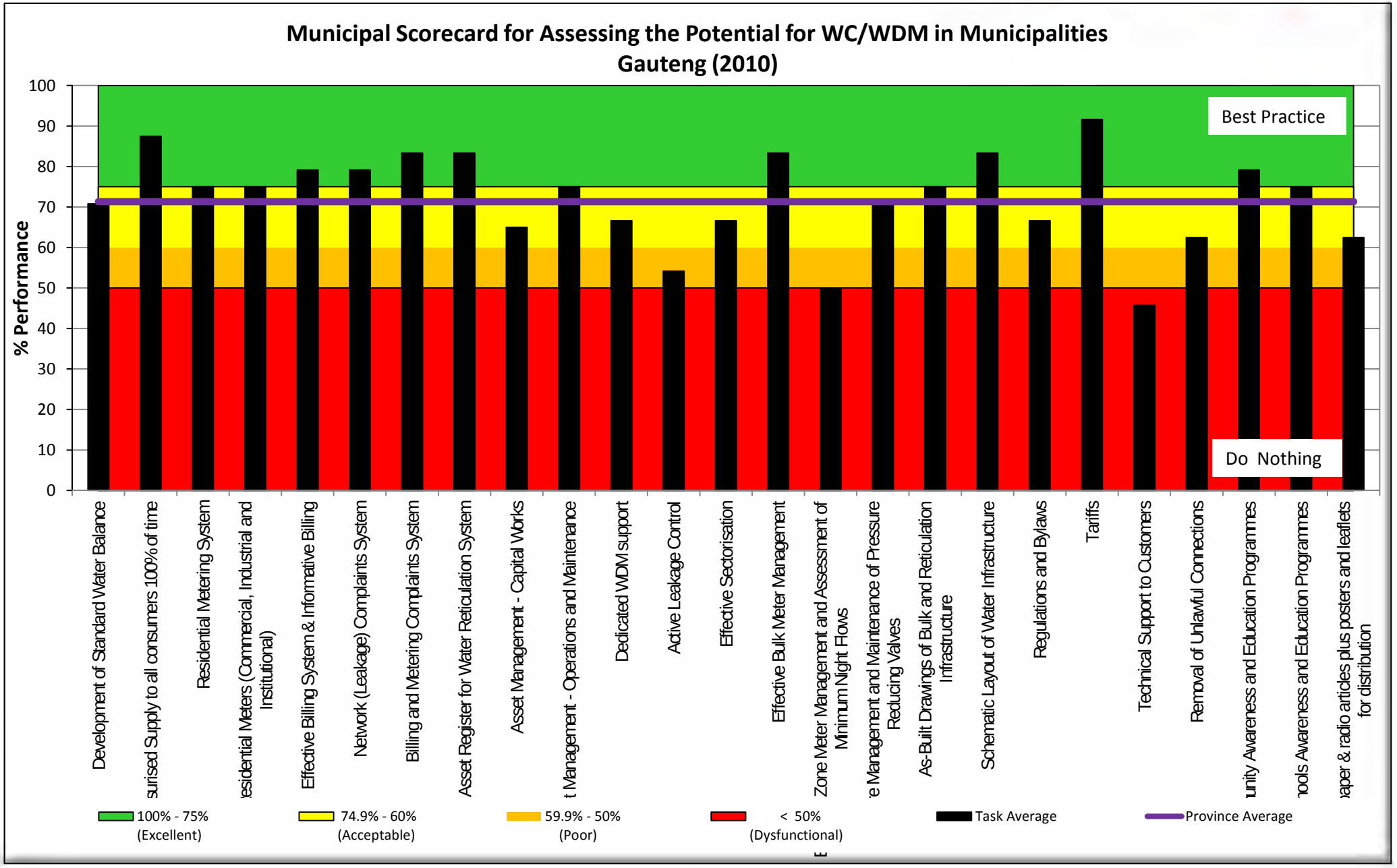
**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

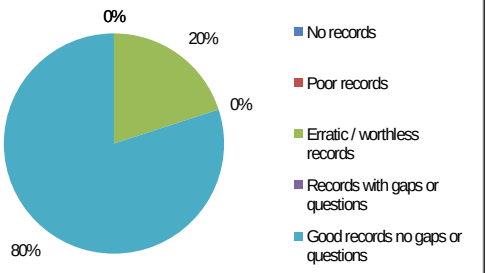
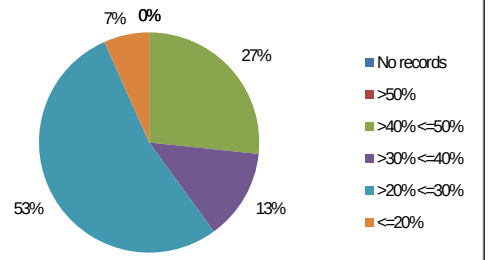
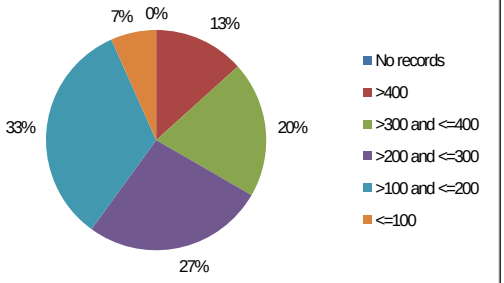
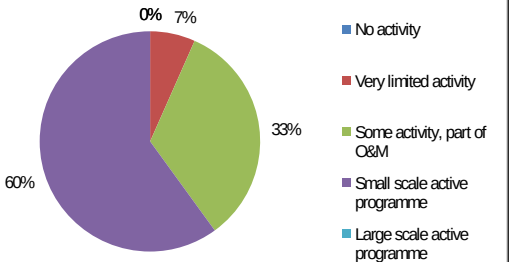
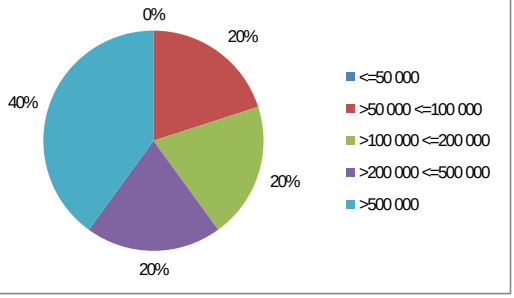
**NON REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

| Province | Gauteng |
|---|---|

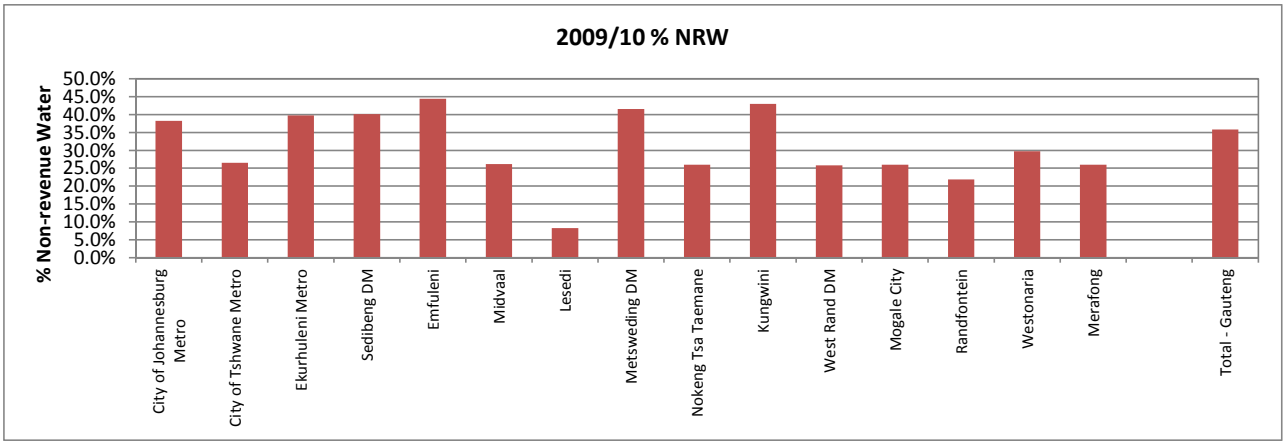
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | JHB | City of Johannesburg Metro | City of Johannesburg Metro | A | Yes |
| 2 | TSH | City of Tshwane Metro | City of Tshwane Metro | A | Yes |
| 3 | EKU | Ekurhuleni Metro | Ekurhuleni Metro | A | Yes |
| 4 | DC42 | Sedibeng | Sedibeng DM | C1 | No |
| 5 | GT421 | Sedibeng | Emfuleni | B1 | Yes |
| 6 | GT422 | Sedibeng | Midvaal | B2 | Yes |
| 7 | GT423 | Sedibeng | Lesedi | B3 | Yes |
| 8 | DC46 | Metsweding | Metsweding DM | C1 | No |
| 9 | GT461 | Metsweding | Nokeng Tsa Taemane | B2 | Yes |
| 10 | GT462 | Metsweding | Kungwini | B2 | Yes |
| 11 | DC48 | West Rand | West Rand DM | C1 | Yes |
| 12 | GT481 | West Rand | Mogale City | B1 | Yes |
| 13 | GT482 | West Rand | Randfontein | B2 | Yes |
| 14 | GT483 | West Rand | Westonaria | B2 | Yes |
| 15 | GT484 | West Rand | Merafong | B2 | Yes |

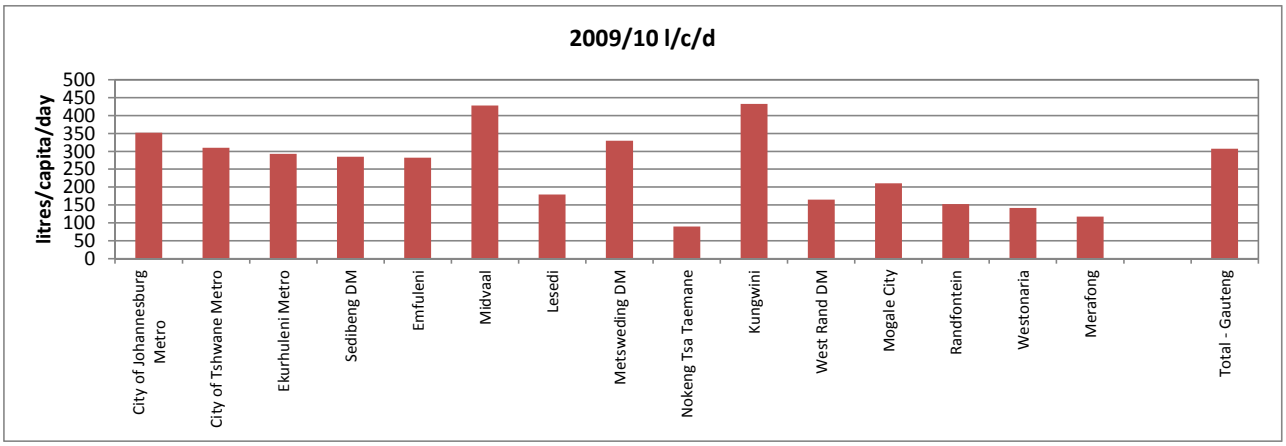
# National NRW Assessment

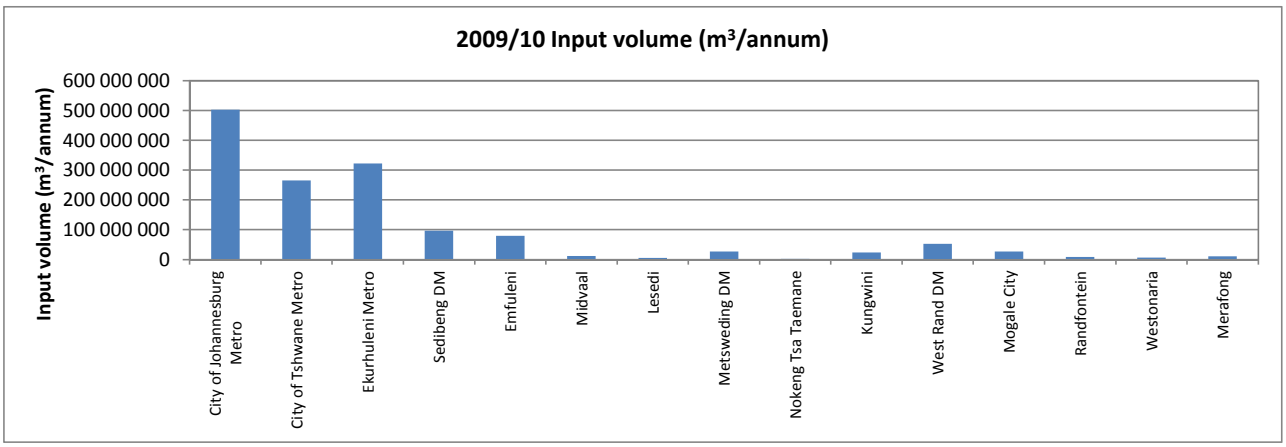


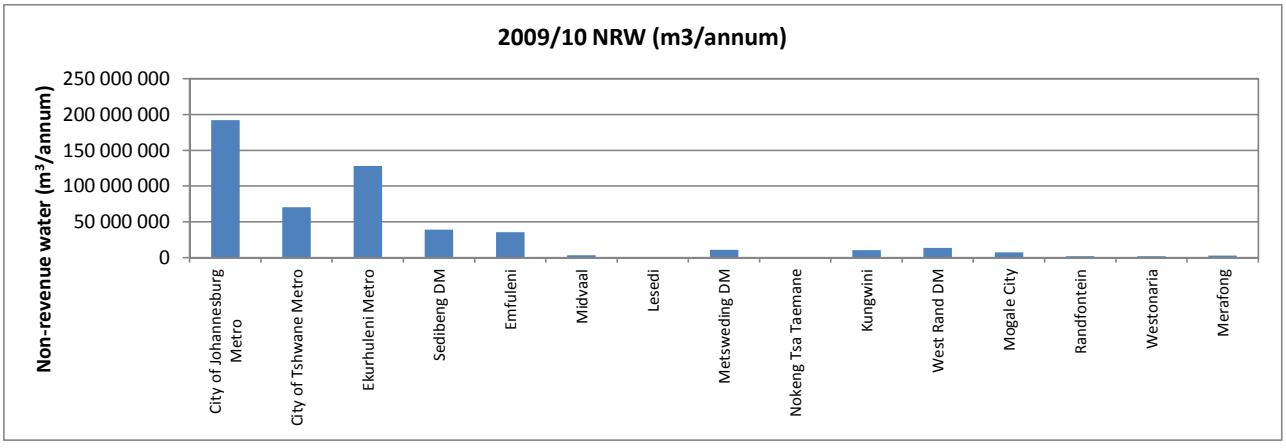
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 15 | | |
| 1 | No records | 0 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 0 | | |
| 3 | Erratic / worthless records | 3 | | |
| 4 | Records with gaps or questions | 0 | | |
| 5 | Good records no gaps or questions | 12 | | |
| | | | | |
| **% NRW** | | 15 | | |
| 0 | No records | 0 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 0 | | |
| 2 | >40% <=50% | 4 | | |
| 3 | >30% <=40% | 2 | | |
| 4 | >20% <=30% | 8 | | |
| 5 | <=20% | 1 | | |
| **litres / capita / day** | | 15 | | |
| 0 | No records | 0 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 2 | | |
| 2 | >300 and <=400 | 3 | | |
| 3 | >200 and <=300 | 4 | | |
| 4 | >100 and <=200 | 5 | | |
| 5 | <=100 | 1 | | |
| **NRW Activity** | | 15 | | |
| 1 | No activity | 0 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 1 | | |
| 3 | Some activity, part of O&M | 5 | | |
| 4 | Small scale active programme | 9 | | |
| 5 | Large scale active programme | 0 | | |
| | | | | |
| **Potential NRW Impact** | | 15 | | |
| 1 | <=50 000 | 0 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 3 | | |
| 3 | >100 000 <=200 000 | 3 | | |
| 4 | >200 000 <=500 000 | 3 | | |
| 5 | >500 000 | 6 | | |
| | | | | |

**Key Performance Indicators**

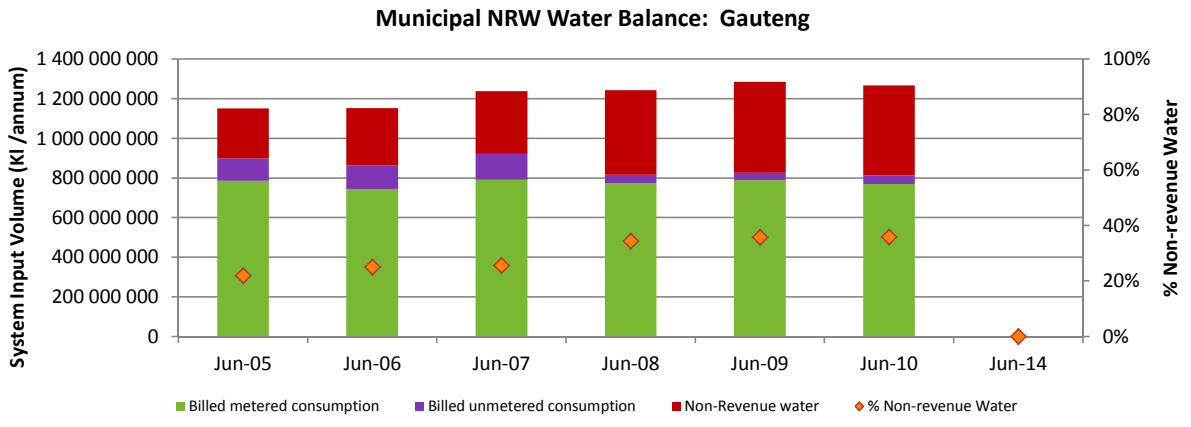


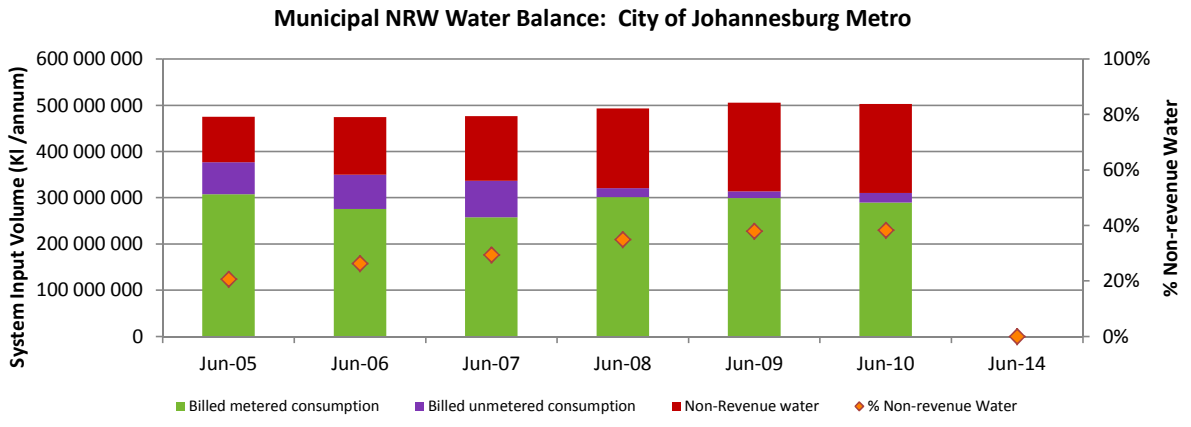



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 10 605 956 | 10 819 619 | 10 884 539 | 11 045 268 | 11 111 542 | 11 312 487 | 0 |
| | Households | | 3 310 610 | 3 377 410 | 3 397 666 | 3 447 923 | 3 468 607 | 3 530 826 | 0 |
| | Connections - metered | | 1 516 842 | 1 583 803 | 1 655 803 | 1 745 305 | 1 781 146 | 1 812 990 | 0 |
| | Connections - Unmetered | | 257 188 | 237 069 | 215 762 | 185 608 | 154 879 | 212 542 | 0 |
| | Length of mains (km) | | 36 718 | 37 262 | 38 286 | 39 171 | 39 406 | 40 743 | 0 |
| | System input volume | kl/annum | 1 150 008 098 | 1 151 964 820 | 1 238 334 923 | 1 243 221 483 | 1 284 160 431 | 1 267 201 932 | 0 |
| | Billed metered consumption | kl/annum | 785 309 799 | 743 828 997 | 791 019 334 | 773 843 270 | 788 183 313 | 768 622 138 | 0 |
| | Billed unmetered consumption | kl/annum | 113 455 390 | 119 863 565 | 130 550 123 | 42 666 387 | 37 526 265 | 44 166 909 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 898 765 189 | 863 692 562 | 921 569 457 | 816 509 657 | 825 709 578 | 812 789 048 | 0 |
| | Non-Revenue water | kl/annum | 251 242 909 | 288 272 258 | 316 765 466 | 426 711 826 | 458 450 853 | 454 412 885 | 0 |
| | Water Losses | kl/annum | 251 242 909 | 288 272 258 | 316 765 466 | 426 711 826 | 458 450 853 | 454 412 885 | 0 |
| | % Non-revenue water | | 21.8% | 25.0% | 25.6% | 34.3% | 35.7% | 35.9% | No data |
| | % Water Losses | | 21.8% | 25.0% | 25.6% | 34.3% | 35.7% | 35.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 297 | 292 | 312 | 308 | 317 | 307 | No data |
| | Input: m³ / household / month | | 29 | 28 | 30 | 30 | 31 | 30 | No data |
| | Billed : Litres / capita / day | | 232 | 219 | 232 | 203 | 204 | 197 | No data |
| | Billed : m³ / household / month | | 23 | 21 | 23 | 20 | 20 | 19 | No data |
| | % Population growth | | | 2.01% | 0.60% | 1.48% | 0.60% | 1.81% | |
| | % Water demand growth | | | 0.17% | 7.50% | 0.39% | 3.29% | -1.32% | |
| Source of information | | | | | | | | | |



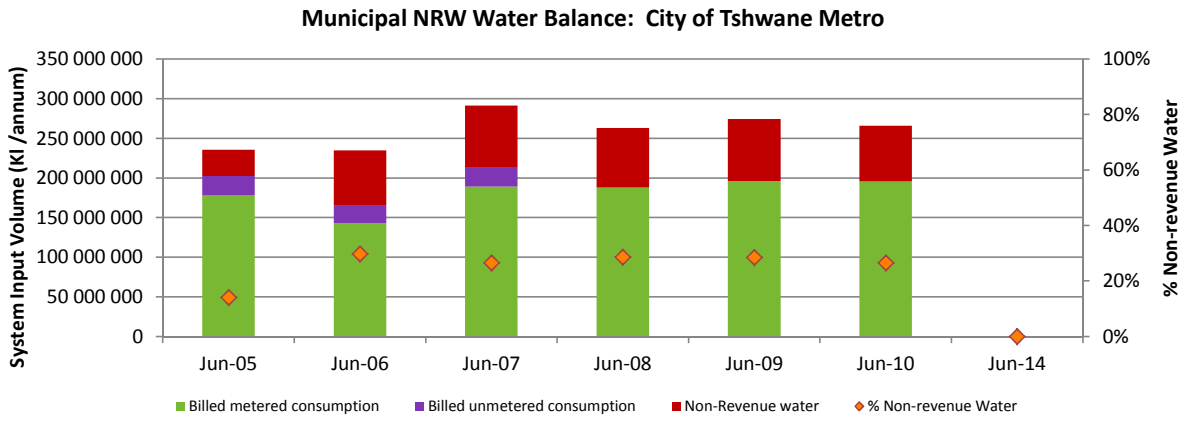

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | JHB | | | | | | | | Yes |
| District Municipality | City of Johannesburg Metro | | | | | | | | Category |
| Municipality | City of Johannesburg Metro | | | | | | | | A |
| Settlements | CHIAWELO B, SANDTON,SOWETO | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 3 680 086 | 3 753 967 | 3 776 488 | 3 833 129 | 3 856 125 | 3 913 967 | |
| | Households | | 1 205 975 | 1 230 191 | 1 237 568 | 1 256 127 | 1 263 669 | 1 282 624 | |
| | Connections - metered | | 308 674 | 362 960 | 405 937 | 442 910 | 450 489 | 451 951 | |
| | Connections - Unmetered | | 221 180 | 200 823 | 179 234 | 148 616 | 117 430 | 107 416 | |
| | Length of mains (km) | | 10 607 | 10 607 | 10 787 | 10 958 | 10 990 | 11 296 | |
| | System input volume | kl/annum | 474 951 381 | 474 756 204 | 476 728 007 | 493 039 487 | 505 350 244 | 502 956 153 | |
| | Billed metered consumption | kl/annum | 307 368 665 | 276 050 358 | 257 973 928 | 301 199 969 | 299 164 941 | 289 415 013 | |
| | Billed unmetered consumption | kl/annum | 69 507 864 | 73 946 952 | 78 664 767 | 19 839 783 | 14 658 783 | 21 262 647 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 376 876 529 | 349 997 310 | 336 638 695 | 321 039 752 | 313 823 724 | 310 677 660 | 0 |
| | Non-Revenue water | kl/annum | 98 074 852 | 124 758 894 | 140 089 312 | 171 999 735 | 191 526 520 | 192 278 493 | 0 |
| | Water Losses | kl/annum | 98 074 852 | 124 758 894 | 140 089 312 | 171 999 735 | 191 526 520 | 192 278 493 | 0 |
| | % Non-revenue water | | 20.6% | 26.3% | 29.4% | 34.9% | 37.9% | 38.2% | No data |
| | % Water Losses | | 20.6% | 26.3% | 29.4% | 34.9% | 37.9% | 38.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 354 | 346 | 346 | 352 | 359 | 352 | No data |
| | Input: m³ / household / month | | 33 | 32 | 32 | 33 | 33 | 33 | No data |
| | Billed : Litres / capita / day | | 281 | 255 | 244 | 229 | 223 | 217 | No data |
| | Billed : m³ / household / month | | 26 | 24 | 23 | 21 | 21 | 20 | No data |
| | % Population growth | | | 2.01% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | -0.04% | 0.42% | 3.42% | 2.50% | -0.47% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



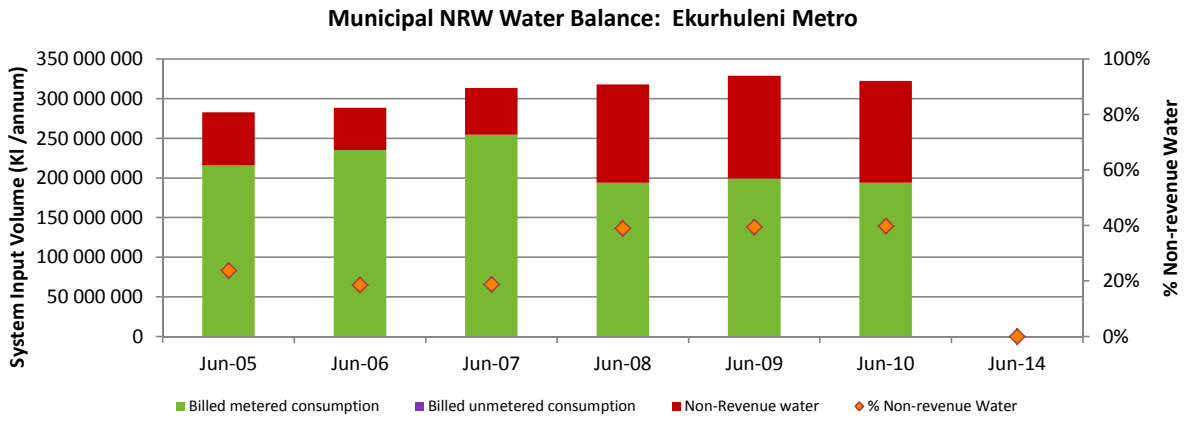

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | TSH | | | | | | | | Yes |
| District Municipality | City of Tshwane Metro | | | | | | | | Category |
| Municipality | City of Tshwane Metro | | | | | | | | A |
| Settlements | AKASIA, PRETORIA, SOSHANGUVE, CENTURION,ATTERIDGEVILLE,MAMELODI, ODI, TEMBA | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 2 174 145 | 2 224 250 | 2 237 599 | 2 271 161 | 2 284 788 | 2 353 332 | |
| | Households | | 646 409 | 661 310 | 665 277 | 675 256 | 679 307 | 699 686 | |
| | Connections - metered | | 355 610 | 361 312 | 368 495 | 389 109 | 404 842 | 423 414 | |
| | Connections - Unmetered | | 299 | 0 | 0 | 0 | 0 | 0 | |
| | Length of mains (km) | | 7 999 | ~~8 393~~ | 8 786 | 8 823 | 8 859 | 9 141 | |
| | System input volume | kl/annum | 235 694 250 | 234 577 659 | 291 140 281 | 263 075 471 | 274 447 685 | 265 845 467 | |
| | Billed metered consumption | kl/annum | 177 643 059 | 142 716 993 | 189 205 186 | 187 764 388 | 196 182 598 | 195 426 657 | |
| | Billed unmetered consumption | kl/annum | 24 940 157 | 22 197 179 | 24 715 622 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 202 583 216 | 164 914 172 | 213 920 808 | 187 764 388 | 196 182 598 | 195 426 657 | 0 |
| | Non-Revenue water | kl/annum | 33 111 034 | 69 663 487 | 77 219 473 | 75 311 083 | 78 265 087 | 70 418 810 | 0 |
| | Water Losses | kl/annum | 33 111 034 | 69 663 487 | 77 219 473 | 75 311 083 | 78 265 087 | 70 418 810 | 0 |
| | % Non-revenue water | | 14.0% | 29.7% | 26.5% | 28.6% | 28.5% | 26.5% | No data |
| | % Water Losses | | 14.0% | 29.7% | 26.5% | 28.6% | 28.5% | 26.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 297 | 289 | 356 | 317 | 329 | 309 | No data |
| | Input: m³ / household / month | | 30 | 30 | 36 | 32 | 34 | 32 | No data |
| | Billed : Litres / capita / day | | 255 | 203 | 262 | 227 | 235 | 228 | No data |
| | Billed : m³ / household / month | | 26 | 21 | 27 | 23 | 24 | 23 | No data |
| | % Population growth | | | 2.30% | 0.60% | 1.50% | 0.60% | 3.00% | |
| | % Water demand growth | | | -0.47% | 24.11% | -9.64% | 4.32% | -3.13% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



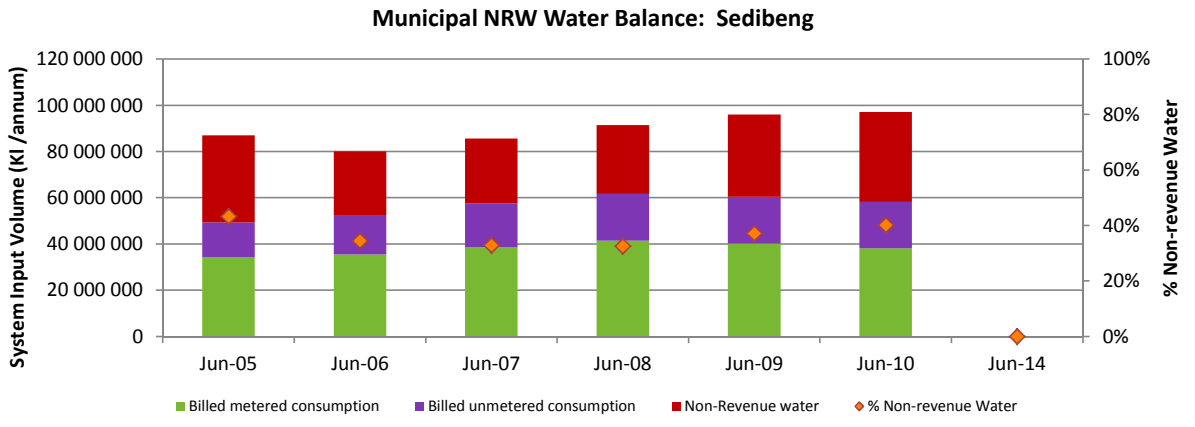

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | EKU | | | | | | | | Yes |
| District Municipality | Ekurhuleni Metro | | | | | | | | Category |
| Municipality | Ekurhuleni Metro | | | | | | | | A |
| Settlements | ACTONVILLE, BOKSBURG, BRAKPAN, GERMISTON | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 2 829 986 | 2 892 108 | 2 909 461 | 2 953 102 | 2 970 824 | 3 015 386 | |
| | Households | | 892 383 | 911 975 | 917 442 | 931 208 | 936 792 | 950 844 | |
| | Connections - metered | | 377 263 | 378 727 | 396 390 | 421 409 | 426 295 | 430 462 | |
| | Connections - Unmetered | | | | | | | 67 108 | |
| | Length of mains (km) | | ~~8 384~~ | ~~8 416~~ | ~~8 809~~ | ~~9 365~~ | ~~9 473~~ | 10 077 | |
| | System input volume | kl/annum | 282 970 013 | 288 375 444 | 313 659 638 | 317 977 206 | 328 769 346 | 322 249 616 | |
| | Billed metered consumption | kl/annum | 215 700 847 | 235 004 771 | 254 623 170 | 193 888 712 | 199 057 077 | 193 973 397 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 215 700 847 | 235 004 771 | 254 623 170 | 193 888 712 | 199 057 077 | 193 973 397 | 0 |
| | Non-Revenue water | kl/annum | 67 269 166 | 53 370 673 | 59 036 468 | 124 088 494 | 129 712 269 | 128 276 219 | 0 |
| | Water Losses | kl/annum | 67 269 166 | 53 370 673 | 59 036 468 | 124 088 494 | 129 712 269 | 128 276 219 | 0 |
| | % Non-revenue water | | 23.8% | 18.5% | 18.8% | 39.0% | 39.5% | 39.8% | No data |
| | % Water Losses | | 23.8% | 18.5% | 18.8% | 39.0% | 39.5% | 39.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 274 | 273 | 295 | 295 | 303 | 293 | No data |
| | Input: m³ / household / month | | 26 | 26 | 28 | 28 | 29 | 28 | No data |
| | Billed : Litres / capita / day | | 209 | 223 | 240 | 180 | 184 | 176 | No data |
| | Billed : m³ / household / month | | 20 | 21 | 23 | 17 | 18 | 17 | No data |
| | % Population growth | | | 2.20% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 1.91% | 8.77% | 1.38% | 3.39% | -1.98% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



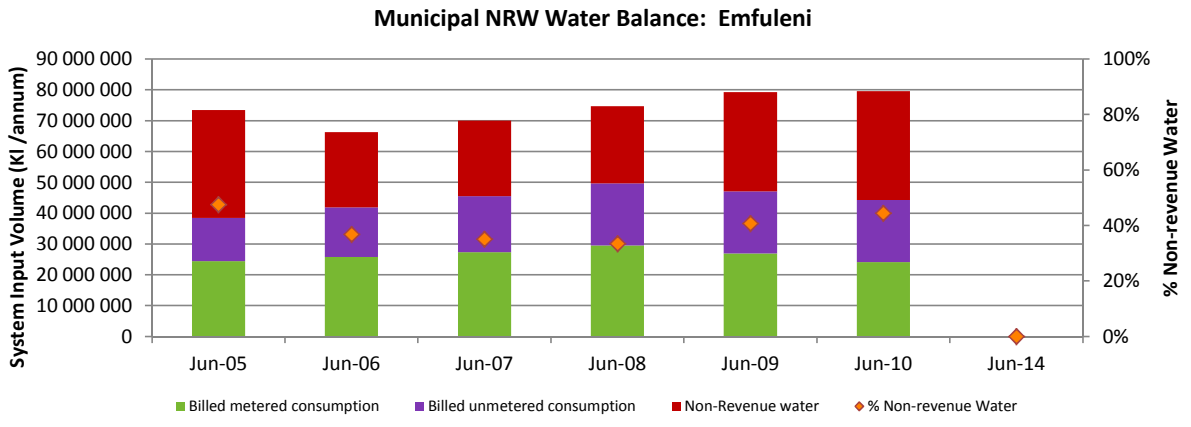

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | DC42 | | | | | | | | Yes |
| District Municipality | Sedibeng | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 889 642 | 896 332 | 901 712 | 915 240 | 920 731 | 934 542 | 0 |
| | Households | | 264 641 | 266 631 | 268 235 | 272 258 | 273 891 | 277 999 | 0 |
| | Connections - metered | | 252 753 | 254 655 | 256 184 | 260 027 | 261 587 | 265 510 | 0 |
| | Connections - Unmetered | | 11 003 | 11 086 | 11 153 | 11 320 | 11 388 | 11 559 | 0 |
| | Length of mains (km) | | 5 142 | 5 179 | 5 208 | 5 282 | 5 313 | 5 392 | 0 |
| | System input volume | kl/annum | 86 982 188 | 80 134 215 | 85 616 198 | 91 362 924 | 96 053 229 | 97 107 804 | 0 |
| | Billed metered consumption | kl/annum | 34 367 985 | 35 499 865 | 38 488 943 | 41 502 173 | 40 217 403 | 38 057 957 | 0 |
| | Billed unmetered consumption | kl/annum | 14 975 775 | 16 995 374 | 19 027 789 | 20 129 676 | 20 129 723 | 20 129 770 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 49 343 760 | 52 495 239 | 57 516 732 | 61 631 849 | 60 347 126 | 58 187 727 | 0 |
| | Non-Revenue water | kl/annum | 37 638 428 | 27 638 976 | 28 099 466 | 29 731 075 | 35 706 103 | 38 920 077 | 0 |
| | Water Losses | kl/annum | 37 638 428 | 27 638 976 | 28 099 466 | 29 731 075 | 35 706 103 | 38 920 077 | 0 |
| | % Non-revenue water | | 43.3% | 34.5% | 32.8% | 32.5% | 37.2% | 40.1% | No data |
| | % Water Losses | | 43.3% | 34.5% | 32.8% | 32.5% | 37.2% | 40.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 268 | 245 | 260 | 273 | 286 | 285 | No data |
| | Input: m³ / household / month | | 27 | 25 | 27 | 28 | 29 | 29 | No data |
| | Billed : Litres / capita / day | | 152 | 160 | 175 | 184 | 180 | 171 | No data |
| | Billed : m³ / household / month | | 16 | 16 | 18 | 19 | 18 | 17 | No data |
| | % Population growth | | | 0.75% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | -7.87% | 6.84% | 6.71% | 5.13% | 1.10% | |
| Source of information | | | | | | | | | |



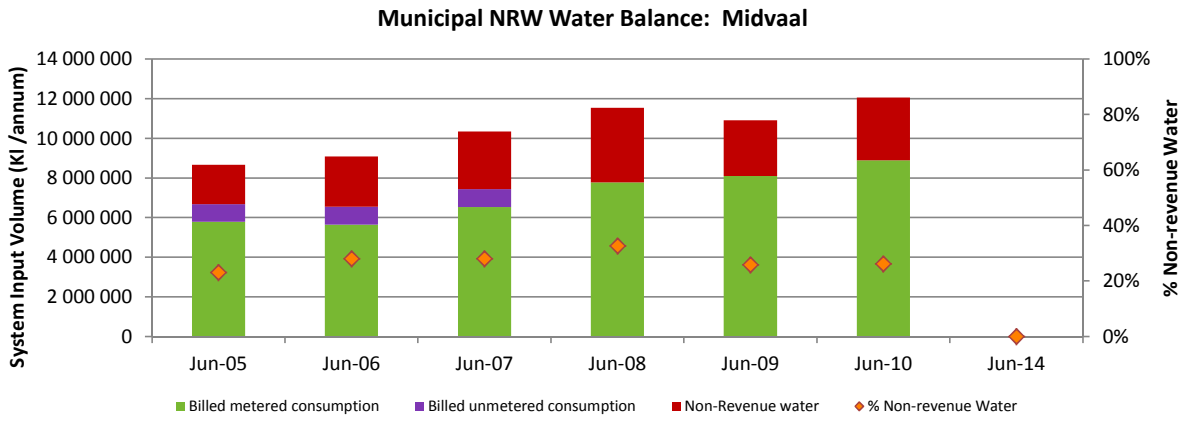

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT421 | | | | | | | | Yes |
| District Municipality | Sedibeng | | | | | | | | Category |
| Municipality | Emfuleni | | | | | | | | B1 |
| Settlements | BEDWORTHPARK, EVATON, SEBOKENG, SHARPEVILLE, VEREENIGING | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 736 369 | 741 906 | 746 359 | 757 555 | 762 100 | 773 532 | |
| | Households | | 219 606 | 221 259 | 222 587 | 225 924 | 227 282 | 230 691 | |
| | Connections - metered | | ~~209 674~~ | ~~211 250~~ | ~~212 518~~ | 215 706 | ~~217 000~~ | ~~220 255~~ | |
| | Connections - Unmetered | | ~~8 906~~ | ~~8 973~~ | ~~9 027~~ | 9 162 | ~~9 217~~ | ~~9 355~~ | |
| | Length of mains (km) | | ~~4 372~~ | ~~4 404~~ | ~~4 431~~ | ~~4 497~~ | ~~4 524~~ | ~~4 592~~ | |
| | System input volume | kl/annum | 73 410 924 | 66 267 621 | 69 983 719 | 74 677 044 | 79 315 608 | 79 559 382 | |
| | Billed metered consumption | kl/annum | 24 405 783 | 25 757 658 | 27 356 795 | 29 541 740 | 26 920 469 | 24 120 973 | |
| | Billed unmetered consumption | kl/annum | 14 089 488 | 16 102 272 | 18 115 056 | 20 127 840 | 20 127 840 | 20 127 840 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 38 495 271 | 41 859 930 | 45 471 851 | 49 669 580 | 47 048 309 | 44 248 813 | 0 |
| | Non-Revenue water | kl/annum | 34 915 653 | 24 407 691 | 24 511 868 | 25 007 464 | 32 267 299 | 35 310 569 | 0 |
| | Water Losses | kl/annum | 34 915 653 | 24 407 691 | 24 511 868 | 25 007 464 | 32 267 299 | 35 310 569 | 0 |
| | % Non-revenue water | | 47.6% | 36.8% | 35.0% | 33.5% | 40.7% | 44.4% | No data |
| | % Water Losses | | 47.6% | 36.8% | 35.0% | 33.5% | 40.7% | 44.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 273 | 245 | 257 | 270 | 285 | 282 | No data |
| | Input: m³ / household / month | | 28 | 25 | 26 | 28 | 29 | 29 | No data |
| | Billed : Litres / capita / day | | 143 | 155 | 167 | 180 | 169 | 157 | No data |
| | Billed : m³ / household / month | | 15 | 16 | 17 | 18 | 17 | 16 | No data |
| | % Population growth | | | 0.75% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | -9.73% | 5.61% | 6.71% | 6.21% | 0.31% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT422 | | | | | | | | Yes |
| District Municipality | Sedibeng | | | | | | | | Category |
| Municipality | Midvaal | | | | | | | | B2 |
| Settlements | MEYERTON, WATERDAL | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 73 435 | 73 988 | 74 432 | 75 549 | 76 002 | 77 142 | |
| | Households | | 23 444 | 23 617 | 23 762 | 24 120 | 24 262 | 24 626 | |
| | Connections - metered | | ~~21 488~~ | ~~21 650~~ | ~~21 780~~ | 22 107 | ~~22 240~~ | ~~22 573~~ | |
| | Connections - Unmetered | | ~~2 098~~ | ~~2 113~~ | ~~2 126~~ | 2 158 | ~~2 171~~ | ~~2 203~~ | |
| | Length of mains (km) | | ~~472~~ | ~~475~~ | ~~478~~ | ~~485~~ | ~~488~~ | ~~496~~ | |
| | System input volume | kl/annum | 8 668 261 | 9 081 412 | 10 341 976 | 11 546 379 | 10 908 271 | 12 053 525 | |
| | Billed metered consumption | kl/annum | 5 789 802 | 5 649 066 | 6 529 098 | 7 780 393 | 8 096 934 | 8 896 469 | |
| | Billed unmetered consumption | kl/annum | 884 592 | 891 360 | 910 944 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 6 674 394 | 6 540 426 | 7 440 042 | 7 780 393 | 8 096 934 | 8 896 469 | 0 |
| | Non-Revenue water | kl/annum | 1 993 867 | 2 540 986 | 2 901 934 | 3 765 986 | 2 811 337 | 3 157 056 | 0 |
| | Water Losses | kl/annum | 1 993 867 | 2 540 986 | 2 901 934 | 3 765 986 | 2 811 337 | 3 157 056 | 0 |
| | % Non-revenue water | | 23.0% | 28.0% | 28.1% | 32.6% | 25.8% | 26.2% | No data |
| | % Water Losses | | 23.0% | 28.0% | 28.1% | 32.6% | 25.8% | 26.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 323 | 336 | 381 | 419 | 393 | 428 | No data |
| | Input: m³ / household / month | | 31 | 32 | 36 | 40 | 37 | 41 | No data |
| | Billed : Litres / capita / day | | 249 | 242 | 274 | 282 | 292 | 316 | No data |
| | Billed : m³ / household / month | | 24 | 23 | 26 | 27 | 28 | 30 | No data |
| | % Population growth | | | 0.75% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 4.77% | 13.88% | 11.65% | -5.53% | 10.50% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |




Comments

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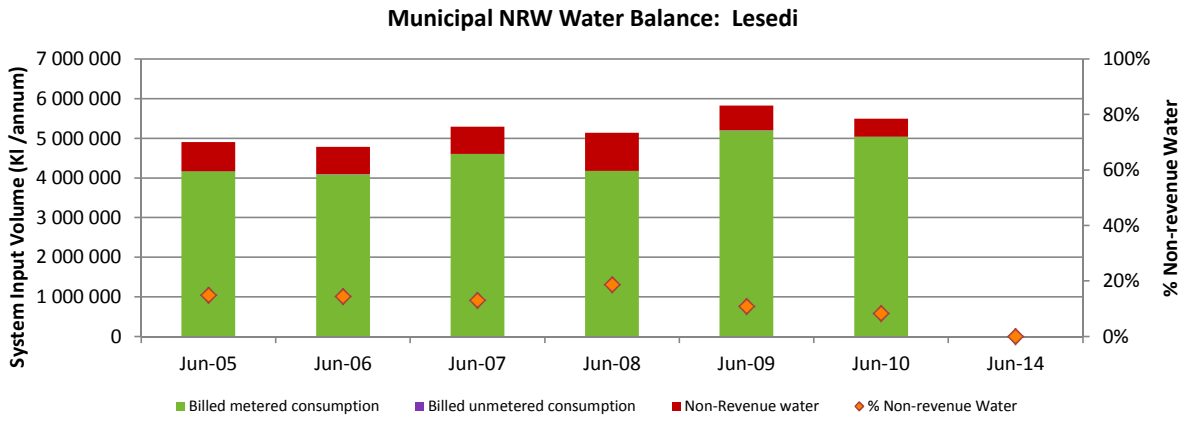
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT423 | | | | | | | | Yes |
| District Municipality | Sedibeng | | | | | | | | Category |
| Municipality | Lesedi | | | | | | | | B3 |
| Settlements | RATANDA, HEIDELBURG, DEVON | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 79 838 | 80 438 | 80 921 | 82 136 | 82 629 | 83 868 | |
| | Households | | 21 591 | 21 755 | 21 886 | 22 214 | 22 347 | 22 682 | |
| | Connections - metered | | 21 591 | 21 755 | 21 886 | 22 214 | 22 347 | 22 682 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Length of mains (km) | | 299 | 299 | 299 | 300 | 301 | 304 | |
| | System input volume | kl/annum | 4 903 003 | 4 785 182 | 5 290 503 | 5 139 501 | 5 829 350 | 5 494 897 | |
| | Billed metered consumption | kl/annum | 4 172 400 | 4 093 141 | 4 603 050 | 4 180 040 | 5 200 000 | 5 040 515 | |
| | Billed unmetered consumption | kl/annum | 1 695 | 1 742 | 1 789 | 1 836 | 1 883 | 1 930 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 174 095 | 4 094 883 | 4 604 839 | 4 181 876 | 5 201 883 | 5 042 445 | 0 |
| | Non-Revenue water | kl/annum | 728 908 | 690 299 | 685 664 | 957 625 | 627 467 | 452 452 | 0 |
| | Water Losses | kl/annum | 728 908 | 690 299 | 685 664 | 957 625 | 627 467 | 452 452 | 0 |
| | % Non-revenue water | | 14.9% | 14.4% | 13.0% | 18.6% | 10.8% | 8.2% | No data |
| | % Water Losses | | 14.9% | 14.4% | 13.0% | 18.6% | 10.8% | 8.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 168 | 163 | 179 | 171 | 193 | 180 | No data |
| | Input: m³ / household / month | | 19 | 18 | 20 | 19 | 22 | 20 | No data |
| | Billed : Litres / capita / day | | 143 | 139 | 156 | 139 | 172 | 165 | No data |
| | Billed : m³ / household / month | | 16 | 16 | 18 | 16 | 19 | 19 | No data |
| | % Population growth | | | 0.75% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | -2.40% | 10.56% | -2.85% | 13.42% | -5.74% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |




Comments

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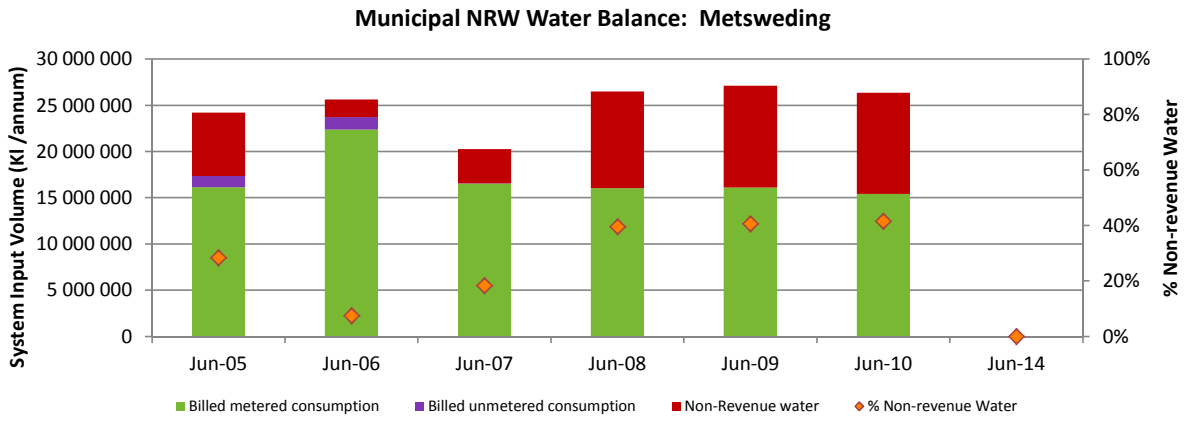
|---|---|---|---|---|---|---|---|---|---|
| Province | | Gauteng | | | | | | | WSA |
| Municipal Code | | DC46 | | | | | | | No |
| District Municipality | | Metsweding | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 205 066 | 210 201 | 211 461 | 214 632 | 215 921 | 219 160 | 0 |
| | Households | | 58 776 | 60 266 | 60 626 | 61 539 | 61 905 | 62 834 | 0 |
| | Connections - metered | | 50 839 | 52 112 | 52 425 | 53 211 | 53 531 | 54 334 | 0 |
| | Connections - Unmetered | | 4 895 | 5 019 | 5 049 | 5 125 | 5 155 | 5 233 | 0 |
| | Length of mains (km) | | 1 115 | 1 143 | 1 149 | 1 167 | 1 174 | 1 191 | 0 |
| | System input volume | kl/annum | 24 201 285 | 25 628 555 | 20 268 555 | 26 480 055 | 27 119 818 | 26 352 214 | 0 |
| | Billed metered consumption | kl/annum | 16 155 269 | 22 357 991 | 16 504 991 | 16 020 171 | 16 100 000 | 15 400 000 | 0 |
| | Billed unmetered consumption | kl/annum | 1 182 746 | 1 347 640 | 62 640 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 17 338 015 | 23 705 631 | 16 567 631 | 16 020 171 | 16 100 000 | 15 400 000 | 0 |
| | Non-Revenue water | kl/annum | 6 863 270 | 1 922 924 | 3 700 924 | 10 459 884 | 11 019 818 | 10 952 214 | 0 |
| | Water Losses | kl/annum | 6 863 270 | 1 922 924 | 3 700 924 | 10 459 884 | 11 019 818 | 10 952 214 | 0 |
| | % Non-revenue water | | 28.4% | 7.5% | 18.3% | 39.5% | 40.6% | 41.6% | No data |
| | % Water Losses | | 28.4% | 7.5% | 18.3% | 39.5% | 40.6% | 41.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 323 | 334 | 263 | 338 | 344 | 329 | No data |
| | Input: m³ / household / month | | 34 | 35 | 28 | 36 | 37 | 35 | No data |
| | Billed : Litres / capita / day | | 232 | 309 | 215 | 204 | 204 | 193 | No data |
| | Billed : m³ / household / month | | 25 | 33 | 23 | 22 | 22 | 20 | No data |
| | % Population growth | | | 2.50% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 5.90% | -20.91% | 30.65% | 2.42% | -2.83% | |
| Source of information | | | | | | | | | |




Comments

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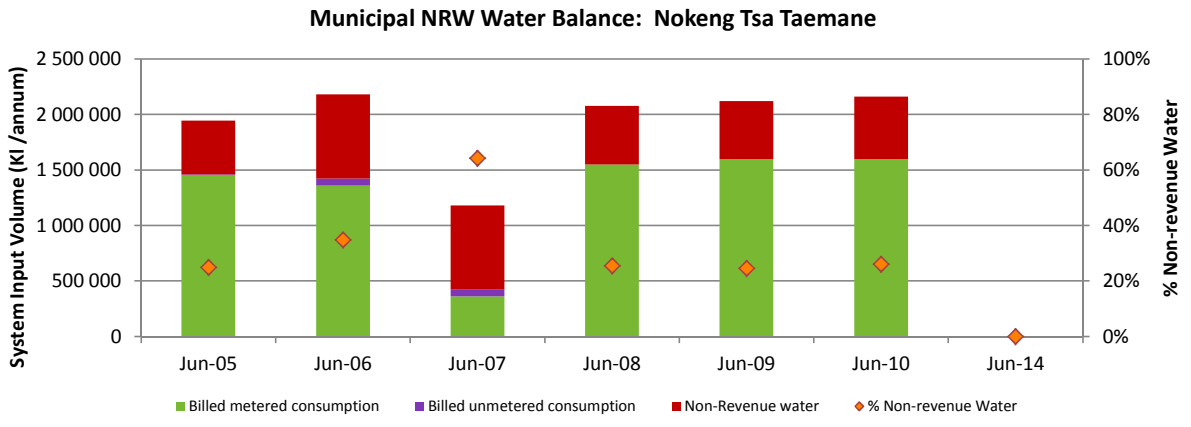
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT461 | | | | | | | | Yes |
| District Municipality | Metsweding | | | | | | | | Category |
| Municipality | Nokeng Tsa Taemane | | | | | | | | B2 |
| Settlements | DINOKANA, ZEERUST | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 61 720 | 63 370 | 63 749 | 64 704 | 65 094 | 66 070 | |
| | Households | | 17 538 | 18 007 | 18 114 | 18 389 | 18 498 | 18 775 | |
| | Connections - metered | | ~~15 432~~ | ~~15 844~~ | ~~15 939~~ | 16 178 | ~~16 276~~ | ~~16 520~~ | |
| | Connections - Unmetered | | ~~1 442~~ | ~~1 481~~ | ~~1 489~~ | 1 512 | ~~1 521~~ | ~~1 544~~ | |
| | Length of mains (km) | | ~~337~~ | ~~347~~ | ~~349~~ | ~~354~~ | ~~356~~ | ~~361~~ | |
| | System input volume | kl/annum | 1 946 285 | 2 181 555 | 1 181 555 | 2 078 253 | 2 119 818 | 2 162 214 | |
| | Billed metered consumption | kl/annum | 1 455 269 | 1 359 991 | 359 991 | 1 550 000 | 1 600 000 | 1 600 000 | |
| | Billed unmetered consumption | kl/annum | 5 746 | 62 640 | 62 640 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 461 015 | 1 422 631 | 422 631 | 1 550 000 | 1 600 000 | 1 600 000 | 0 |
| | Non-Revenue water | kl/annum | 485 270 | 758 924 | 758 924 | 528 253 | 519 818 | 562 214 | 0 |
| | Water Losses | kl/annum | 485 270 | 758 924 | 758 924 | 528 253 | 519 818 | 562 214 | 0 |
| | % Non-revenue water | | 24.9% | 34.8% | 64.2% | 25.4% | 24.5% | 26.0% | No data |
| | % Water Losses | | 24.9% | 34.8% | 64.2% | 25.4% | 24.5% | 26.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 86 | 94 | 51 | 88 | 89 | 90 | No data |
| | Input: m³ / household / month | | 9 | 10 | 5 | 9 | 10 | 10 | No data |
| | Billed : Litres / capita / day | | 65 | 62 | 18 | 66 | 67 | 66 | No data |
| | Billed : m³ / household / month | | 7 | 7 | 2 | 7 | 7 | 7 | No data |
| | % Population growth | | | 2.67% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 12.09% | -45.84% | 75.89% | 2.00% | 2.00% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | |




Comments

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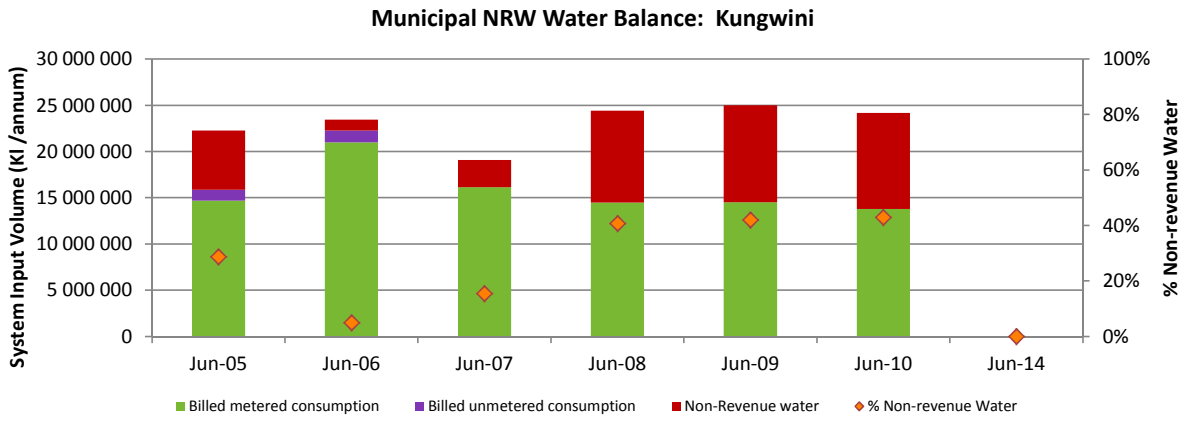
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT462 | | | | | | | | Yes |
| District Municipality | Metsweding | | | | | | | | Category |
| Municipality | Kungwini | | | | | | | | B2 |
| Settlements | BRONKHORSTSPRUIT, EKANGALA, ZITHOBENI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 143 346 | 146 831 | 147 712 | 149 928 | 150 827 | 153 089 | |
| | Households | | 41 238 | 42 259 | 42 512 | 43 150 | 43 407 | 44 058 | |
| | Connections - metered | | ~~35 407~~ | ~~36 268~~ | ~~36 486~~ | 37 033 | ~~37 255~~ | ~~37 814~~ | |
| | Connections - Unmetered | | ~~3 453~~ | ~~3 538~~ | ~~3 560~~ | 3 613 | ~~3 635~~ | ~~3 689~~ | |
| | Length of mains (km) | | ~~777~~ | ~~796~~ | ~~801~~ | ~~813~~ | ~~818~~ | ~~830~~ | |
| | System input volume | kl/annum | 22 255 000 | 23 447 000 | 19 087 000 | 24 401 802 | 25 000 000 | 24 190 000 | |
| | Billed metered consumption | kl/annum | 14 700 000 | 20 998 000 | 16 145 000 | 14 470 171 | 14 500 000 | 13 800 000 | |
| | Billed unmetered consumption | kl/annum | 1 177 000 | 1 285 000 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 15 877 000 | 22 283 000 | 16 145 000 | 14 470 171 | 14 500 000 | 13 800 000 | 0 |
| | Non-Revenue water | kl/annum | 6 378 000 | 1 164 000 | 2 942 000 | 9 931 631 | 10 500 000 | 10 390 000 | 0 |
| | Water Losses | kl/annum | 6 378 000 | 1 164 000 | 2 942 000 | 9 931 631 | 10 500 000 | 10 390 000 | 0 |
| | % Non-revenue water | | 28.7% | 5.0% | 15.4% | 40.7% | 42.0% | 43.0% | No data |
| | % Water Losses | | 28.7% | 5.0% | 15.4% | 40.7% | 42.0% | 43.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 425 | 437 | 354 | 446 | 454 | 433 | No data |
| | Input: m³ / household / month | | 45 | 46 | 37 | 47 | 48 | 46 | No data |
| | Billed : Litres / capita / day | | 303 | 416 | 299 | 264 | 263 | 247 | No data |
| | Billed : m³ / household / month | | 32 | 44 | 32 | 28 | 28 | 26 | No data |
| | % Population growth | | | 2.43% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 5.36% | -18.60% | 27.85% | 2.45% | -3.24% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA | |




Comments

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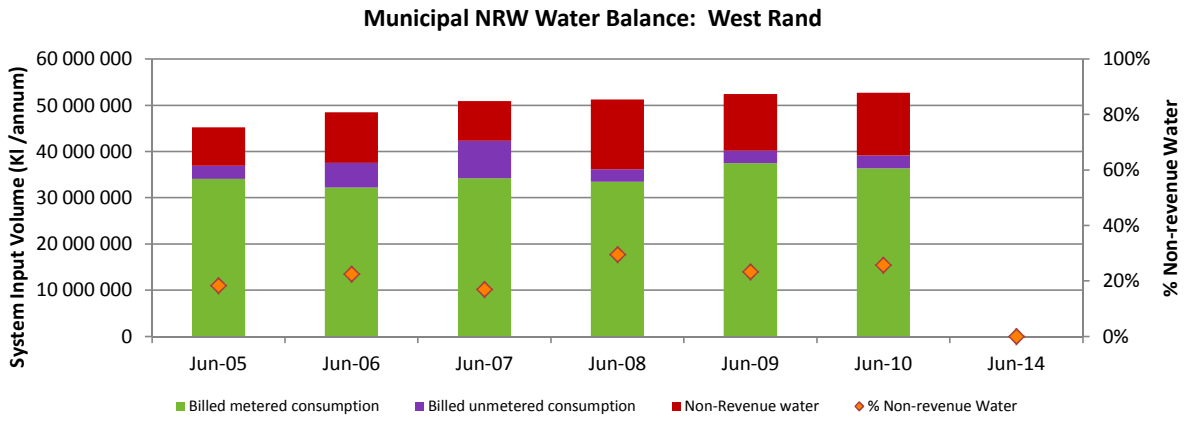
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | DC48 | | | | | | | | No |
| District Municipality | West Rand | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 827 031 | 842 761 | 847 818 | 858 004 | 863 153 | 876 100 | 0 |
| | Households | | 242 426 | 247 037 | 248 518 | 251 535 | 253 043 | 256 839 | 0 |
| | Connections - metered | | 171 703 | 174 036 | 176 372 | 178 639 | 184 403 | 187 319 | 0 |
| | Connections - Unmetered | | 19 811 | 20 142 | 20 327 | 20 547 | 20 905 | 21 227 | 0 |
| | Length of mains (km) | | 3 472 | 3 525 | 3 546 | 3 577 | 3 597 | 3 646 | 0 |
| | System input volume | kl/annum | 45 208 981 | 48 492 743 | 50 922 244 | 51 286 340 | 52 420 109 | 52 690 678 | 0 |
| | Billed metered consumption | kl/annum | 34 073 974 | 32 199 019 | 34 223 116 | 33 467 857 | 37 461 294 | 36 349 114 | 0 |
| | Billed unmetered consumption | kl/annum | 2 848 848 | 5 376 420 | 8 079 305 | 2 696 928 | 2 737 759 | 2 774 492 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 36 922 822 | 37 575 439 | 42 302 421 | 36 164 785 | 40 199 053 | 39 123 606 | 0 |
| | Non-Revenue water | kl/annum | 8 286 159 | 10 917 304 | 8 619 823 | 15 121 555 | 12 221 056 | 13 567 072 | 0 |
| | Water Losses | kl/annum | 8 286 159 | 10 917 304 | 8 619 823 | 15 121 555 | 12 221 056 | 13 567 072 | 0 |
| | % Non-revenue water | | 18.3% | 22.5% | 16.9% | 29.5% | 23.3% | 25.7% | No data |
| | % Water Losses | | 18.3% | 22.5% | 16.9% | 29.5% | 23.3% | 25.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 150 | 158 | 165 | 164 | 166 | 165 | No data |
| | Input: m³ / household / month | | 16 | 16 | 17 | 17 | 17 | 17 | No data |
| | Billed : Litres / capita / day | | 122 | 122 | 137 | 115 | 128 | 122 | No data |
| | Billed : m³ / household / month | | 13 | 13 | 14 | 12 | 13 | 13 | No data |
| | % Population growth | | | 1.90% | 0.60% | 1.20% | 0.60% | 1.50% | |
| | % Water demand growth | | | 7.26% | 5.01% | 0.72% | 2.21% | 0.52% | |
| Source of information | | | | | | | | | |




Comments

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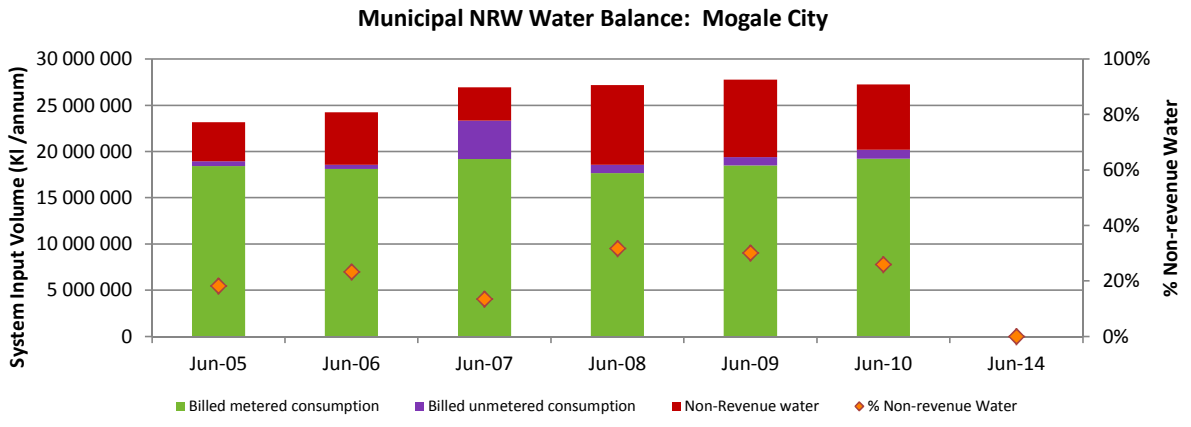
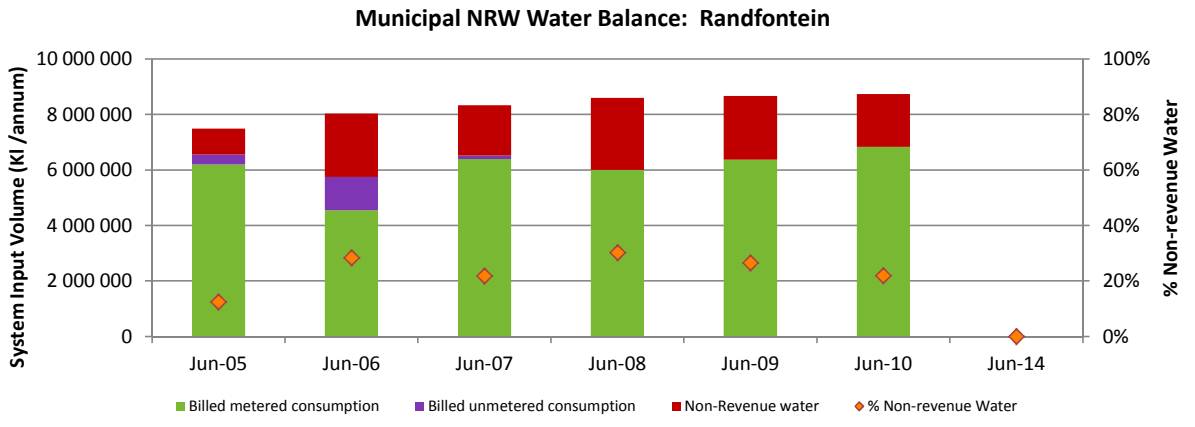
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT481 | | | | | | | | Yes |
| District Municipality | West Rand | | | | | | | | Category |
| Municipality | Mogale City | | | | | | | | B1 |
| Settlements | KAGISO, KRUGERSDORP, RIETVALLEI | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 334 171 | 340 526 | 342 568 | 347 705 | 349 791 | 355 038 | |
| | Households | | 101 144 | 103 065 | 103 684 | 105 240 | 105 870 | 107 458 | |
| | Connections - metered | | 49 023 | 49 023 | 50 608 | 51 608 | 56 609 | 57 609 | |
| | Connections - Unmetered | | 2 451 | 2 451 | 2 530 | 2 580 | 2 830 | 2 880 | |
| | Length of mains (km) | | 671 | 671 | 675 | 677 | 680 | 685 | |
| | System input volume | kl/annum | 23 163 490 | 24 229 135 | 26 944 534 | 27 168 486 | 27 762 410 | 27 257 044 | |
| | Billed metered consumption | kl/annum | 18 412 450 | 18 110 119 | 19 172 414 | 17 667 857 | 18 484 451 | 19 219 114 | |
| | Billed unmetered consumption | kl/annum | 529 656 | 468 000 | 4 156 992 | 883 392 | 924 223 | 960 956 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 18 942 106 | 18 578 119 | 23 329 406 | 18 551 249 | 19 408 674 | 20 180 070 | 0 |
| | Non-Revenue water | kl/annum | 4 221 384 | 5 651 016 | 3 615 128 | 8 617 237 | 8 353 736 | 7 076 974 | 0 |
| | Water Losses | kl/annum | 4 221 384 | 5 651 016 | 3 615 128 | 8 617 237 | 8 353 736 | 7 076 974 | 0 |
| | % Non-revenue water | | 18.2% | 23.3% | 13.4% | 31.7% | 30.1% | 26.0% | No data |
| | % Water Losses | | 18.2% | 23.3% | 13.4% | 31.7% | 30.1% | 26.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 190 | 195 | 215 | 214 | 217 | 210 | No data |
| | Input: m³ / household / month | | 19 | 20 | 22 | 22 | 22 | 21 | No data |
| | Billed : Litres / capita / day | | 155 | 149 | 187 | 146 | 152 | 156 | No data |
| | Billed : m³ / household / month | | 16 | 15 | 19 | 15 | 15 | 16 | No data |
| | % Population growth | | | 1.90% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 4.60% | 11.21% | 0.83% | 2.19% | -1.82% | |
| Source of information | | | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



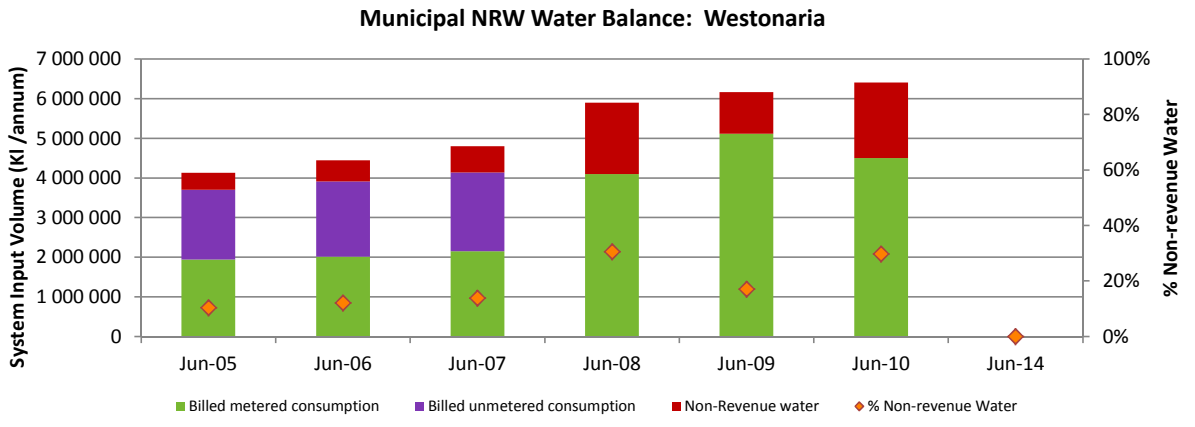

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT482 | | | | | | | | Yes |
| District Municipality | West Rand | | | | | | | | Category |
| Municipality | Randfontein | | | | | | | | B2 |
| Settlements | MOHLAKENG, RANDFONTEIN, TOEKOMSRUS | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 148 042 | 150 858 | 151 763 | 154 039 | 154 964 | 157 288 | |
| | Households | | 43 595 | 44 424 | 44 692 | 45 362 | 45 633 | 46 317 | |
| | Connections - metered | | 40 341 | 41 108 | 41 355 | 41 975 | 42 227 | 42 860 | |
| | Connections - Unmetered | | 2 504 | 2 552 | 2 568 | 2 606 | 2 622 | 2 661 | |
| | Length of mains (km) | | 857 | 873 | 878 | 892 | 897 | 910 | |
| | System input volume | kl/annum | 7 489 290 | 8 029 360 | 8 337 400 | 8 595 700 | 8 666 188 | 8 740 000 | |
| | Billed metered consumption | kl/annum | 6 196 092 | 4 547 094 | 6 398 000 | 6 000 000 | 6 369 552 | 6 830 000 | |
| | Billed unmetered consumption | kl/annum | 360 000 | 1 202 112 | 126 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 6 556 092 | 5 749 206 | 6 524 000 | 6 000 000 | 6 369 552 | 6 830 000 | 0 |
| | Non-Revenue water | kl/annum | 933 198 | 2 280 154 | 1 813 400 | 2 595 700 | 2 296 636 | 1 910 000 | 0 |
| | Water Losses | kl/annum | 933 198 | 2 280 154 | 1 813 400 | 2 595 700 | 2 296 636 | 1 910 000 | 0 |
| | % Non-revenue water | | 12.5% | 28.4% | 21.8% | 30.2% | 26.5% | 21.9% | No data |
| | % Water Losses | | 12.5% | 28.4% | 21.8% | 30.2% | 26.5% | 21.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 139 | 146 | 151 | 153 | 153 | 152 | No data |
| | Input: m³ / household / month | | 14 | 15 | 16 | 16 | 16 | 16 | No data |
| | Billed : Litres / capita / day | | 121 | 104 | 118 | 107 | 113 | 119 | No data |
| | Billed : m³ / household / month | | 13 | 11 | 12 | 11 | 12 | 12 | No data |
| | % Population growth | | | 1.90% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 7.21% | 3.84% | 3.10% | 0.82% | 0.85% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



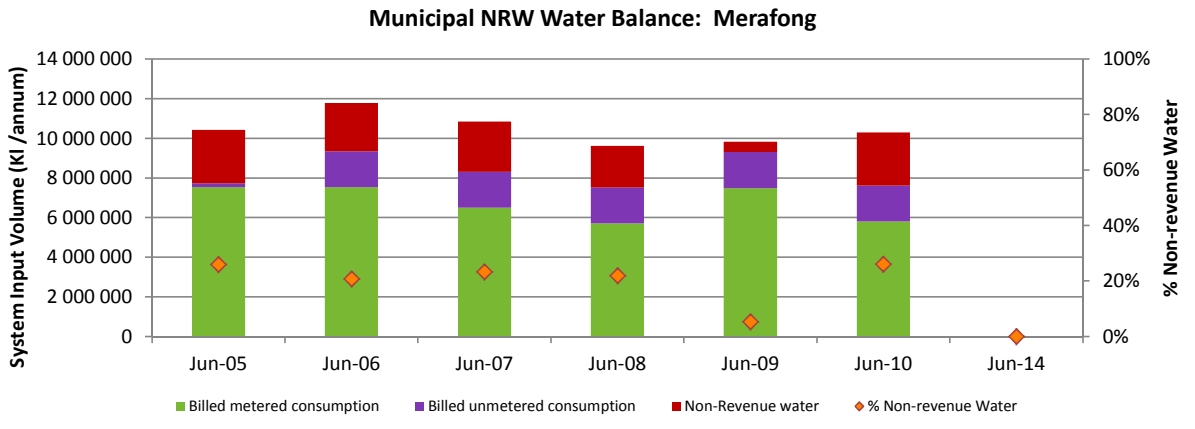

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT483 | | | | | | | | Yes |
| District Municipality | West Rand | | | | | | | | Category |
| Municipality | Westonaria | | | | | | | | B2 |
| Settlements | BEKKERSDAL, GEMSBOKFONTEIN, WESTONARIA | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 116 903 | 119 127 | 119 843 | 121 642 | 122 371 | 124 207 | |
| | Households | | 33 642 | 34 284 | 34 488 | 35 005 | 35 217 | 35 745 | |
| | Connections - metered | | ~~26 560~~ | ~~27 066~~ | ~~27 228~~ | 27 637 | ~~27 803~~ | ~~28 220~~ | |
| | Connections - Unmetered | | ~~6 205~~ | ~~6 323~~ | ~~6 361~~ | 6 456 | ~~6 495~~ | ~~6 593~~ | |
| | Length of mains (km) | | ~~655~~ | ~~668~~ | ~~672~~ | ~~682~~ | ~~686~~ | ~~696~~ | |
| | System input volume | kl/annum | 4 130 425 | 4 445 575 | 4 801 222 | 5 901 145 | 6 165 684 | 6 404 434 | |
| | Billed metered consumption | kl/annum | 1 940 165 | 2 016 539 | 2 152 702 | 4 100 000 | 5 117 380 | 4 500 000 | |
| | Billed unmetered consumption | kl/annum | 1 764 000 | 1 892 772 | 1 982 777 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 704 165 | 3 909 311 | 4 135 479 | 4 100 000 | 5 117 380 | 4 500 000 | 0 |
| | Non-Revenue water | kl/annum | 426 260 | 536 264 | 665 743 | 1 801 145 | 1 048 304 | 1 904 434 | 0 |
| | Water Losses | kl/annum | 426 260 | 536 264 | 665 743 | 1 801 145 | 1 048 304 | 1 904 434 | 0 |
| | % Non-revenue water | | 10.3% | 12.1% | 13.9% | 30.5% | 17.0% | 29.7% | No data |
| | % Water Losses | | 10.3% | 12.1% | 13.9% | 30.5% | 17.0% | 29.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 97 | 102 | 110 | 133 | 138 | 141 | No data |
| | Input: m³ / household / month | | 10 | 11 | 12 | 14 | 15 | 15 | No data |
| | Billed : Litres / capita / day | | 87 | 90 | 95 | 92 | 115 | 99 | No data |
| | Billed : m³ / household / month | | 9 | 10 | 10 | 10 | 12 | 10 | No data |
| | % Population growth | | | 1.90% | 0.60% | 1.50% | 0.60% | 1.50% | |
| | % Water demand growth | | | 7.63% | 8.00% | 22.91% | 4.48% | 3.87% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Gauteng | | | | | | | | WSA |
| Municipal Code | GT484 | | | | | | | | Yes |
| District Municipality | West Rand | | | | | | | | Category |
| Municipality | Merafong | | | | | | | | B2 |
| Settlements | CARLETONVILLE, DOORNFONTEIN, FOCHVILLE, WESTDRIEFONTEIN | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 227 915 | 232 250 | 233 644 | 234 618 | 236 027 | 239 567 | |
| | Households | | 64 045 | 65 264 | 65 654 | 65 928 | 66 323 | 67 318 | |
| | Connections - metered | | ~~55 779~~ | ~~56 839~~ | ~~57 181~~ | 57 419 | ~~57 764~~ | ~~58 630~~ | |
| | Connections - Unmetered | | ~~8 651~~ | ~~8 815~~ | ~~8 868~~ | 8 905 | ~~8 958~~ | ~~9 093~~ | |
| | Length of mains (km) | | ~~1 289~~ | ~~1 313~~ | ~~1 321~~ | ~~1 326~~ | ~~1 334~~ | ~~1 354~~ | |
| | System input volume | kl/annum | 10 425 776 | 11 788 673 | 10 839 088 | 9 621 009 | 9 825 827 | 10 289 200 | |
| | Billed metered consumption | kl/annum | 7 525 267 | 7 525 267 | 6 500 000 | 5 700 000 | 7 489 911 | 5 800 000 | |
| | Billed unmetered consumption | kl/annum | 195 192 | 1 813 536 | 1 813 536 | 1 813 536 | 1 813 536 | 1 813 536 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 7 720 459 | 9 338 803 | 8 313 536 | 7 513 536 | 9 303 447 | 7 613 536 | 0 |
| | Non-Revenue water | kl/annum | 2 705 317 | 2 449 870 | 2 525 552 | 2 107 473 | 522 380 | 2 675 664 | 0 |
| | Water Losses | kl/annum | 2 705 317 | 2 449 870 | 2 525 552 | 2 107 473 | 522 380 | 2 675 664 | 0 |
| | % Non-revenue water | | 25.9% | 20.8% | 23.3% | 21.9% | 5.3% | 26.0% | No data |
| | % Water Losses | | 25.9% | 20.8% | 23.3% | 21.9% | 5.3% | 26.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 125 | 139 | 127 | 112 | 114 | 118 | No data |
| | Input: m³ / household / month | | 14 | 15 | 14 | 12 | 12 | 13 | No data |
| | Billed : Litres / capita / day | | 93 | 110 | 97 | 88 | 108 | 87 | No data |
| | Billed : m³ / household / month | | 10 | 12 | 11 | 9 | 12 | 9 | No data |
| | % Population growth | | | 1.90% | 0.60% | 0.42% | 0.60% | 1.50% | |
| | % Water demand growth | | | 13.07% | -8.06% | -11.24% | 2.13% | 4.72% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |




Comments

# National Non-Revenue Water Assessment

## KwaZuluπNatal Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Intoductory notes

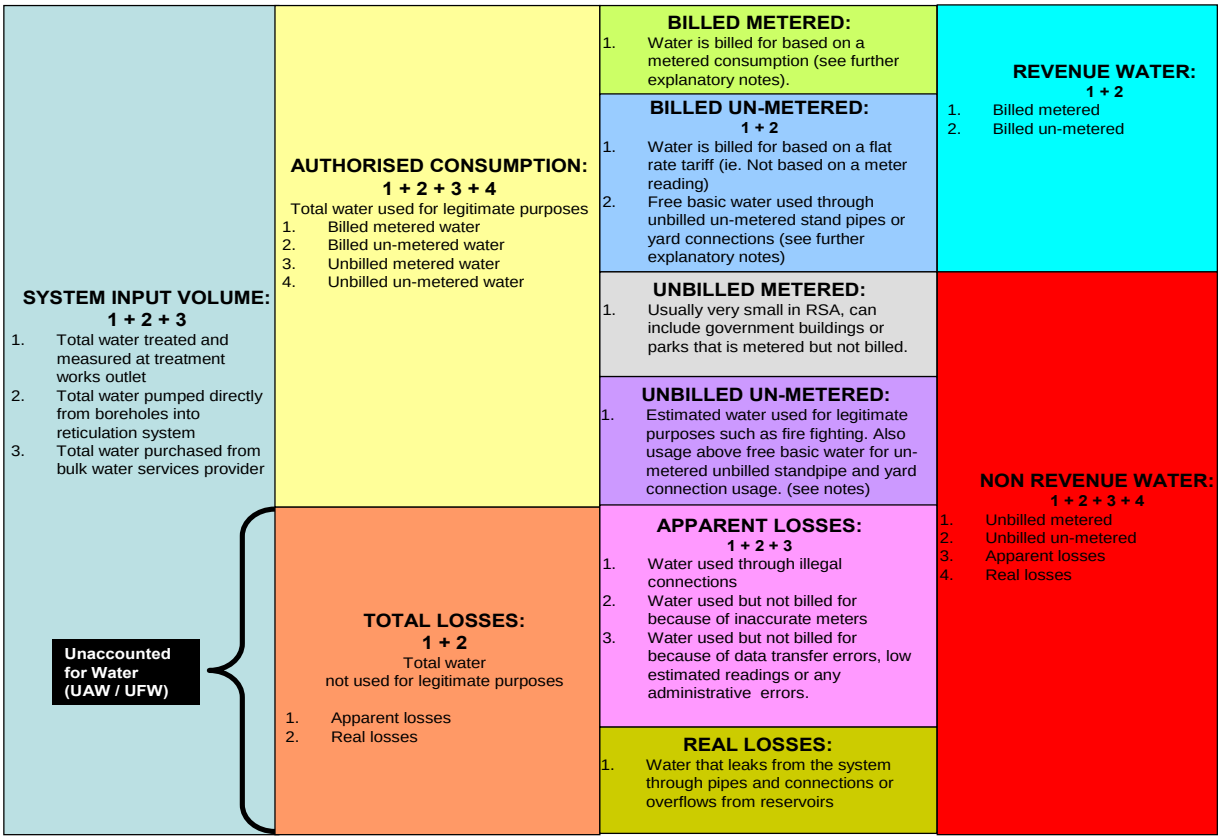
### Terminilogy

| Accronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Mesurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (prefered term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not prefered term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calcualted values unsing trends or averages | |

### Standard IWA Water Balance

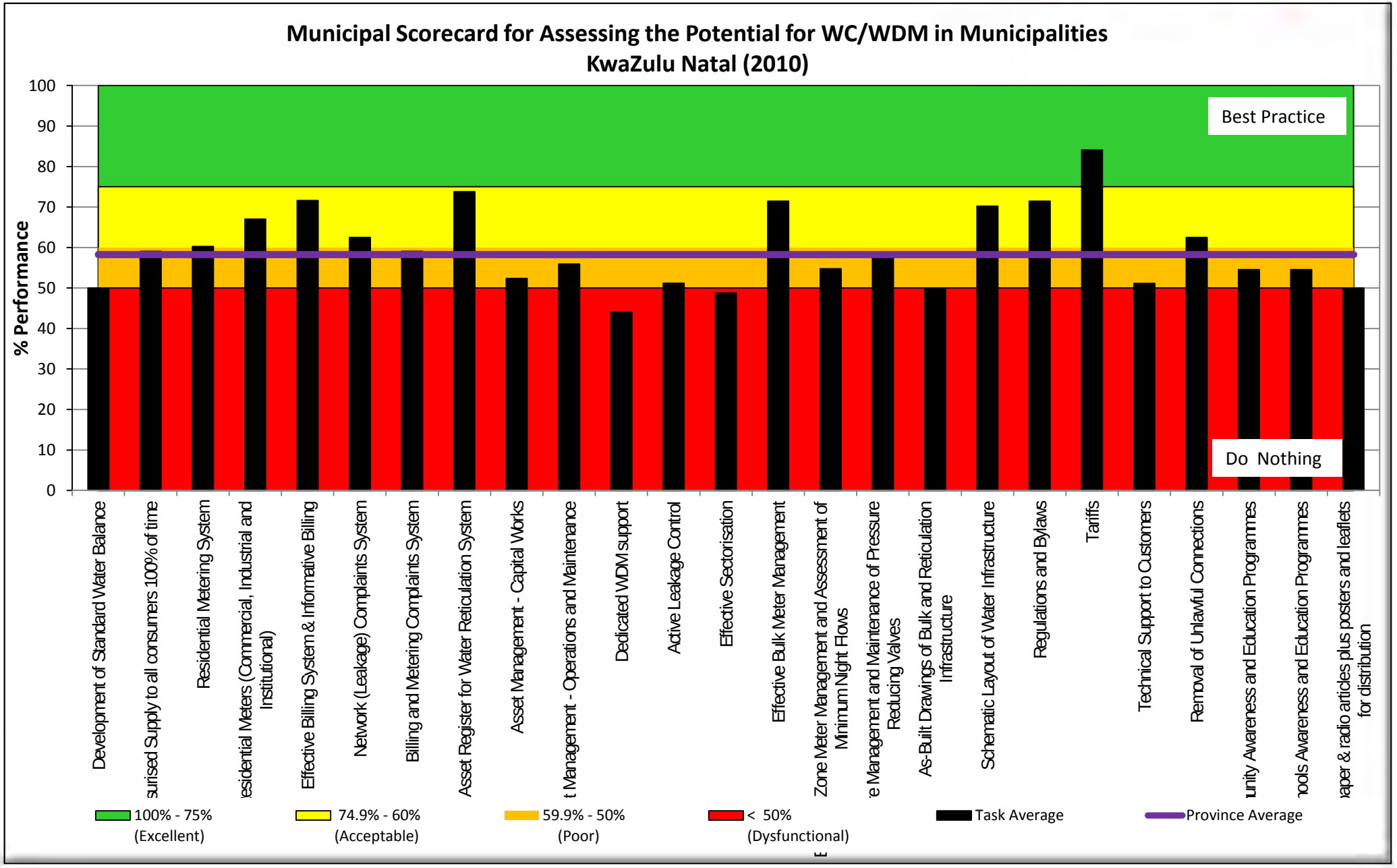


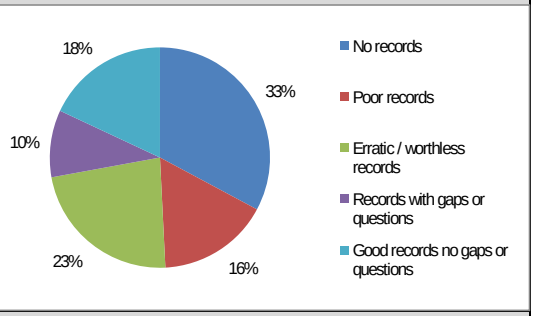
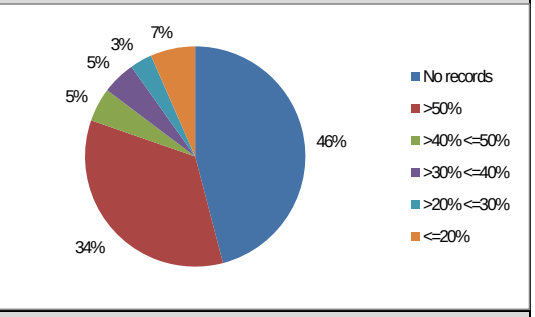
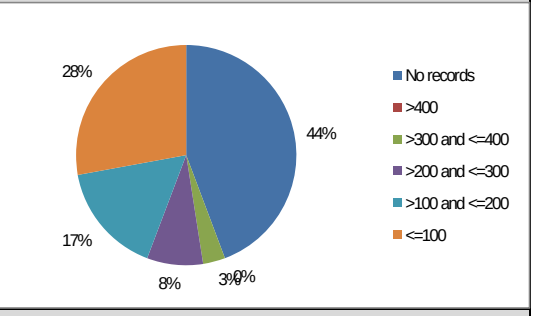
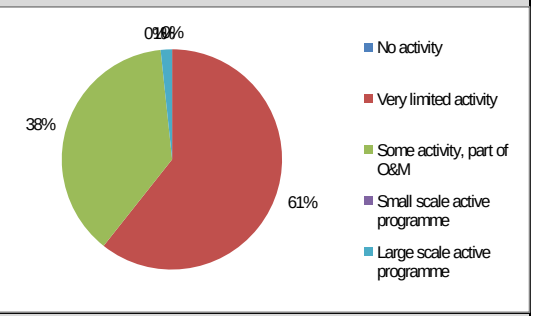
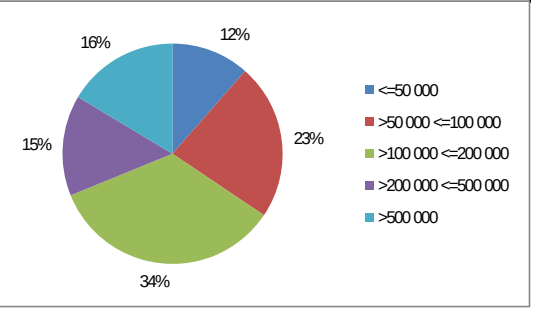
| Province | KwaZulu-Natal |
|---|---|

| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | ETH | eThekwini Metro | eThekwini Metro | A | Yes |
| 2 | DC21 | Ugu District | Ugu District DM | C2 | Yes |
| 3 | KZN211 | Ugu | Vulamehlo | B4 | No |
| 4 | KZN212 | Ugu | uMdoni | B2 | No |
| 5 | KZN213 | Ugu | Umzumbe | B4 | No |
| 6 | KZN214 | Ugu | uMuziwabantu | B3 | No |
| 7 | KZN215 | Ugu | Ezinqoleni | B4 | No |
| 8 | KZN216 | Ugu | Hibiscus Coast | B2 | No |
| 9 | DC22 | Umgungundlovu | Umgungundlovu DM | C2 | Yes |
| 10 | KZN221 | Umgungundlovu | uMshwathi | B4 | No |
| 11 | KZN222 | Umgungundlovu | uMngeni | B2 | No |
| 12 | KZN223 | Umgungundlovu | Mpofana | B3 | No |
| 13 | KZN224 | Umgungundlovu | Impendle | B4 | No |
| 14 | KZN225 | Umgungundlovu | The Msunduzi | B1 | Yes |
| 15 | KZN226 | Umgungundlovu | Mkhambathini | B3 | No |
| 16 | KZN227 | Umgungundlovu | Richmond | B4 | No |
| 17 | DC23 | Uthukela | Uthukela DM | C2 | Yes |
| 18 | KZN232 | Uthukela | Emnambithi-Ladysmith | B2 | No |
| 19 | KZN233 | Uthukela | Indaka | B4 | No |
| 20 | KZN234 | Uthukela | Umtshezi | B3 | No |
| 21 | KZN235 | Uthukela | Okhahlamba | B4 | No |
| 22 | KZN236 | Uthukela | Imbabazane | B4 | No |
| 23 | DC24 | Umzinyathi | Umzinyathi DM | C2 | Yes |
| 24 | KZN241 | Umzinyathi | Endumeni | B3 | No |
| 25 | KZN242 | Umzinyathi | Nquthu | B4 | No |
| 26 | KZN244 | Umzinyathi | Msinga | B4 | No |
| 27 | KZN245 | Umzinyathi | Umvoti | B3 | No |
| 28 | DC25 | Amajuba | Amajuba DM | C2 | Yes |
| 29 | KZN252 | Amajuba | Newcastle | B1 | Yes |
| 30 | KZN253 | Amajuba | eMadlangeni | B3 | No |
| 31 | KZN254 | Amajuba | Dannhauser | B4 | No |
| 32 | DC26 | Zululand | Zululand DM | C2 | Yes |
| 33 | KZN261 | Zululand | eDumbe | B3 | No |
| 34 | KZN262 | Zululand | uPhongolo | B4 | No |
| 35 | KZN263 | Zululand | Abaqulusi | B3 | No |
| 36 | KZN265 | Zululand | Nongoma | B4 | No |
| 37 | KZN266 | Zululand | Ulundi | B4 | No |
| 38 | DC27 | Umkhanyakude | Umkhanyakude DM | C2 | Yes |
| 39 | KZN271 | Umkhanyakude | Umhlabuyalingana | B4 | No |
| 40 | KZN272 | Umkhanyakude | Jozini | B4 | No |
| 41 | KZN273 | Umkhanyakude | The Big Five False Bay | B3 | No |
| 42 | KZN274 | Umkhanyakude | Hlabisa | B4 | No |
| 43 | KZN275 | Umkhanyakude | Mtubatuba | B3 | No |
| 44 | DC28 | uThungulu | uThungulu DM | C2 | Yes |
| 45 | KZN281 | Uthungulu | Mbonambi | B4 | No |

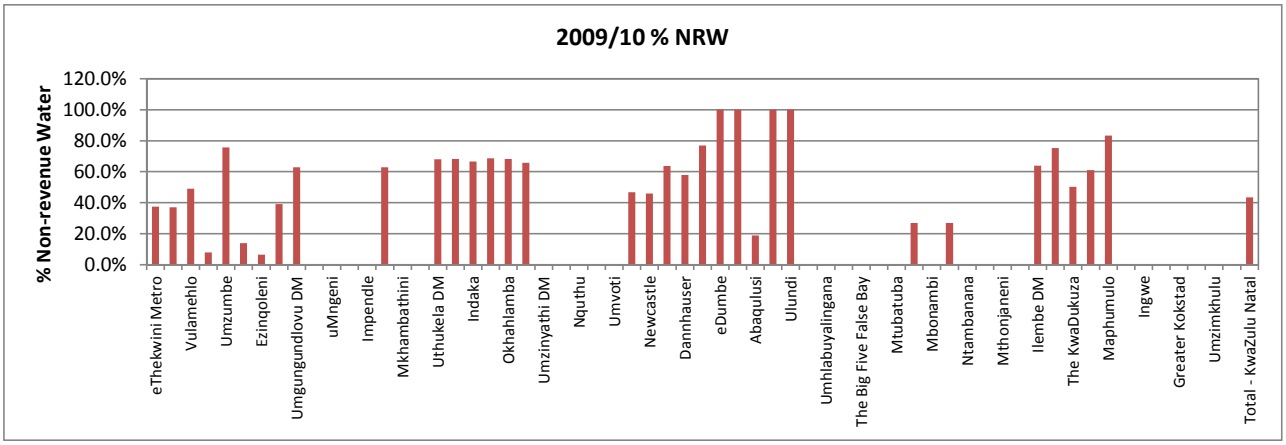
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 46 | KZN282 | Uthungulu | uMhlathuze | B1 | Yes |
| 47 | KZN283 | Uthungulu | Ntambanana | B4 | No |
| 48 | KZN284 | Uthungulu | Umlalazi | B4 | No |
| 49 | KZN285 | Uthungulu | Mthonjaneni | B3 | No |
| 50 | KZN286 | Uthungulu | Nkandla | B4 | No |
| 51 | DC29 | Ilembe | Ilembe DM | C2 | Yes |
| 52 | KZN291 | Ilembe | Mandeni | B4 | No |
| 53 | KZN292 | Ilembe | The KwaDukuza | B2 | No |
| 54 | KZN293 | Ilembe | Ndwedwe | B4 | No |
| 55 | KZN294 | Ilembe | Maphumulo | B4 | No |
| 56 | DC43 | Sisonke | Sisonke DM | C2 | Yes |
| 57 | KZN431 | Sisonke | Ingwe | B4 | No |
| 58 | KZN432 | Sisonke | Kwa Sani | B3 | No |
| 59 | KZN433 | Sisonke | Greater Kokstad | B2 | No |
| 60 | KZN434 | Sisonke | Ubuhlebezwe | B4 | No |
| 61 | KZN435 | Sisonke | Umzimkhulu | B4 | No |

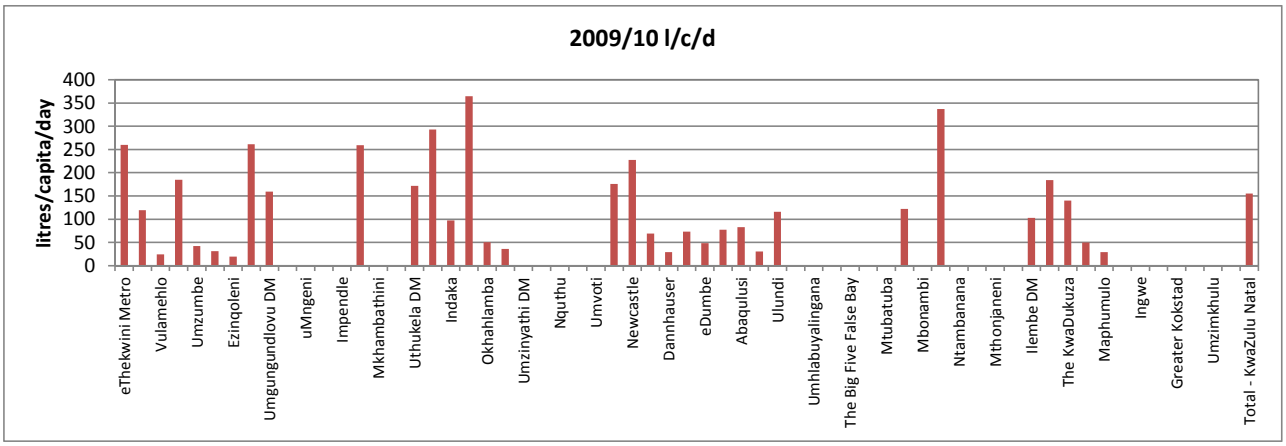
# National NRW Assessment

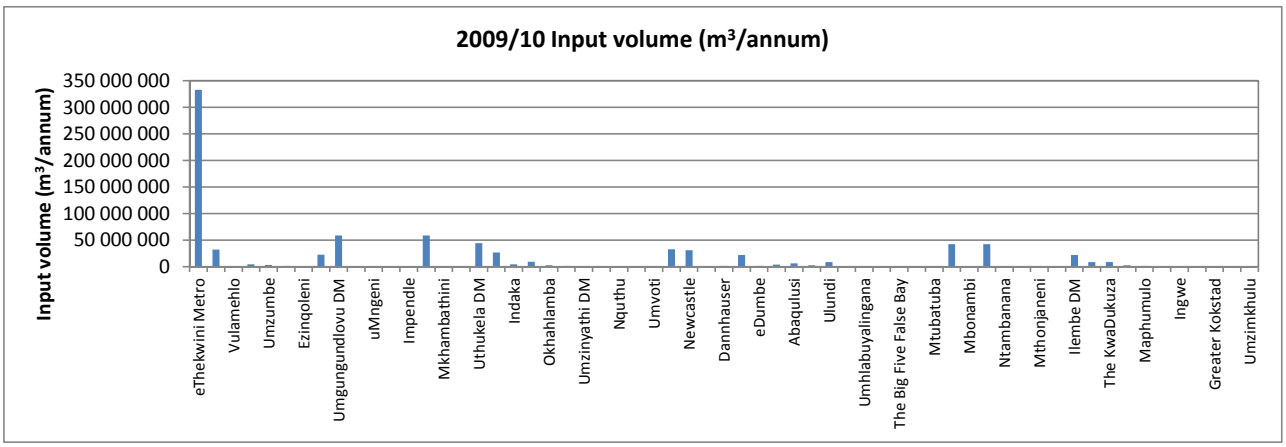


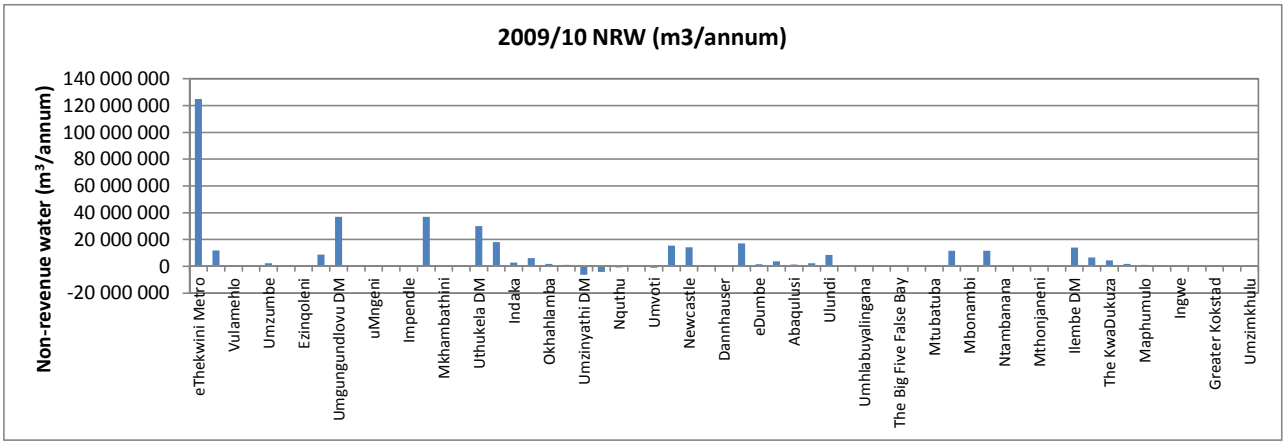
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 61 | | |
| 1 | No records | 20 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 10 | | |
| 3 | Erratic / worthless records | 14 | | |
| 4 | Records with gaps or questions | 6 | | |
| 5 | Good records no gaps or questions | 11 | | |
| | | | | |
| **% NRW** | | 61 | | |
| 0 | No records | 28 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 21 | | |
| 2 | >40% <=50% | 3 | | |
| 3 | >30% <=40% | 3 | | |
| 4 | >20% <=30% | 2 | | |
| 5 | <=20% | 4 | | |
| **litres / capita / day** | | 61 | | |
| 0 | No records | 27 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 0 | | |
| 2 | >300 and <=400 | 2 | | |
| 3 | >200 and <=300 | 5 | | |
| 4 | >100 and <=200 | 10 | | |
| 5 | <=100 | 17 | | |
| **NRW Activity** | | 61 | | |
| 1 | No activity | 0 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 37 | | |
| 3 | Some activity, part of O&M | 23 | | |
| 4 | Small scale active programme | 0 | | |
| 5 | Large scale active programme | 1 | | |
| | | | | |
| **Potential NRW Impact** | | 61 | | |
| 1 | <=50 000 | 7 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 14 | | |
| 3 | >100 000 <=200 000 | 21 | | |
| 4 | >200 000 <=500 000 | 9 | | |
| 5 | >500 000 | 10 | | |
| | | | | |

**Key Performance Indicators**

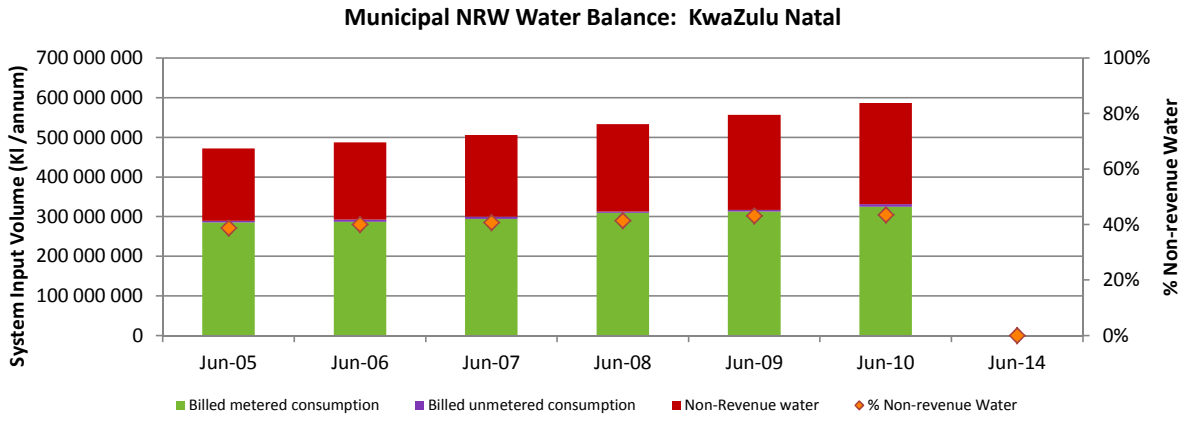


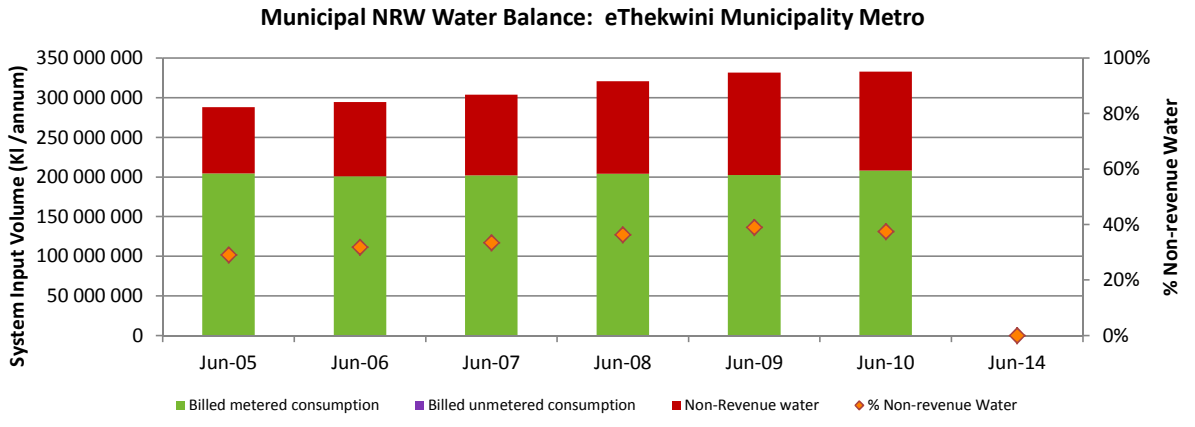



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 10 344 437 | 10 430 535 | 10 492 407 | 10 570 443 | 10 638 023 | 10 366 994 | 0 |
| | Households | | 2 399 021 | 2 418 899 | 2 432 515 | 2 449 051 | 2 457 377 | 2 385 106 | 0 |
| | Connections - metered | | 736 711 | 762 619 | 779 680 | 793 083 | 850 265 | 878 841 | 0 |
| | Connections - Unmetered | | 270 839 | 272 647 | 273 559 | 275 333 | 283 663 | 265 250 | 0 |
| | Length of mains (km) | | 24 538 | 24 849 | 25 056 | 25 872 | 25 596 | 28 356 | 0 |
| | System input volume | kl/annum | 471 969 280 | 487 313 292 | 505 773 071 | 533 418 641 | 556 514 458 | 586 579 818 | 0 |
| | Billed metered consumption | kl/annum | 285 250 285 | 286 680 490 | 294 418 650 | 309 500 135 | 312 491 154 | 325 168 823 | 0 |
| | Billed unmetered consumption | kl/annum | 4 026 563 | 5 900 668 | 5 228 756 | 3 384 461 | 4 051 128 | 6 527 330 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 289 276 849 | 292 581 158 | 299 647 406 | 312 884 596 | 316 542 282 | 331 696 153 | 0 |
| | Non-Revenue water | kl/annum | 182 692 431 | 194 732 134 | 206 125 665 | 220 534 045 | 239 972 176 | 254 883 665 | 0 |
| | Water Losses | kl/annum | 182 692 431 | 194 732 134 | 206 125 665 | 220 534 045 | 239 972 176 | 254 883 665 | 0 |
| | % Non-revenue water | | 38.7% | 40.0% | 40.8% | 41.3% | 43.1% | 43.5% | No data |
| | % Water Losses | | 38.7% | 40.0% | 40.8% | 41.3% | 43.1% | 43.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 125 | 128 | 132 | 138 | 143 | 155 | No data |
| | Input: m³ / household / month | | 16 | 17 | 17 | 18 | 19 | 20 | No data |
| | Billed : Litres / capita / day | | 77 | 77 | 78 | 81 | 82 | 88 | No data |
| | Billed : m³ / household / month | | 10 | 10 | 10 | 11 | 11 | 12 | No data |
| | % Population growth | | | 0.83% | 0.59% | 0.74% | 0.64% | -2.55% | |
| | % Water demand growth | | | 3.25% | 3.79% | 5.47% | 4.33% | 5.40% | |
| Source of information | | | | | | | | | |



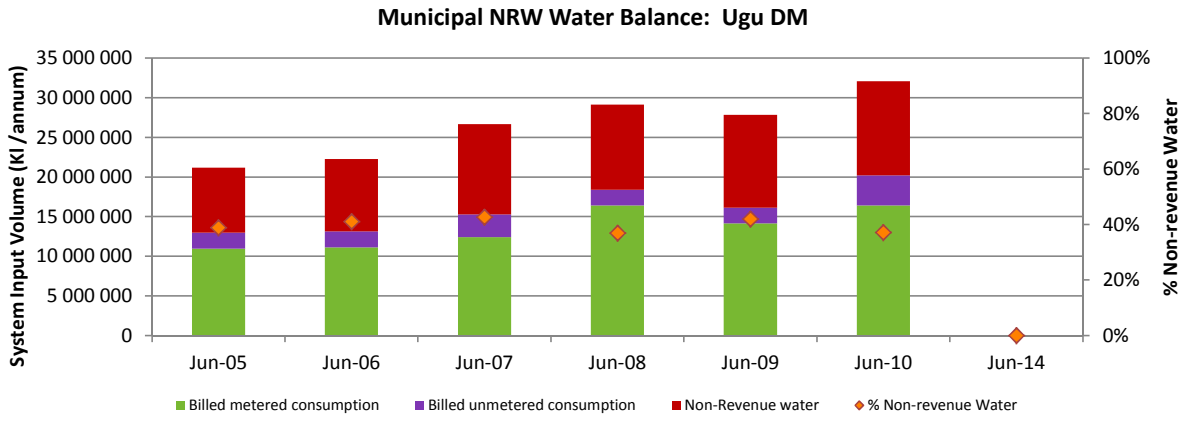

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | ETH | | | | | | | | Yes |
| District Municipality | eThekwini Municipality Metro | | | | | | | | Category |
| Municipality | eThekwini Municipality Metro | | | | | | | | A |
| Settlements | AMANZIMTOTI, DURBAN, INANDA, ISIPINGO, KWA-MASHU | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 3 346 733 | 3 375 631 | 3 395 871 | 3 421 552 | 3 442 070 | 3 509 256 | |
| | Households | | 894 717 | 902 442 | 907 845 | 912 458 | 912 458 | 912 458 | |
| | Connections - metered | | 381 254 | 398 331 | 410 455 | 420 044 | 431 856 | 442 721 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Length of mains (km) | | 10 572 | 10 782 | 10 922 | 11 659 | 11 311 | 11 643 | |
| | System input volume | kl/annum | 288 217 464 | 294 379 376 | 303 628 029 | 320 877 966 | 331 525 801 | 332 941 393 | |
| | Billed metered consumption | kl/annum | 204 369 175 | 200 685 625 | 202 045 211 | 204 220 551 | 202 431 500 | 208 119 455 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 204 369 175 | 200 685 625 | 202 045 211 | 204 220 551 | 202 431 500 | 208 119 455 | 0 |
| | Non-Revenue water | kl/annum | 83 848 289 | 93 693 751 | 101 582 818 | 116 657 415 | 129 094 301 | 124 821 938 | 0 |
| | Water Losses | kl/annum | 83 848 289 | 93 693 751 | 101 582 818 | 116 657 415 | 129 094 301 | 124 821 938 | 0 |
| | % Non-revenue water | | 29.1% | 31.8% | 33.5% | 36.4% | 38.9% | 37.5% | No data |
| | % Water Losses | | 29.1% | 31.8% | 33.5% | 36.4% | 38.9% | 37.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 236 | 239 | 245 | 257 | 264 | 260 | No data |
| | Input: m³ / household / month | | 27 | 27 | 28 | 29 | 30 | 30 | No data |
| | Billed : Litres / capita / day | | 167 | 163 | 163 | 164 | 161 | 162 | No data |
| | Billed : m³ / household / month | | 19 | 19 | 19 | 19 | 18 | 19 | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.76% | 0.60% | 1.95% | |
| | % Water demand growth | | | 2.14% | 3.14% | 5.68% | 3.32% | 0.43% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC21 | | | | | | | | Yes |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 758 597 | 764 328 | 768 875 | 774 625 | 779 243 | 735 583 | 0 |
| | Households | | 170 202 | 171 475 | 172 454 | 173 781 | 174 773 | 165 319 | 0 |
| | Connections - metered | | 35 939 | 35 939 | 35 939 | 35 939 | 35 939 | 35 939 | 0 |
| | Connections - Unmetered | | 3 028 | 3 028 | 3 028 | 3 028 | 3 028 | 3 028 | 0 |
| | Length of mains (km) | | 3 883 | 3 883 | 3 883 | 3 883 | 3 883 | 3 883 | 0 |
| | System input volume | kl/annum | 21 184 300 | 22 266 493 | 26 667 747 | 29 117 165 | 27 822 891 | 32 092 567 | 0 |
| | Billed metered consumption | kl/annum | 10 947 177 | 11 111 841 | 12 414 573 | 16 408 937 | 14 165 091 | 16 399 764 | 0 |
| | Billed unmetered consumption | kl/annum | 2 016 477 | 2 016 477 | 2 862 646 | 1 967 795 | 1 967 795 | 3 791 304 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 12 963 654 | 13 128 318 | 15 277 219 | 18 376 732 | 16 132 886 | 20 191 068 | 0 |
| | Non-Revenue water | kl/annum | 8 220 646 | 9 138 175 | 11 390 528 | 10 740 433 | 11 690 005 | 11 901 499 | 0 |
| | Water Losses | kl/annum | 8 220 646 | 9 138 175 | 11 390 528 | 10 740 433 | 11 690 005 | 11 901 499 | 0 |
| | % Non-revenue water | | 38.8% | 41.0% | 42.7% | 36.9% | 42.0% | 37.1% | No data |
| | % Water Losses | | 38.8% | 41.0% | 42.7% | 36.9% | 42.0% | 37.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 77 | 80 | 95 | 103 | 98 | 120 | No data |
| | Input: m³ / household / month | | 10 | 11 | 13 | 14 | 13 | 16 | No data |
| | Billed : Litres / capita / day | | 47 | 47 | 54 | 65 | 57 | 75 | No data |
| | Billed : m³ / household / month | | 6 | 6 | 7 | 9 | 8 | 10 | No data |
| | % Population growth | | | 0.76% | 0.59% | 0.75% | 0.60% | -5.60% | |
| | % Water demand growth | | | 5.11% | 19.77% | 9.18% | -4.45% | 15.35% | |
| Source of information | | | | | | | | | |




Comments

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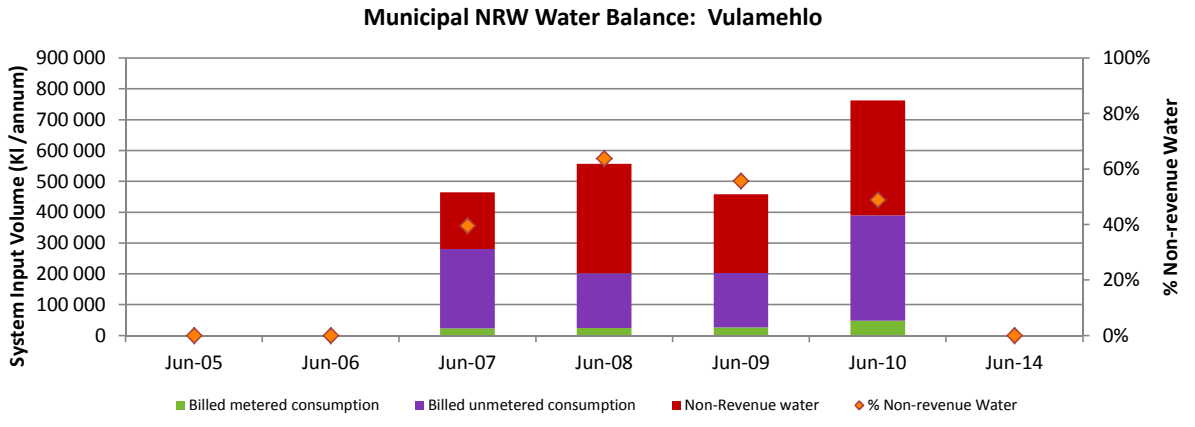
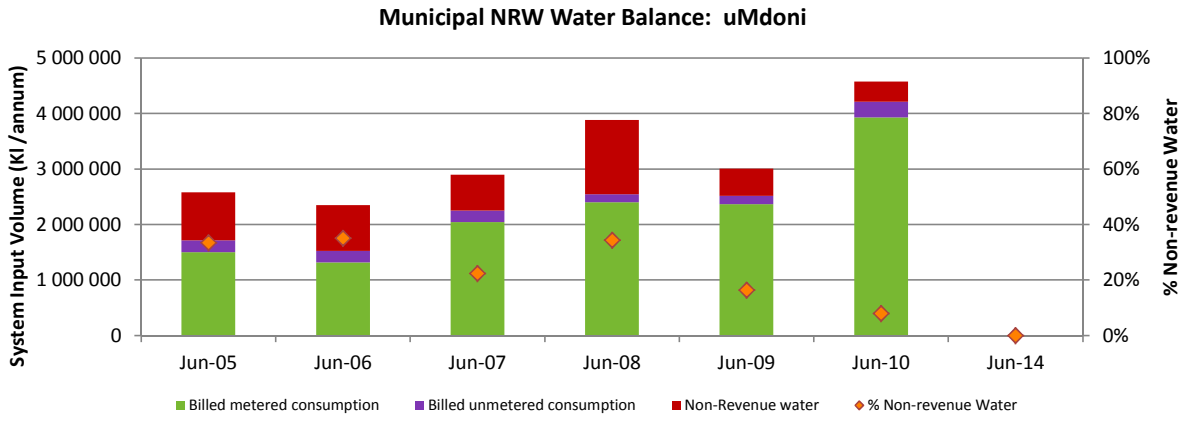
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN211 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | Vulamehlo | | | | | | | | B4 |
| Settlements | UMZINTO , DUDUDU | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 89 426 | 90 094 | 90 621 | 91 284 | 91 819 | 85 121 | |
| | Households | | 17 802 | 17 935 | 18 031 | 18 169 | 18 265 | 16 929 | |
| | Connections - metered | | 186 | 186 | 186 | 186 | 186 | 186 | |
| | Connections - Unmetered | | 261 | 261 | 261 | 261 | 261 | 261 | |
| | Length of mains (km) | | 104 | 104 | 104 | 104 | 104 | 104 | |
| | System input volume | kl/annum | 0 | 0 | 464 155 | 556 986 | 458 499 | 762 761 | |
| | Billed metered consumption | kl/annum | 0 | 0 | 22 747 | 24 540 | 25 981 | 47 915 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 257 826 | 177 231 | 177 231 | 341 466 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 280 573 | 201 771 | 203 212 | 389 381 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 183 582 | 355 215 | 255 287 | 373 380 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 183 582 | 355 215 | 255 287 | 373 380 | 0 |
| | % Non-revenue water | | No data | No data | 39.6% | 63.8% | 55.7% | 49.0% | No data |
| | % Water Losses | | No data | No data | 39.6% | 63.8% | 55.7% | 49.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 14 | 17 | 14 | 25 | No data |
| | Input: m³ / household / month | | No data | No data | 2 | 3 | 2 | 4 | No data |
| | Billed : Litres / capita / day | | No data | No data | 8 | 6 | 6 | 13 | No data |
| | Billed : m³ / household / month | | No data | No data | 1 | 1 | 1 | 2 | No data |
| | % Population growth | | | 0.75% | 0.58% | 0.73% | 0.59% | -7.29% | |
| | % Water demand growth | | | | #DIV/0! | 20.00% | -17.68% | 66.36% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN212 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | uMdoni | | | | | | | | B2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 67 139 | 67 647 | 68 055 | 68 570 | 68 982 | 67 779 | |
| | Households | | 17 294 | 17 424 | 17 528 | 17 660 | 17 765 | 17 457 | |
| | Connections - metered | | 8 013 | 8 013 | 8 013 | 8 013 | 8 013 | 8 013 | |
| | Connections - Unmetered | | 398 | 398 | 398 | 398 | 398 | 398 | |
| | Length of mains (km) | | 600 | 600 | 600 | 600 | 600 | 600 | |
| | System input volume | kl/annum | 2 578 074 | 2 347 537 | 2 899 599 | 3 881 854 | 3 005 577 | 4 577 570 | |
| | Billed metered consumption | kl/annum | 1 504 355 | 1 314 247 | 2 041 424 | 2 401 710 | 2 369 301 | 3 932 681 | |
| | Billed unmetered consumption | kl/annum | 211 113 | 211 113 | 211 113 | 145 120 | 145 120 | 279 599 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 715 468 | 1 525 360 | 2 252 537 | 2 546 830 | 2 514 421 | 4 212 280 | 0 |
| | Non-Revenue water | kl/annum | 862 606 | 822 177 | 647 062 | 1 335 024 | 491 156 | 365 290 | 0 |
| | Water Losses | kl/annum | 862 606 | 822 177 | 647 062 | 1 335 024 | 491 156 | 365 290 | 0 |
| | % Non-revenue water | | 33.5% | 35.0% | 22.3% | 34.4% | 16.3% | 8.0% | No data |
| | % Water Losses | | 33.5% | 35.0% | 22.3% | 34.4% | 16.3% | 8.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 105 | 95 | 117 | 155 | 119 | 185 | No data |
| | Input: m³ / household / month | | 12 | 11 | 14 | 18 | 14 | 22 | No data |
| | Billed : Litres / capita / day | | 70 | 62 | 91 | 102 | 100 | 170 | No data |
| | Billed : m³ / household / month | | 8 | 7 | 11 | 12 | 12 | 20 | No data |
| | % Population growth | | | 0.76% | 0.60% | 0.76% | 0.60% | -1.74% | |
| | % Water demand growth | | | -8.94% | 23.52% | 33.88% | -22.57% | 52.30% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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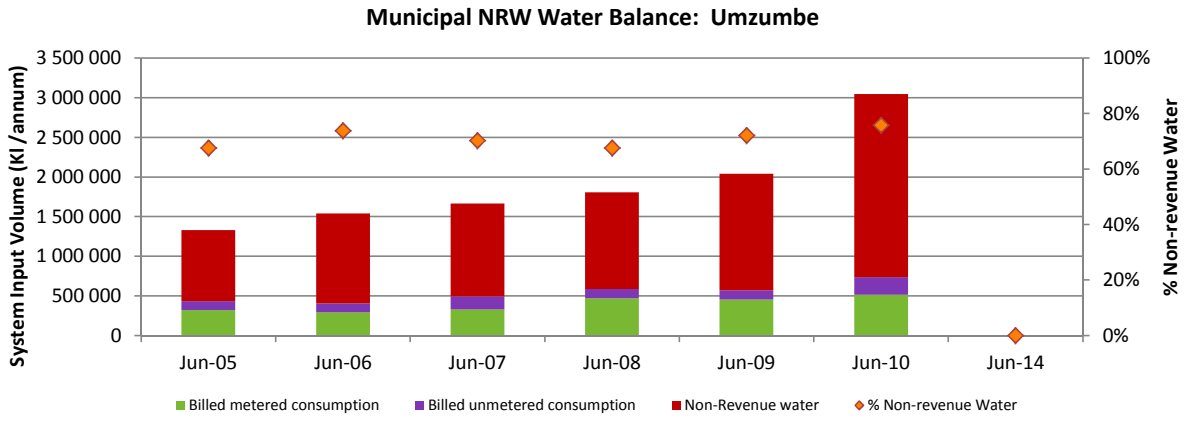
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN213 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | Umzumbe | | | | | | | | B4 |
| Settlements | GUMBINI, INYONYANA, NOMAKHAZANA, UMZUMBE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 208 871 | 210 451 | 211 708 | 213 302 | 214 575 | 198 911 | |
| | Households | | 43 283 | 43 609 | 43 861 | 44 206 | 44 461 | 41 221 | |
| | Connections - metered | | 1 593 | 1 593 | 1 593 | 1 593 | 1 593 | 1 593 | |
| | Connections - Unmetered | | 550 | 550 | 550 | 550 | 550 | 550 | |
| | Length of mains (km) | | 351 | 351 | 351 | 351 | 351 | 351 | |
| | System input volume | kl/annum | 1 328 966 | 1 541 584 | 1 665 641 | 1 807 927 | 2 041 261 | 3 044 395 | |
| | Billed metered consumption | kl/annum | 320 253 | 292 415 | 326 606 | 469 539 | 453 453 | 513 629 | |
| | Billed unmetered consumption | kl/annum | 111 024 | 111 024 | 168 702 | 115 966 | 115 966 | 223 430 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 431 277 | 403 439 | 495 308 | 585 506 | 569 419 | 737 059 | 0 |
| | Non-Revenue water | kl/annum | 897 689 | 1 138 145 | 1 170 333 | 1 222 421 | 1 471 842 | 2 307 336 | 0 |
| | Water Losses | kl/annum | 897 689 | 1 138 145 | 1 170 333 | 1 222 421 | 1 471 842 | 2 307 336 | 0 |
| | % Non-revenue water | | 67.5% | 73.8% | 70.3% | 67.6% | 72.1% | 75.8% | No data |
| | % Water Losses | | 67.5% | 73.8% | 70.3% | 67.6% | 72.1% | 75.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 17 | 20 | 22 | 23 | 26 | 42 | No data |
| | Input: m³ / household / month | | 3 | 3 | 3 | 3 | 4 | 6 | No data |
| | Billed : Litres / capita / day | | 6 | 5 | 6 | 8 | 7 | 10 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.76% | 0.60% | 0.75% | 0.60% | -7.30% | |
| | % Water demand growth | | | 16.00% | 8.05% | 8.54% | 12.91% | 49.14% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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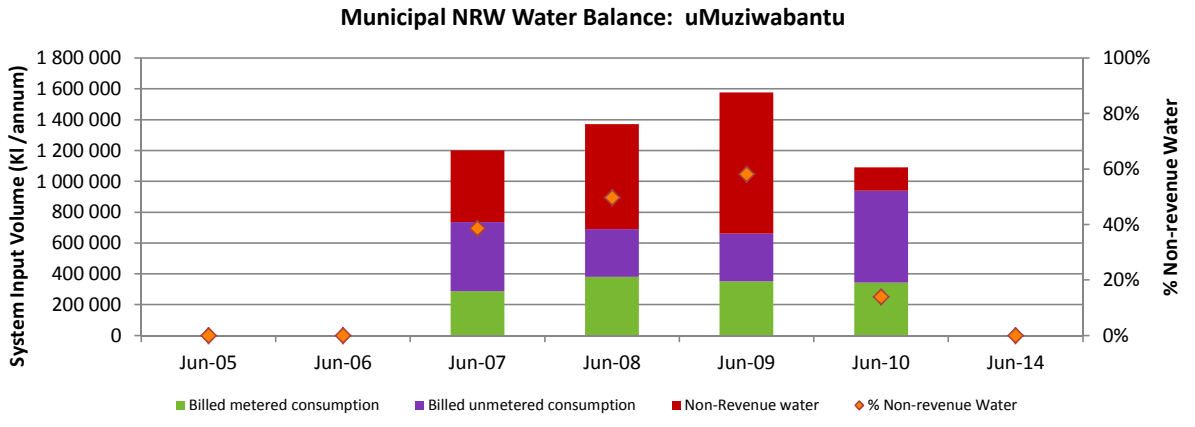
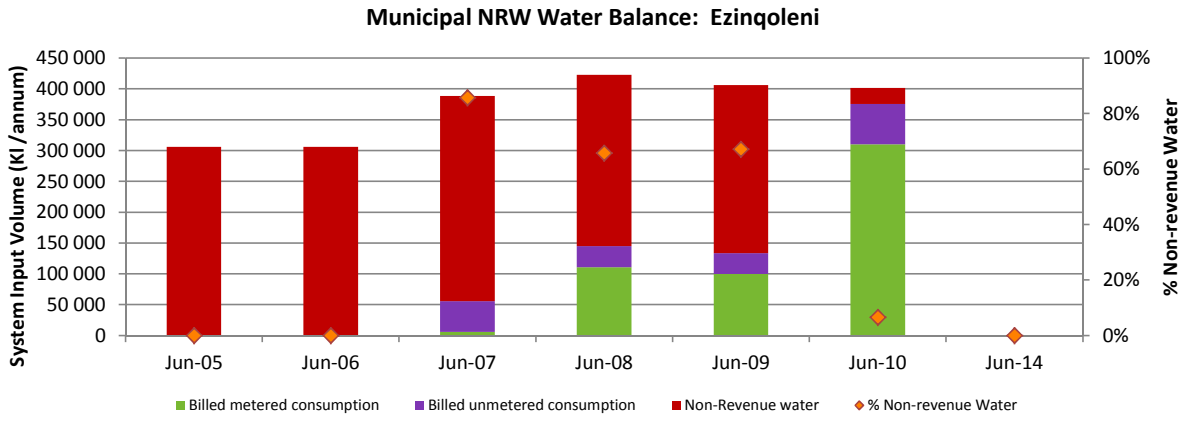
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN214 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | uMuziwabantu | | | | | | | | B3 |
| Settlements | Harding | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 99 313 | 100 066 | 100 655 | 101 396 | 102 000 | 95 043 | |
| | Households | | 21 498 | 21 654 | 21 771 | 21 938 | 22 057 | 20 559 | |
| | Connections - metered | | 1 205 | 1 205 | 1 205 | 1 205 | 1 205 | 1 205 | |
| | Connections - Unmetered | | 181 | 181 | 181 | 181 | 181 | 181 | |
| | Length of mains (km) | | 535 | 535 | 535 | 535 | 535 | 535 | |
| | System input volume | kl/annum | 0 | 0 | 1 201 310 | 1 370 471 | 1 577 329 | 1 090 646 | |
| | Billed metered consumption | kl/annum | 0 | 0 | 286 943 | 380 408 | 351 035 | 342 988 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 449 791 | 309 188 | 309 188 | 595 706 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 736 734 | 689 596 | 660 223 | 938 694 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 464 576 | 680 875 | 917 106 | 151 952 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 464 576 | 680 875 | 917 106 | 151 952 | 0 |
| | % Non-revenue water | | No data | No data | 38.7% | 49.7% | 58.1% | 13.9% | No data |
| | % Water Losses | | No data | No data | 38.7% | 49.7% | 58.1% | 13.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 33 | 37 | 42 | 31 | No data |
| | Input: m³ / household / month | | No data | No data | 5 | 5 | 6 | 4 | No data |
| | Billed : Litres / capita / day | | No data | No data | 20 | 19 | 18 | 27 | No data |
| | Billed : m³ / household / month | | No data | No data | 3 | 3 | 2 | 4 | No data |
| | % Population growth | | | 0.76% | 0.59% | 0.74% | 0.60% | -6.82% | |
| | % Water demand growth | | | | #DIV/0! | 14.08% | 15.09% | -30.85% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



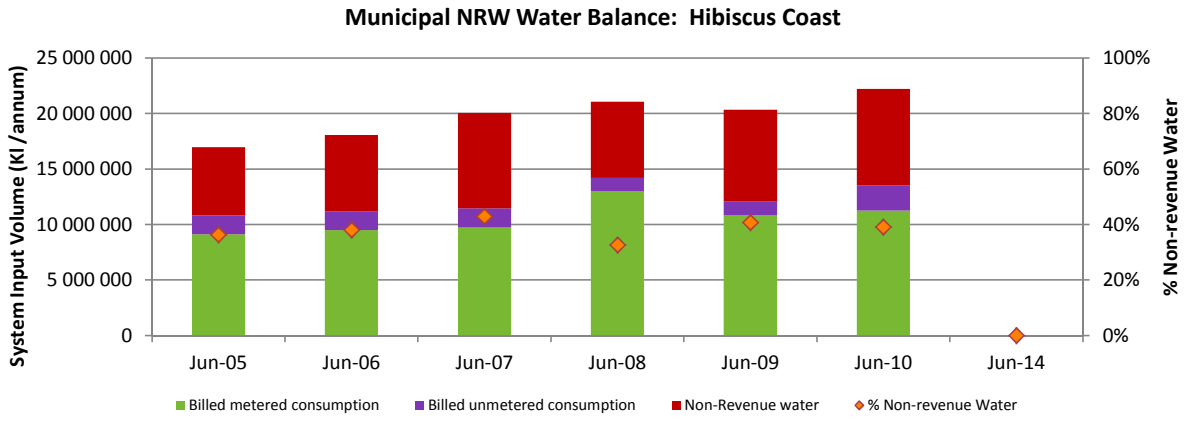

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN215 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | Ezinqoleni | | | | | | | | B4 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 58 727 | 59 166 | 59 516 | 59 955 | 60 311 | 55 911 | |
| | Households | | 12 094 | 12 182 | 12 247 | 12 347 | 12 413 | 11 506 | |
| | Connections - metered | | 63 | 63 | 63 | 63 | 63 | 63 | |
| | Connections - Unmetered | | 70 | 70 | 70 | 70 | 70 | 70 | |
| | Length of mains (km) | | 51 | 51 | 51 | 51 | 51 | 51 | |
| | System input volume | kl/annum | 306 000 | 306 000 | 388 334 | 422 801 | 406 399 | 401 749 | |
| | Billed metered consumption | kl/annum | 0 | 0 | 6 079 | 110 803 | 99 648 | 309 968 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 49 401 | 33 958 | 33 958 | 65 427 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 55 480 | 144 761 | 133 606 | 375 395 | 0 |
| | Non-Revenue water | kl/annum | 306 000 | 306 000 | 332 854 | 278 040 | 272 793 | 26 354 | 0 |
| | Water Losses | kl/annum | 306 000 | 306 000 | 332 854 | 278 040 | 272 793 | 26 354 | 0 |
| | % Non-revenue water | | No data | No data | 85.7% | 65.8% | 67.1% | 6.6% | No data |
| | % Water Losses | | 100.0% | 100.0% | 85.7% | 65.8% | 67.1% | 6.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 14 | 14 | 18 | 19 | 18 | 20 | No data |
| | Input: m³ / household / month | | 2 | 2 | 3 | 3 | 3 | 3 | No data |
| | Billed : Litres / capita / day | | No data | No data | 3 | 7 | 6 | 18 | No data |
| | Billed : m³ / household / month | | No data | No data | 0 | 1 | 1 | 3 | No data |
| | % Population growth | | | 0.75% | 0.59% | 0.74% | 0.59% | -7.30% | |
| | % Water demand growth | | | 0.00% | 26.91% | 8.88% | -3.88% | -1.14% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



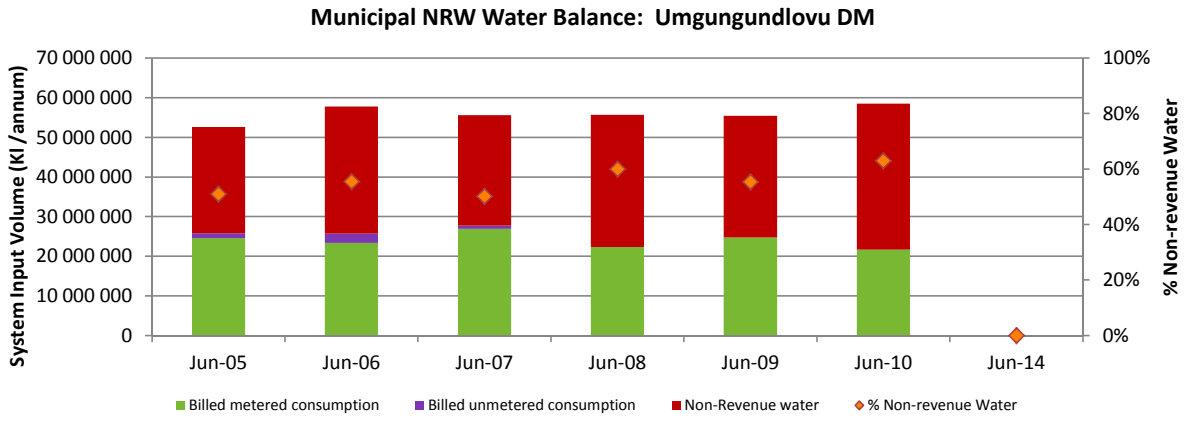

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN216 | | | | | | | | No |
| District Municipality | Ugu | | | | | | | | Category |
| Municipality | Hibiscus Coast | | | | | | | | B2 |
| Settlements | GAMALAKHE, GCILIMA, PORT SHEPSTONE, | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 235 121 | 236 904 | 238 320 | 240 118 | 241 556 | 232 818 | |
| | Households | | 58 231 | 58 671 | 59 016 | 59 461 | 59 812 | 57 647 | |
| | Connections - metered | | 24 879 | 24 879 | 24 879 | 24 879 | 24 879 | 24 879 | |
| | Connections - Unmetered | | 1 568 | 1 568 | 1 568 | 1 568 | 1 568 | 1 568 | |
| | Length of mains (km) | | 2 242 | 2 242 | 2 242 | 2 242 | 2 242 | 2 242 | |
| | System input volume | kl/annum | 16 971 260 | 18 071 372 | 20 048 708 | 21 077 127 | 20 333 826 | 22 215 446 | |
| | Billed metered consumption | kl/annum | 9 122 569 | 9 505 179 | 9 730 774 | 13 021 937 | 10 865 673 | 11 252 583 | |
| | Billed unmetered consumption | kl/annum | 1 694 340 | 1 694 340 | 1 725 813 | 1 186 331 | 1 186 331 | 2 285 676 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 10 816 909 | 11 199 519 | 11 456 587 | 14 208 268 | 12 052 004 | 13 538 259 | 0 |
| | Non-Revenue water | kl/annum | 6 154 351 | 6 871 853 | 8 592 121 | 6 868 858 | 8 281 822 | 8 677 187 | 0 |
| | Water Losses | kl/annum | 6 154 351 | 6 871 853 | 8 592 121 | 6 868 858 | 8 281 822 | 8 677 187 | 0 |
| | % Non-revenue water | | 36.3% | 38.0% | 42.9% | 32.6% | 40.7% | 39.1% | No data |
| | % Water Losses | | 36.3% | 38.0% | 42.9% | 32.6% | 40.7% | 39.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 198 | 209 | 230 | 240 | 231 | 261 | No data |
| | Input: m³ / household / month | | 24 | 26 | 28 | 30 | 28 | 32 | No data |
| | Billed : Litres / capita / day | | 126 | 130 | 132 | 162 | 137 | 159 | No data |
| | Billed : m³ / household / month | | 15 | 16 | 16 | 20 | 17 | 20 | No data |
| | % Population growth | | | 0.76% | 0.60% | 0.75% | 0.60% | -3.62% | |
| | % Water demand growth | | | 6.48% | 10.94% | 5.13% | -3.53% | 9.25% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



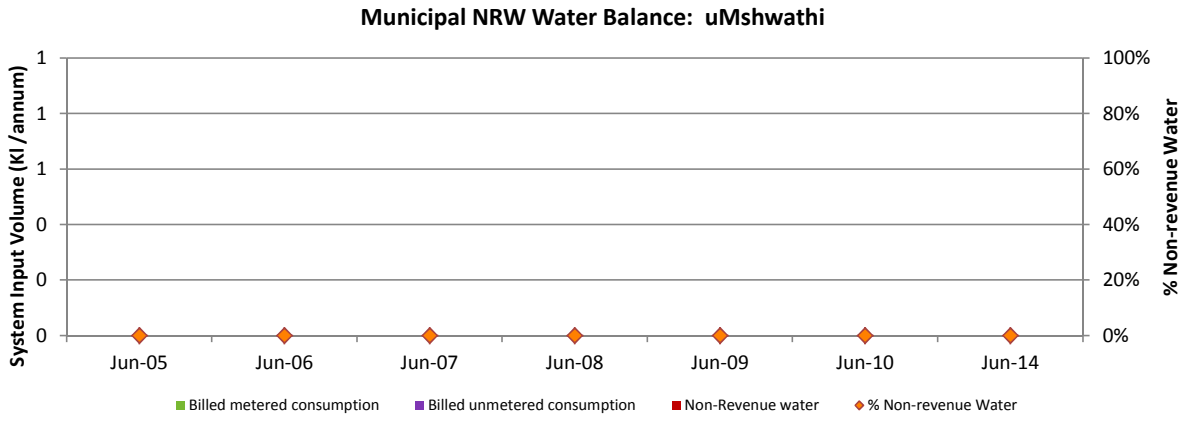

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC22 | | | | | | | | Yes |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 990 836 | 997 429 | 1 003 168 | 1 010 279 | 1 016 114 | 1 003 785 | 0 |
| | Households | | 242 834 | 244 449 | 245 787 | 247 608 | 248 962 | 246 429 | 0 |
| | Connections - metered | | 134 662 | 138 146 | 140 677 | 141 404 | 145 786 | 142 730 | 0 |
| | Connections - Unmetered | | 20 510 | 20 642 | 20 739 | 20 892 | 20 990 | 19 716 | 0 |
| | Length of mains (km) | | 1 707 | 1 717 | 1 726 | 1 738 | 1 747 | 1 655 | 0 |
| | System input volume | kl/annum | 52 643 408 | 57 738 151 | 55 570 588 | 55 690 118 | 55 426 244 | 58 492 009 | 0 |
| | Billed metered consumption | kl/annum | 24 595 102 | 23 377 544 | 26 940 695 | 22 302 063 | 24 734 255 | 21 653 346 | 0 |
| | Billed unmetered consumption | kl/annum | 1 206 352 | 2 310 607 | 755 981 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 25 801 454 | 25 688 151 | 27 696 676 | 22 302 063 | 24 734 255 | 21 653 346 | 0 |
| | Non-Revenue water | kl/annum | 26 841 954 | 32 050 000 | 27 873 912 | 33 388 055 | 30 691 989 | 36 838 663 | 0 |
| | Water Losses | kl/annum | 26 841 954 | 32 050 000 | 27 873 912 | 33 388 055 | 30 691 989 | 36 838 663 | 0 |
| | % Non-revenue water | | 51.0% | 55.5% | 50.2% | 60.0% | 55.4% | 63.0% | No data |
| | % Water Losses | | 51.0% | 55.5% | 50.2% | 60.0% | 55.4% | 63.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 146 | 159 | 152 | 151 | 149 | 160 | No data |
| | Input: m³ / household / month | | 18 | 20 | 19 | 19 | 19 | 20 | No data |
| | Billed : Litres / capita / day | | 71 | 71 | 76 | 60 | 67 | 59 | No data |
| | Billed : m³ / household / month | | 9 | 9 | 9 | 8 | 8 | 7 | No data |
| | % Population growth | | | 0.67% | 0.58% | 0.71% | 0.58% | -1.21% | |
| | % Water demand growth | | | 9.68% | -3.75% | 0.22% | -0.47% | 5.53% | |
| Source of information | | | | | | | | | |



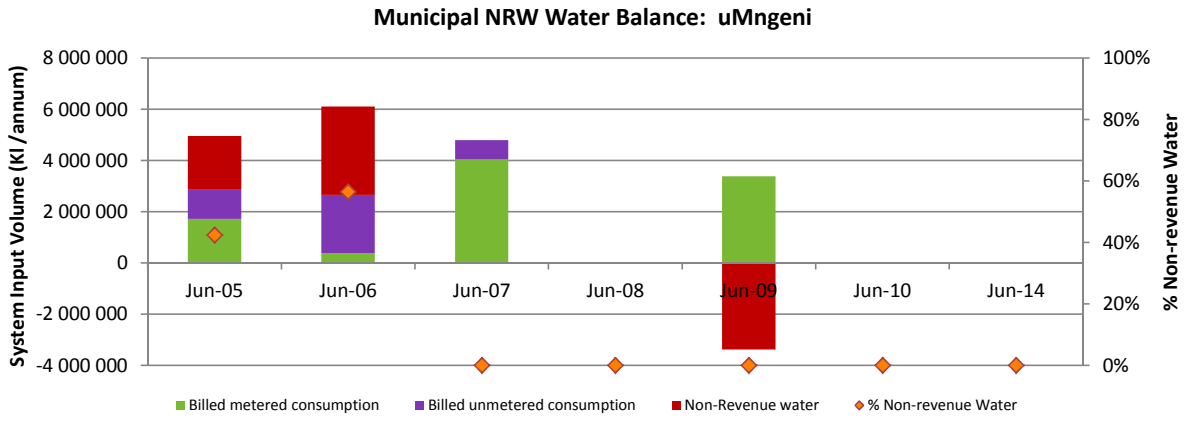

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN221 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | uMshwathi | | | | | | | | B4 |
| Settlements | Wartburg | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 115 588 | 116 334 | 116 971 | 117 739 | 118 400 | 110 152 | |
| | Households | | 26 686 | 26 852 | 26 976 | 27 183 | 27 307 | 25 457 | |
| | Connections - metered | | ~~15 073~~ | ~~15 171~~ | ~~15 254~~ | 15 354 | ~~15 440~~ | ~~14 365~~ | |
| | Connections - Unmetered | | ~~5 821~~ | ~~5 857~~ | ~~5 884~~ | 5 929 | ~~5 956~~ | ~~5 553~~ | |
| | Length of mains (km) | | ~~418~~ | ~~421~~ | ~~423~~ | ~~426~~ | ~~428~~ | ~~398~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.65% | 0.55% | 0.66% | 0.56% | -6.97% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



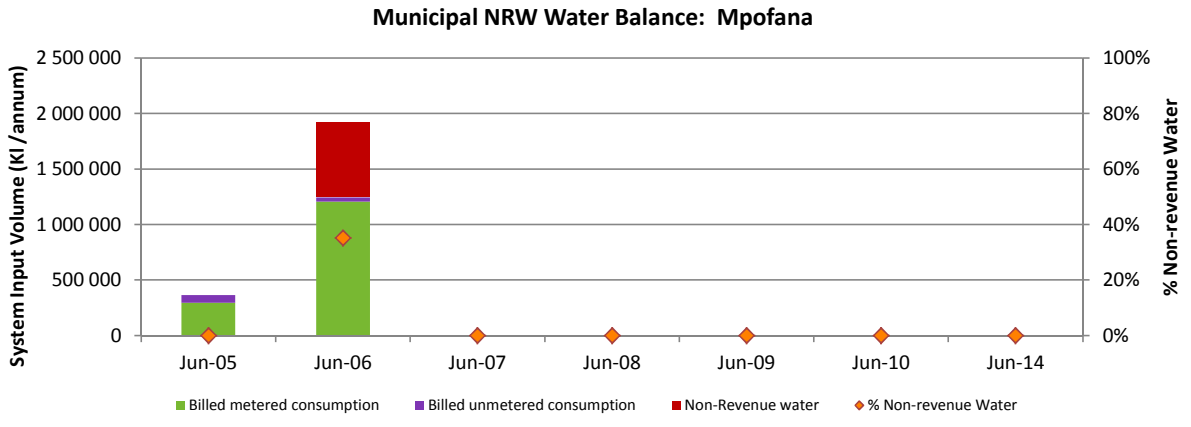

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN222 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | uMngeni | | | | | | | | B2 |
| Settlements | HOWICK, LIONS RIVER, MPOPHOMENI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 78 321 | 78 791 | 79 192 | 79 641 | 80 048 | 78 528 | |
| | Households | | 22 774 | 22 913 | 23 019 | 23 167 | 23 275 | 22 891 | |
| | Connections - metered | | ~~20 689~~ | ~~20 813~~ | ~~20 919~~ | 21 038 | ~~21 146~~ | ~~20 744~~ | |
| | Connections - Unmetered | | ~~2 210~~ | ~~2 223~~ | ~~2 234~~ | 2 248 | ~~2 258~~ | ~~2 221~~ | |
| | Length of mains (km) | | ~~458~~ | ~~461~~ | ~~463~~ | ~~466~~ | ~~468~~ | ~~459~~ | |
| | System input volume | kl/annum | 4 957 414 | 6 103 084 | 4 798 316 | | | | |
| | Billed metered consumption | kl/annum | 1 721 380 | 383 147 | 4 042 335 | | 3 380 749 | | |
| | Billed unmetered consumption | kl/annum | 1 136 800 | 2 271 607 | 755 981 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 858 180 | 2 654 754 | 4 798 316 | 0 | 3 380 749 | 0 | 0 |
| | Non-Revenue water | kl/annum | 2 099 234 | 3 448 330 | 0 | 0 | -3 380 749 | 0 | 0 |
| | Water Losses | kl/annum | 2 099 234 | 3 448 330 | 0 | 0 | -3 380 749 | 0 | 0 |
| | % Non-revenue water | | 42.3% | 56.5% | Check data | No data | No data | No data | No data |
| | % Water Losses | | 42.3% | 56.5% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 173 | 212 | 166 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 18 | 22 | 17 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 100 | 92 | 166 | No data | 116 | No data | No data |
| | Billed : m³ / household / month | | 10 | 10 | 17 | No data | 12 | No data | No data |
| | % Population growth | | | 0.60% | 0.51% | 0.57% | 0.51% | -1.90% | |
| | % Water demand growth | | | 23.11% | -21.38% | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



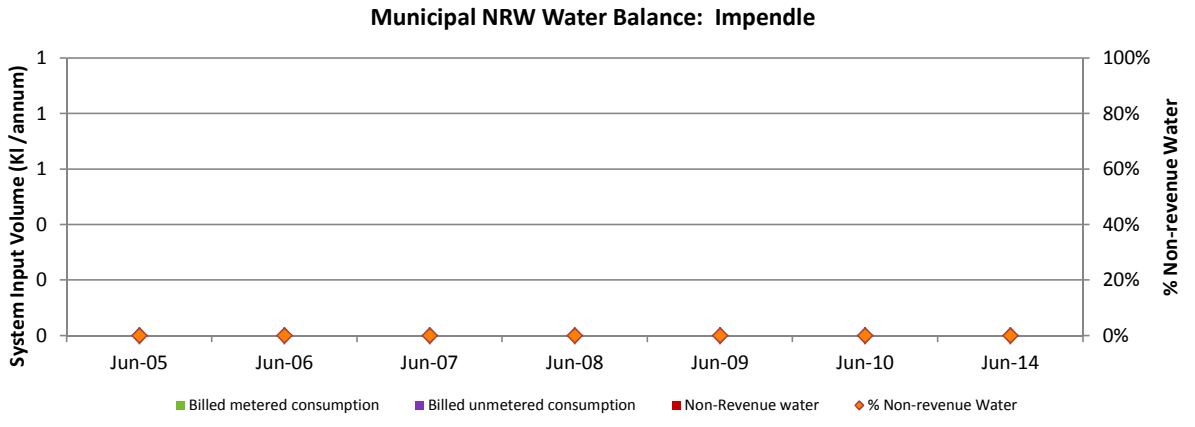

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN223 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | Mpofana | | | | | | | | B3 |
| Settlements | MOOI RIVER | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 39 223 | 39 473 | 39 678 | 39 918 | 40 129 | 38 300 | |
| | Households | | 10 721 | 10 790 | 10 841 | 10 914 | 10 965 | 10 487 | |
| | Connections - metered | | ~~9 220~~ | ~~9 278~~ | ~~9 327~~ | 9 383 | ~~9 433~~ | ~~9 003~~ | |
| | Connections - Unmetered | | ~~1 560~~ | ~~1 570~~ | ~~1 577~~ | 1 588 | ~~1 595~~ | ~~1 526~~ | |
| | Length of mains (km) | | ~~216~~ | ~~217~~ | ~~218~~ | ~~219~~ | ~~221~~ | ~~211~~ | |
| | System input volume | kl/annum | 365 232 | 1 921 920 | | | | | |
| | Billed metered consumption | kl/annum | 295 680 | 1 206 420 | | | | | |
| | Billed unmetered consumption | kl/annum | 69 552 | 39 000 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 365 232 | 1 245 420 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 676 500 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 676 500 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | 35.2% | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | 35.2% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 26 | 133 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 3 | 15 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 26 | 86 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 3 | 10 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.64% | 0.52% | 0.60% | 0.53% | -4.56% | |
| | % Water demand growth | | | 426.22% | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



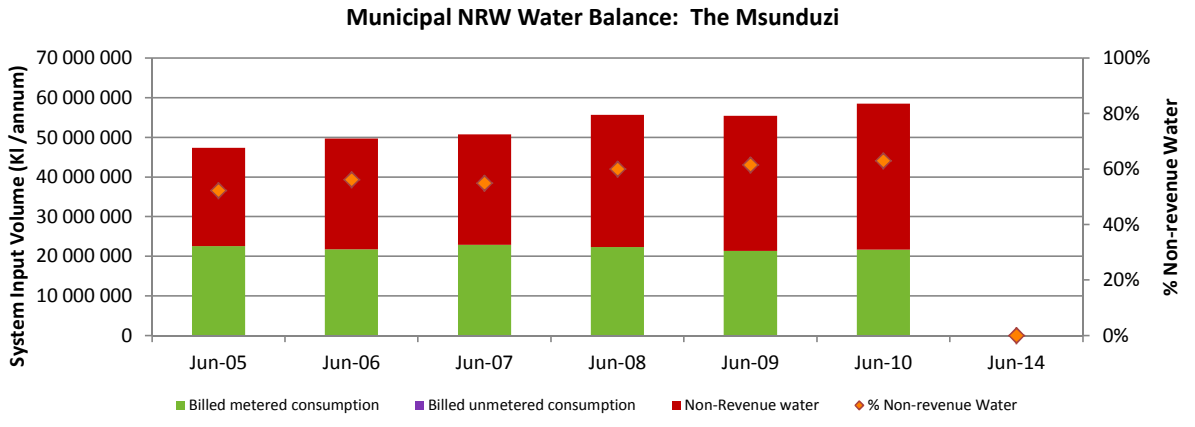

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN224 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | Impendle | | | | | | | | B4 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 36 039 | 36 272 | 36 479 | 36 732 | 36 939 | 34 241 | |
| | Households | | 8 286 | 8 341 | 8 383 | 8 448 | 8 490 | 7 876 | |
| | Connections - metered | | ~~6 367~~ | ~~6 408~~ | ~~6 444~~ | 6 489 | ~~6 526~~ | ~~6 049~~ | |
| | Connections - Unmetered | | ~~1 414~~ | ~~1 424~~ | ~~1 431~~ | 1 442 | ~~1 449~~ | ~~1 344~~ | |
| | Length of mains (km) | | ~~156~~ | ~~157~~ | ~~158~~ | ~~159~~ | ~~159~~ | ~~148~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.65% | 0.57% | 0.69% | 0.56% | -7.30% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



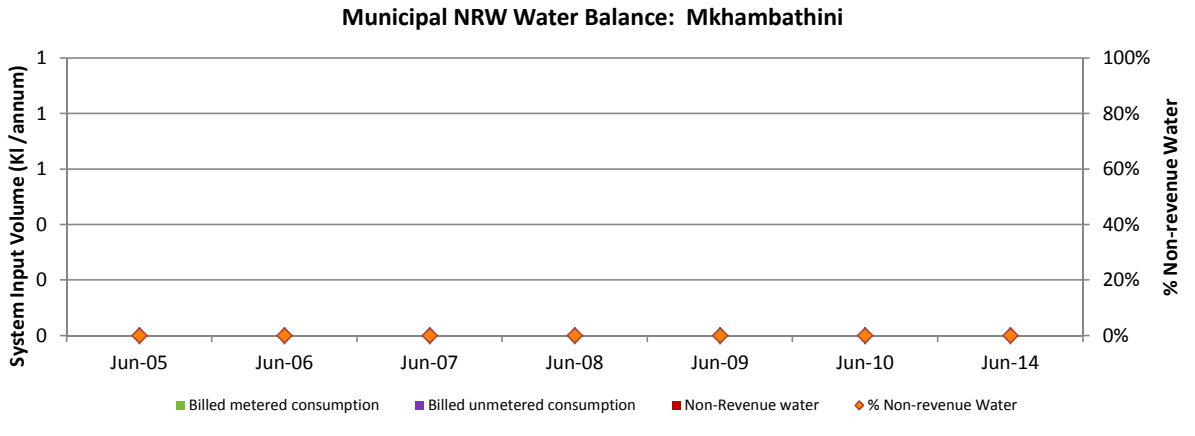

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN225 | | | | | | | | Yes |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | The Msunduzi | | | | | | | | B1 |
| Settlements | EDENDALE, PIETERMARITZBURG, NEW HANOVER, IMBALI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 591 174 | 595 214 | 598 773 | 603 278 | 606 888 | 618 027 | |
| | Households | | 146 285 | 147 284 | 148 163 | 149 280 | 150 171 | 152 920 | |
| | Connections - metered | | 69 845 | 72 919 | 75 101 | 75 414 | 79 439 | 79 719 | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | | |
| | System input volume | kl/annum | 47 320 762 | 49 713 147 | 50 772 272 | 55 690 118 | 55 426 244 | 58 492 009 | |
| | Billed metered consumption | kl/annum | 22 578 042 | 21 787 977 | 22 898 360 | 22 302 063 | 21 353 506 | 21 653 346 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 22 578 042 | 21 787 977 | 22 898 360 | 22 302 063 | 21 353 506 | 21 653 346 | 0 |
| | Non-Revenue water | kl/annum | 24 742 720 | 27 925 170 | 27 873 912 | 33 388 055 | 34 072 738 | 36 838 663 | 0 |
| | Water Losses | kl/annum | 24 742 720 | 27 925 170 | 27 873 912 | 33 388 055 | 34 072 738 | 36 838 663 | 0 |
| | % Non-revenue water | | 52.3% | 56.2% | 54.9% | 60.0% | 61.5% | 63.0% | No data |
| | % Water Losses | | 52.3% | 56.2% | 54.9% | 60.0% | 61.5% | 63.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 219 | 229 | 232 | 253 | 250 | 259 | No data |
| | Input: m³ / household / month | | 27 | 28 | 29 | 31 | 31 | 32 | No data |
| | Billed : Litres / capita / day | | 105 | 100 | 105 | 101 | 96 | 96 | No data |
| | Billed : m³ / household / month | | 13 | 12 | 13 | 12 | 12 | 12 | No data |
| | % Population growth | | | 0.68% | 0.60% | 0.75% | 0.60% | 1.84% | |
| | % Water demand growth | | | 5.06% | 2.13% | 9.69% | -0.47% | 5.53% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



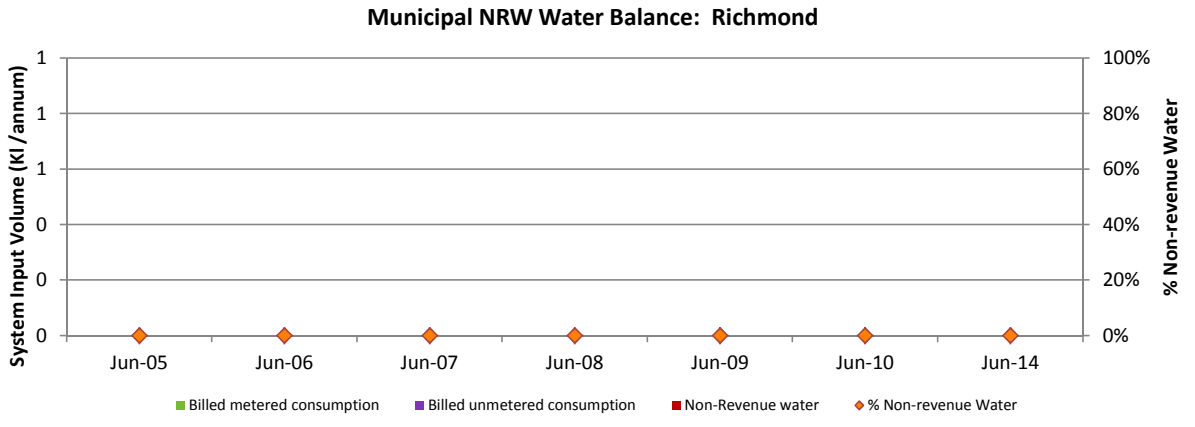

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN226 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | Mkhambathini | | | | | | | | B3 |
| Settlements | Camperdown | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 63 160 | 63 584 | 63 950 | 64 408 | 64 780 | 60 238 | |
| | Households | | 14 104 | 14 198 | 14 269 | 14 375 | 14 447 | 13 454 | |
| | Connections - metered | | ~~8 213~~ | ~~8 268~~ | ~~8 315~~ | 8 375 | ~~8 423~~ | ~~7 833~~ | |
| | Connections - Unmetered | | ~~2 788~~ | ~~2 807~~ | ~~2 821~~ | 2 842 | ~~2 856~~ | ~~2 660~~ | |
| | Length of mains (km) | | ~~220~~ | ~~221~~ | ~~223~~ | ~~224~~ | ~~226~~ | ~~210~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.67% | 0.58% | 0.72% | 0.58% | -7.01% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



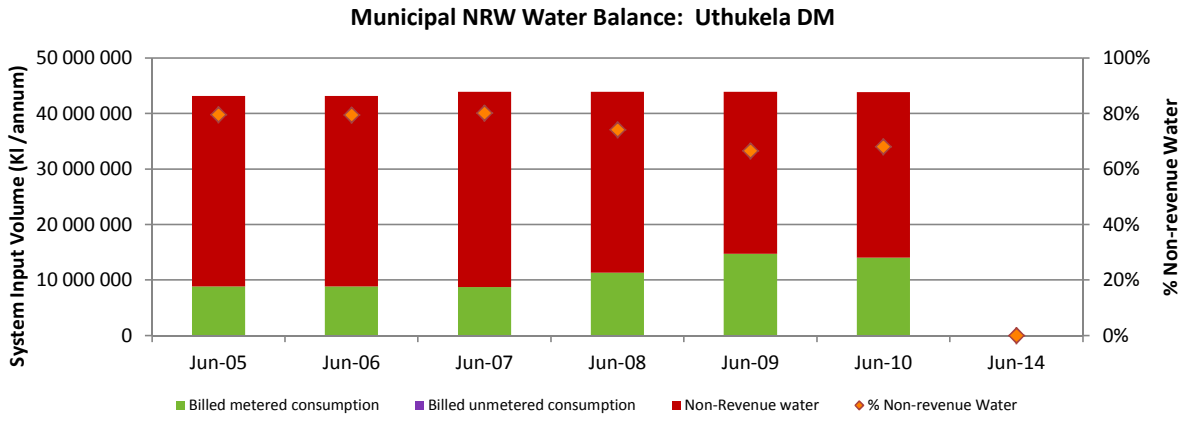

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN227 | | | | | | | | No |
| District Municipality | Umgungundlovu | | | | | | | | Category |
| Municipality | Richmond | | | | | | | | B4 |
| Settlements | RICHMOND | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 67 331 | 67 761 | 68 125 | 68 563 | 68 930 | 64 299 | |
| | Households | | 13 978 | 14 071 | 14 136 | 14 241 | 14 307 | 13 344 | |
| | Connections - metered | | ~~5 255~~ | ~~5 288~~ | ~~5 317~~ | 5 351 | ~~5 380~~ | ~~5 018~~ | |
| | Connections - Unmetered | | ~~6 717~~ | ~~6 761~~ | ~~6 793~~ | 6 843 | ~~6 875~~ | ~~6 412~~ | |
| | Length of mains (km) | | ~~239~~ | ~~241~~ | ~~242~~ | ~~244~~ | ~~245~~ | ~~229~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.64% | 0.54% | 0.64% | 0.54% | -6.72% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



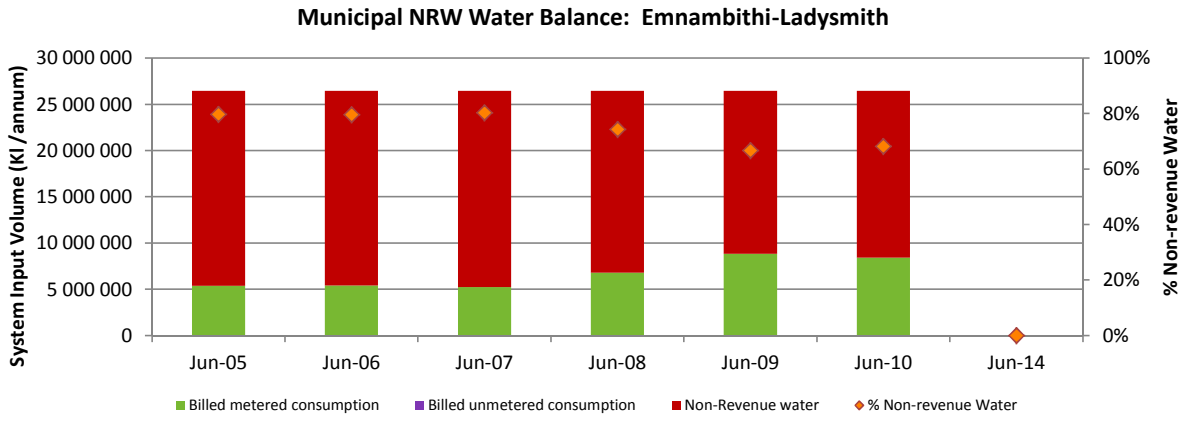

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC23 | | | | | | | | Yes |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 717 762 | 722 862 | 727 150 | 732 564 | 736 914 | 700 721 | 0 |
| | Households | | 154 575 | 155 653 | 156 514 | 157 763 | 158 633 | 151 179 | 0 |
| | Connections - metered | | 32 069 | 32 723 | 33 391 | 34 073 | 34 769 | 35 479 | 0 |
| | Connections - Unmetered | | 122 506 | 122 929 | 123 123 | 123 690 | 123 866 | 115 701 | 0 |
| | Length of mains (km) | | 3 092 | 3 113 | 3 130 | 3 155 | 3 173 | 3 024 | 0 |
| | System input volume | kl/annum | 43 179 500 | 43 179 500 | 43 909 500 | 43 909 500 | 43 909 500 | 43 889 500 | 0 |
| | Billed metered consumption | kl/annum | 8 817 460 | 8 851 653 | 8 708 286 | 11 340 014 | 14 708 111 | 14 016 127 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 8 817 460 | 8 851 653 | 8 708 286 | 11 340 014 | 14 708 111 | 14 016 127 | 0 |
| | Non-Revenue water | kl/annum | 34 362 040 | 34 327 847 | 35 201 214 | 32 569 486 | 29 201 389 | 29 873 373 | 0 |
| | Water Losses | kl/annum | 34 362 040 | 34 327 847 | 35 201 214 | 32 569 486 | 29 201 389 | 29 873 373 | 0 |
| | % Non-revenue water | | 79.6% | 79.5% | 80.2% | 74.2% | 66.5% | 68.1% | No data |
| | % Water Losses | | 79.6% | 79.5% | 80.2% | 74.2% | 66.5% | 68.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 165 | 164 | 165 | 164 | 163 | 172 | No data |
| | Input: m³ / household / month | | 23 | 23 | 23 | 23 | 23 | 24 | No data |
| | Billed : Litres / capita / day | | 34 | 34 | 33 | 42 | 55 | 55 | No data |
| | Billed : m³ / household / month | | 5 | 5 | 5 | 6 | 8 | 8 | No data |
| | % Population growth | | | 0.71% | 0.59% | 0.74% | 0.59% | -4.91% | |
| | % Water demand growth | | | 0.00% | 1.69% | 0.00% | 0.00% | -0.05% | |
| Source of information | | | | | | | | | |



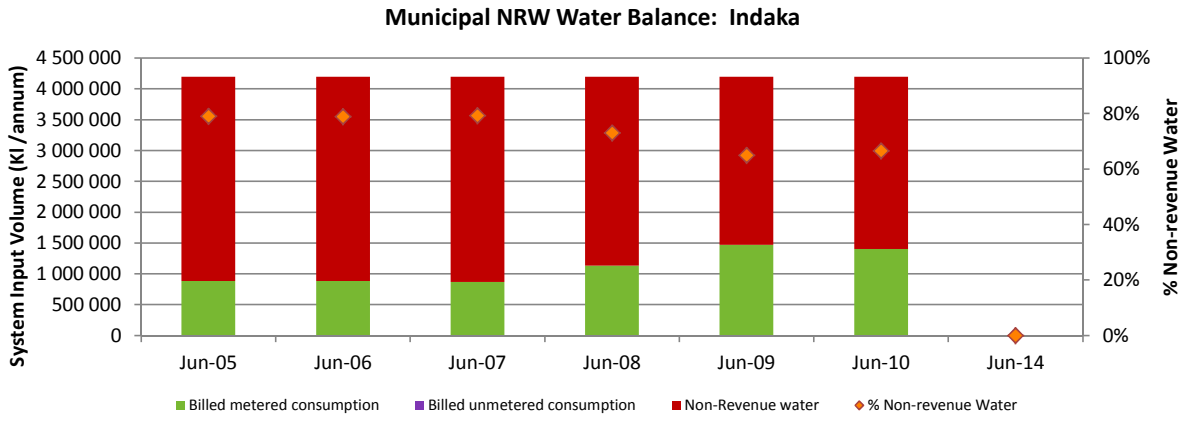

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN232 | | | | | | | | No |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | Emnambithi-Ladysmith | | | | | | | | B2 |
| Settlements | EMAKHEKHENI, EZAKHENI, LADYSMITH, | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 246 587 | 248 339 | 249 817 | 251 684 | 253 182 | 247 220 | |
| | Households | | 58 023 | 58 434 | 58 774 | 59 216 | 59 560 | 58 168 | |
| | Connections - metered | | 19 562 | 19 961 | 20 035 | 20 444 | 20 861 | 21 287 | |
| | Connections - Unmetered | | 74 729 | 74 987 | 73 874 | 74 214 | 74 319 | 69 421 | |
| | Length of mains (km) | | ~~1 886~~ | ~~1 899~~ | ~~1 878~~ | ~~1 893~~ | ~~1 904~~ | ~~1 814~~ | |
| | System input volume | kl/annum | 26 462 500 | 26 462 500 | 26 462 500 | 26 462 500 | 26 462 500 | 26 462 500 | |
| | Billed metered consumption | kl/annum | 5 378 651 | 5 399 509 | 5 224 972 | 6 804 008 | 8 824 867 | 8 409 676 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 378 651 | 5 399 509 | 5 224 972 | 6 804 008 | 8 824 867 | 8 409 676 | 0 |
| | Non-Revenue water | kl/annum | 21 083 849 | 21 062 991 | 21 237 528 | 19 658 492 | 17 637 633 | 18 052 824 | 0 |
| | Water Losses | kl/annum | 21 083 849 | 21 062 991 | 21 237 528 | 19 658 492 | 17 637 633 | 18 052 824 | 0 |
| | % Non-revenue water | | 79.7% | 79.6% | 80.3% | 74.3% | 66.7% | 68.2% | No data |
| | % Water Losses | | 79.7% | 79.6% | 80.3% | 74.3% | 66.7% | 68.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 294 | 292 | 290 | 288 | 286 | 293 | No data |
| | Input: m³ / household / month | | 38 | 38 | 38 | 37 | 37 | 38 | No data |
| | Billed : Litres / capita / day | | 60 | 60 | 57 | 74 | 95 | 93 | No data |
| | Billed : m³ / household / month | | 8 | 8 | 7 | 10 | 12 | 12 | No data |
| | % Population growth | | | 0.71% | 0.60% | 0.75% | 0.60% | -2.35% | |
| | % Water demand growth | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



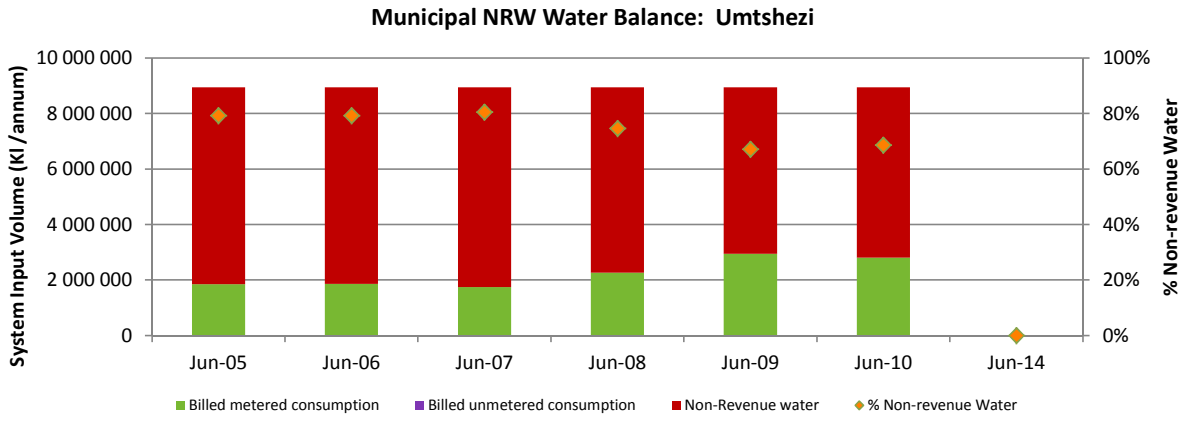

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN233 | | | | | | | | No |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | Indaka | | | | | | | | B4 |
| Settlements | AMAKHASI , WAAIHOEK | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 124 225 | 125 093 | 125 837 | 126 762 | 127 514 | 118 206 | |
| | Households | | 24 516 | 24 683 | 24 812 | 25 016 | 25 146 | 23 322 | |
| | Connections - metered | | 3 207 | 3 272 | 3 339 | 3 407 | 3 477 | 3 548 | |
| | Connections - Unmetered | | 12 251 | 12 293 | 12 312 | 12 369 | 12 387 | 11 570 | |
| | Length of mains (km) | | 309 | 311 | 313 | 316 | 317 | 302 | |
| | System input volume | kl/annum | 4 197 500 | 4 197 500 | 4 197 500 | 4 197 500 | 4 197 500 | 4 197 500 | |
| | Billed metered consumption | kl/annum | 881 746 | 885 165 | 870 829 | 1 134 001 | 1 470 811 | 1 401 613 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 881 746 | 885 165 | 870 829 | 1 134 001 | 1 470 811 | 1 401 613 | 0 |
| | Non-Revenue water | kl/annum | 3 315 754 | 3 312 335 | 3 326 671 | 3 063 499 | 2 726 689 | 2 795 887 | 0 |
| | Water Losses | kl/annum | 3 315 754 | 3 312 335 | 3 326 671 | 3 063 499 | 2 726 689 | 2 795 887 | 0 |
| | % Non-revenue water | | 79.0% | 78.9% | 79.3% | 73.0% | 65.0% | 66.6% | No data |
| | % Water Losses | | 79.0% | 78.9% | 79.3% | 73.0% | 65.0% | 66.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 93 | 92 | 91 | 91 | 90 | 97 | No data |
| | Input: m³ / household / month | | 14 | 14 | 14 | 14 | 14 | 15 | No data |
| | Billed : Litres / capita / day | | 19 | 19 | 19 | 25 | 32 | 32 | No data |
| | Billed : m³ / household / month | | 3 | 3 | 3 | 4 | 5 | 5 | No data |
| | % Population growth | | | 0.70% | 0.59% | 0.74% | 0.59% | -7.30% | |
| | % Water demand growth | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



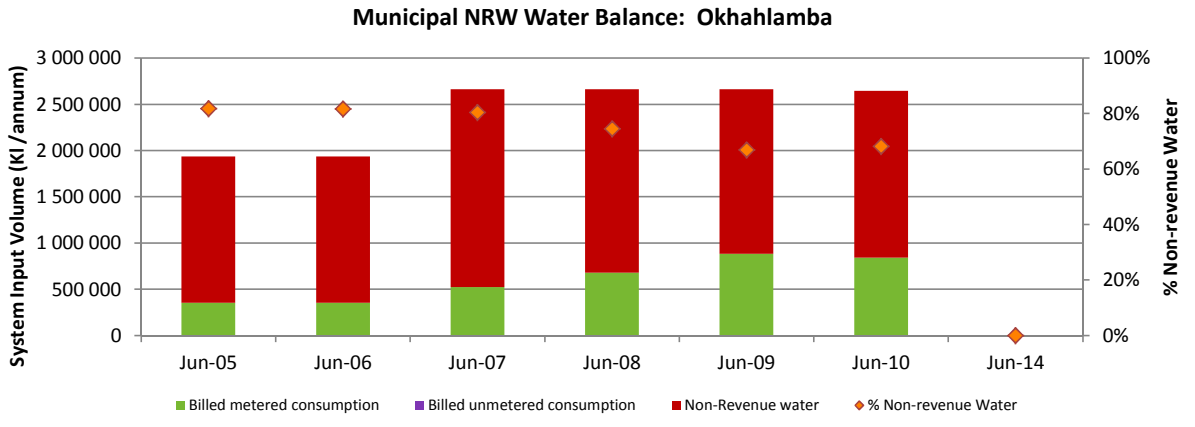

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | No |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | Umtshezi | | | | | | | | B3 |
| Settlements | ESTCOURT, WEMBEZI | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 65 550 | 66 020 | 66 412 | 66 914 | 67 310 | 67 183 | |
| | Households | | 15 062 | 15 168 | 15 259 | 15 371 | 15 463 | 15 435 | |
| | Connections - metered | | 6 734 | 6 872 | 6 678 | 6 815 | 6 954 | 7 096 | |
| | Connections - Unmetered | | 25 726 | 25 815 | 24 625 | 24 738 | 24 773 | 23 140 | |
| | Length of mains (km) | | ~~649~~ | ~~654~~ | ~~626~~ | ~~631~~ | ~~635~~ | ~~605~~ | |
| | System input volume | kl/annum | 8 942 500 | 8 942 500 | 8 942 500 | 8 942 500 | 8 942 500 | 8 942 500 | |
| | Billed metered consumption | kl/annum | 1 851 667 | 1 858 847 | 1 741 657 | 2 268 003 | 2 941 622 | 2 803 225 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 851 667 | 1 858 847 | 1 741 657 | 2 268 003 | 2 941 622 | 2 803 225 | 0 |
| | Non-Revenue water | kl/annum | 7 090 833 | 7 083 653 | 7 200 843 | 6 674 497 | 6 000 878 | 6 139 275 | 0 |
| | Water Losses | kl/annum | 7 090 833 | 7 083 653 | 7 200 843 | 6 674 497 | 6 000 878 | 6 139 275 | 0 |
| | % Non-revenue water | | 79.3% | 79.2% | 80.5% | 74.6% | 67.1% | 68.7% | No data |
| | % Water Losses | | 79.3% | 79.2% | 80.5% | 74.6% | 67.1% | 68.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 374 | 371 | 369 | 366 | 364 | 365 | No data |
| | Input: m³ / household / month | | 49 | 49 | 49 | 48 | 48 | 48 | No data |
| | Billed : Litres / capita / day | | 77 | 77 | 72 | 93 | 120 | 114 | No data |
| | Billed : m³ / household / month | | 10 | 10 | 10 | 12 | 16 | 15 | No data |
| | % Population growth | | | 0.72% | 0.59% | 0.76% | 0.59% | -0.19% | |
| | % Water demand growth | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



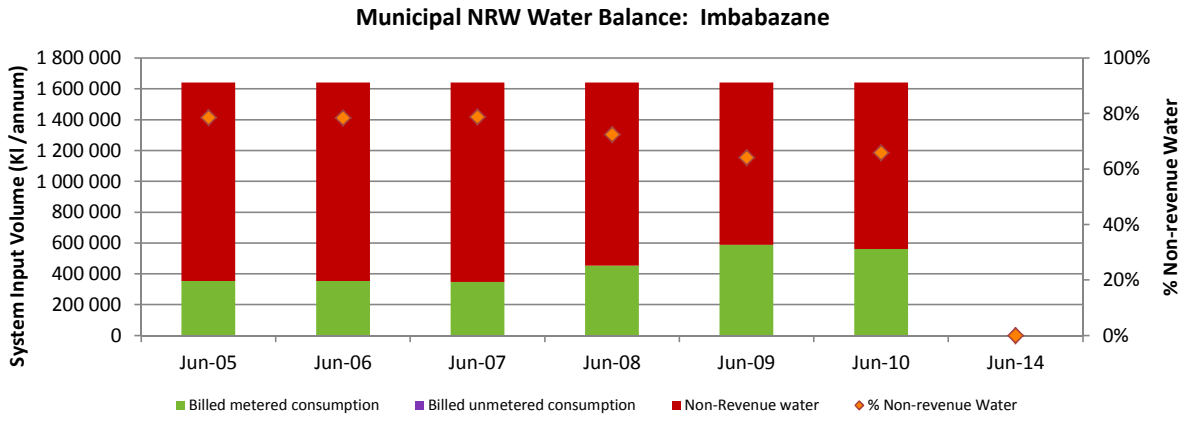

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN235 | | | | | | | | No |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | Okhahlamba | | | | | | | | B4 |
| Settlements | Bergville | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 150 329 | 151 410 | 152 296 | 153 424 | 154 329 | 143 359 | |
| | Households | | 30 531 | 30 732 | 30 880 | 31 180 | 31 331 | 29 100 | |
| | Connections - metered | | 1 283 | 1 309 | 2 003 | 2 044 | 2 086 | 2 129 | |
| | Connections - Unmetered | | 4 900 | 4 917 | 7 387 | 7 421 | 7 432 | 6 942 | |
| | Length of mains (km) | | ~~124~~ | ~~125~~ | ~~188~~ | ~~189~~ | ~~190~~ | ~~181~~ | |
| | System input volume | kl/annum | 1 934 500 | 1 934 500 | 2 664 500 | 2 664 500 | 2 664 500 | 2 644 500 | |
| | Billed metered consumption | kl/annum | 352 698 | 354 066 | 522 497 | 680 401 | 882 487 | 840 968 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 352 698 | 354 066 | 522 497 | 680 401 | 882 487 | 840 968 | 0 |
| | Non-Revenue water | kl/annum | 1 581 802 | 1 580 434 | 2 142 003 | 1 984 099 | 1 782 013 | 1 803 532 | 0 |
| | Water Losses | kl/annum | 1 581 802 | 1 580 434 | 2 142 003 | 1 984 099 | 1 782 013 | 1 803 532 | 0 |
| | % Non-revenue water | | 81.8% | 81.7% | 80.4% | 74.5% | 66.9% | 68.2% | No data |
| | % Water Losses | | 81.8% | 81.7% | 80.4% | 74.5% | 66.9% | 68.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 35 | 35 | 48 | 48 | 47 | 51 | No data |
| | Input: m³ / household / month | | 5 | 5 | 7 | 7 | 7 | 8 | No data |
| | Billed : Litres / capita / day | | 6 | 6 | 9 | 12 | 16 | 16 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 2 | 2 | 2 | No data |
| | % Population growth | | | 0.72% | 0.59% | 0.74% | 0.59% | -7.11% | |
| | % Water demand growth | | | 0.00% | 37.74% | 0.00% | 0.00% | -0.75% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



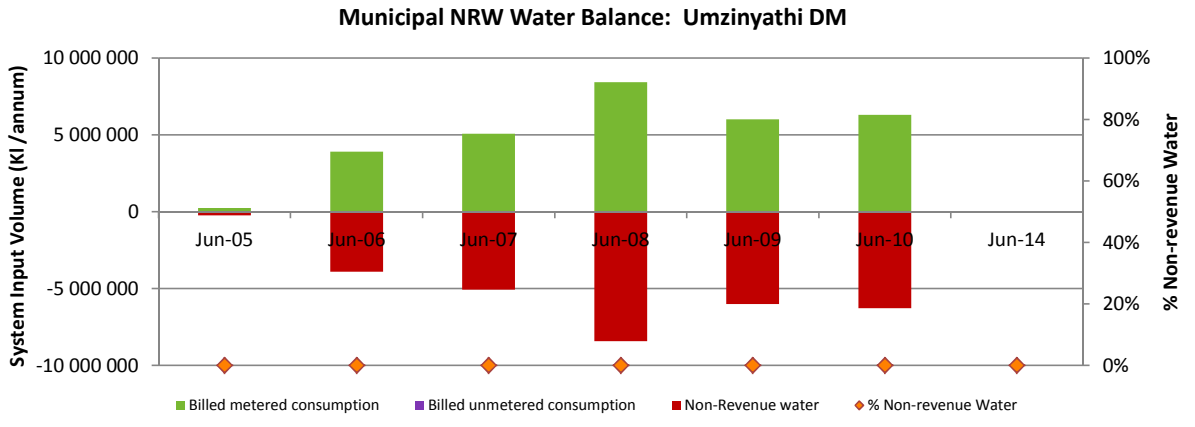

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN236 | | | | | | | | No |
| District Municipality | Uthukela | | | | | | | | Category |
| Municipality | Imbabazane | | | | | | | | B4 |
| Settlements | Loskop | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 131 071 | 132 000 | 132 788 | 133 780 | 134 579 | 124 753 | |
| | Households | | 26 443 | 26 636 | 26 789 | 26 980 | 27 133 | 25 154 | |
| | Connections - metered | | 1 283 | 1 309 | 1 336 | 1 363 | 1 391 | 1 419 | |
| | Connections - Unmetered | | 4 900 | 4 917 | 4 925 | 4 948 | 4 955 | 4 628 | |
| | Length of mains (km) | | ~~124~~ | ~~125~~ | ~~125~~ | ~~126~~ | ~~127~~ | ~~121~~ | |
| | System input volume | kl/annum | 1 642 500 | 1 642 500 | 1 642 500 | 1 642 500 | 1 642 500 | 1 642 500 | |
| | Billed metered consumption | kl/annum | 352 698 | 354 066 | 348 331 | 453 601 | 588 324 | 560 645 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 352 698 | 354 066 | 348 331 | 453 601 | 588 324 | 560 645 | 0 |
| | Non-Revenue water | kl/annum | 1 289 802 | 1 288 434 | 1 294 169 | 1 188 899 | 1 054 176 | 1 081 855 | 0 |
| | Water Losses | kl/annum | 1 289 802 | 1 288 434 | 1 294 169 | 1 188 899 | 1 054 176 | 1 081 855 | 0 |
| | % Non-revenue water | | 78.5% | 78.4% | 78.8% | 72.4% | 64.2% | 65.9% | No data |
| | % Water Losses | | 78.5% | 78.4% | 78.8% | 72.4% | 64.2% | 65.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 34 | 34 | 34 | 34 | 33 | 36 | No data |
| | Input: m³ / household / month | | 5 | 5 | 5 | 5 | 5 | 5 | No data |
| | Billed : Litres / capita / day | | 7 | 7 | 7 | 9 | 12 | 12 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 1 | 1 | 2 | 2 | No data |
| | % Population growth | | | 0.71% | 0.60% | 0.75% | 0.60% | -7.30% | |
| | % Water demand growth | | | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



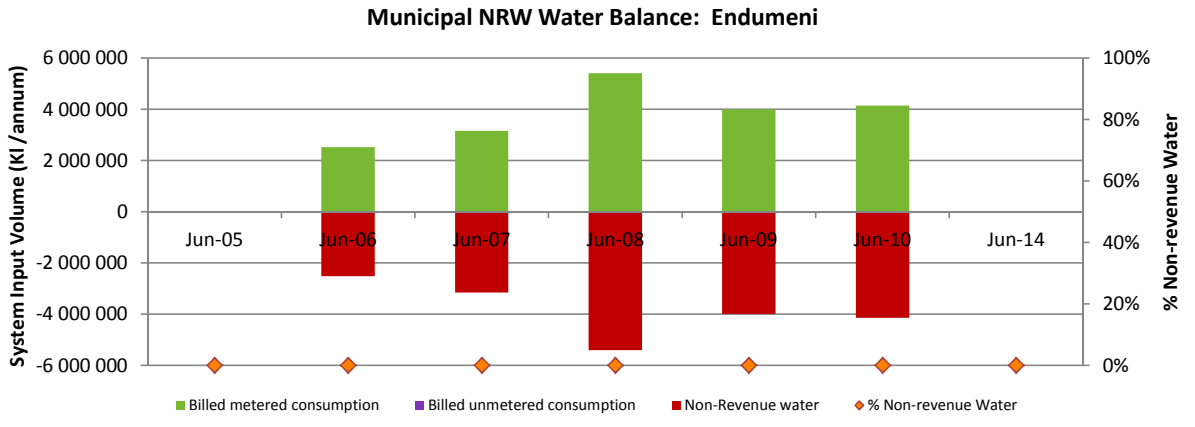

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC24 | | | | | | | | Yes |
| District Municipality | Umzinyathi | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 513 416 | 516 406 | 519 402 | 523 164 | 526 197 | 494 407 | 0 |
| | Households | | 105 787 | 106 442 | 106 953 | 107 770 | 108 294 | 102 040 | 0 |
| | Connections - metered | | 11 365 | 12 311 | 13 029 | 13 209 | 13 002 | 13 344 | 0 |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 34 | 75 | 0 |
| | Length of mains (km) | | 227 | 246 | 261 | 264 | 261 | 268 | 0 |
| | System input volume | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Billed metered consumption | kl/annum | 245 286 | 3 905 077 | 5 081 633 | 8 430 714 | 6 004 203 | 6 295 468 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 245 286 | 3 905 077 | 5 081 633 | 8 430 714 | 6 004 203 | 6 295 468 | 0 |
| | Non-Revenue water | kl/annum | -245 286 | -3 905 077 | -5 081 633 | -8 430 714 | -6 004 203 | -6 295 468 | 0 |
| | Water Losses | kl/annum | -245 286 | -3 905 077 | -5 081 633 | -8 430 714 | -6 004 203 | -6 295 468 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 1 | 21 | 27 | 44 | 31 | 35 | No data |
| | Billed : m³ / household / month | | 0 | 3 | 4 | 7 | 5 | 5 | No data |
| | % Population growth | | | 0.58% | 0.58% | 0.72% | 0.58% | -6.04% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | | | | | | | |



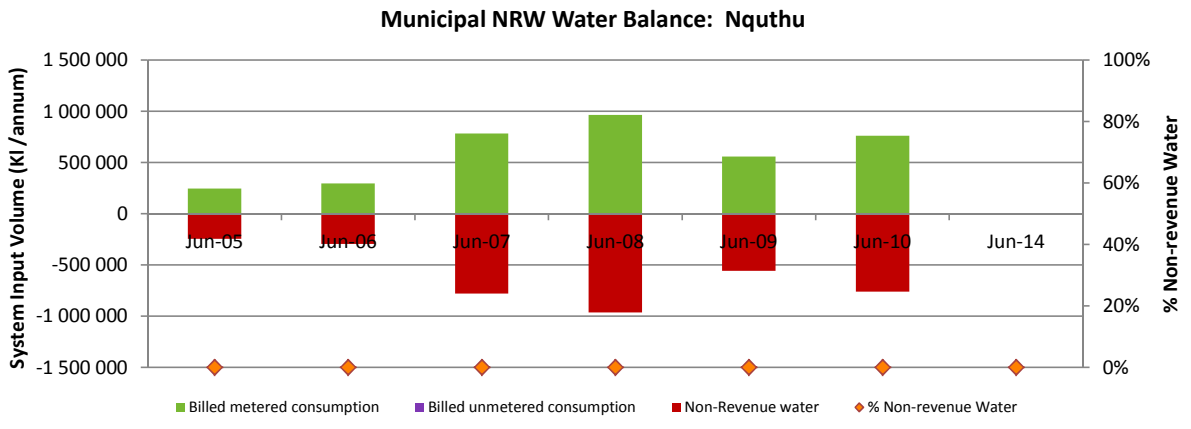

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN241 | | | | | | | | No |
| District Municipality | Umzinyathi | | | | | | | | Category |
| Municipality | Endumeni | | | | | | | | B3 |
| Settlements | DUNDEE, GLENCOE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 54 900 | 55 218 | 55 544 | 55 967 | 56 298 | 57 462 | |
| | Households | | 13 835 | 13 915 | 13 997 | 14 101 | 14 184 | 14 475 | |
| | Connections - metered | | 7 709 | 8 464 | 8 869 | 8 977 | 8 806 | 8 808 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 33 | 68 | |
| | Length of mains (km) | | ~~154~~ | ~~169~~ | ~~177~~ | ~~180~~ | ~~177~~ | ~~178~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | 2 517 388 | 3 160 653 | 5 413 145 | 3 991 102 | 4 146 053 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 2 517 388 | 3 160 653 | 5 413 145 | 3 991 102 | 4 146 053 | 0 |
| | Non-Revenue water | kl/annum | 0 | -2 517 388 | -3 160 653 | -5 413 145 | -3 991 102 | -4 146 053 | 0 |
| | Water Losses | kl/annum | 0 | -2 517 388 | -3 160 653 | -5 413 145 | -3 991 102 | -4 146 053 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 125 | 156 | 265 | 194 | 198 | No data |
| | Billed : m³ / household / month | | No data | 15 | 19 | 32 | 23 | 24 | No data |
| | % Population growth | | | 0.58% | 0.59% | 0.76% | 0.59% | 2.07% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



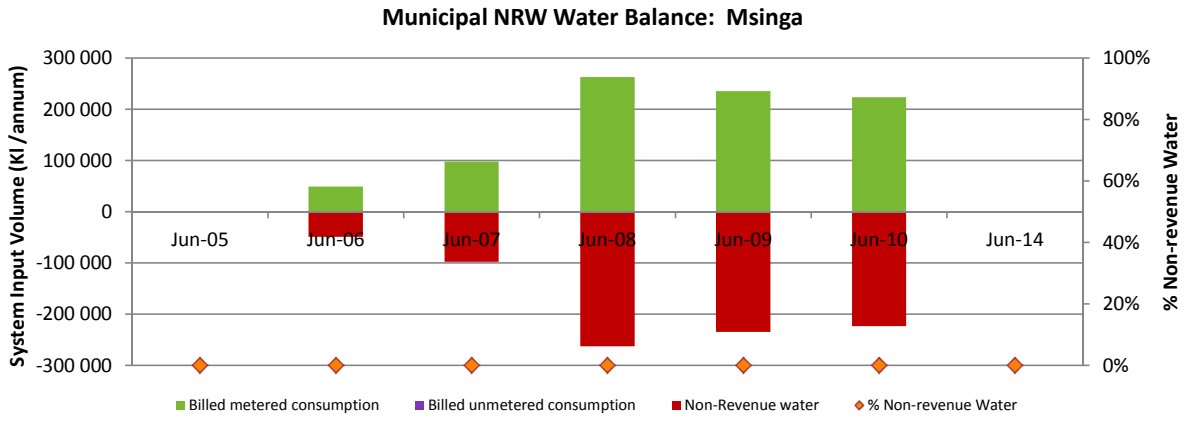

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN242 | | | | | | | | No |
| District Municipality | Umzinyathi | | | | | | | | Category |
| Municipality | Nquthu | | | | | | | | B4 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 180 914 | 182 028 | 183 097 | 184 440 | 185 517 | 171 972 | |
| | Households | | 33 565 | 33 774 | 33 930 | 34 203 | 34 363 | 31 858 | |
| | Connections - metered | | 788 | 1 083 | 1 281 | 1 326 | 1 409 | 1 597 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 1 | 2 | |
| | Length of mains (km) | | ~~16~~ | ~~22~~ | ~~26~~ | ~~27~~ | ~~28~~ | ~~32~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | 245 286 | 296 314 | 781 676 | 963 672 | 558 105 | 761 924 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 245 286 | 296 314 | 781 676 | 963 672 | 558 105 | 761 924 | 0 |
| | Non-Revenue water | kl/annum | -245 286 | -296 314 | -781 676 | -963 672 | -558 105 | -761 924 | 0 |
| | Water Losses | kl/annum | -245 286 | -296 314 | -781 676 | -963 672 | -558 105 | -761 924 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 4 | 4 | 12 | 14 | 8 | 12 | No data |
| | Billed : m³ / household / month | | 1 | 1 | 2 | 2 | 1 | 2 | No data |
| | % Population growth | | | 0.62% | 0.59% | 0.73% | 0.58% | -7.30% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



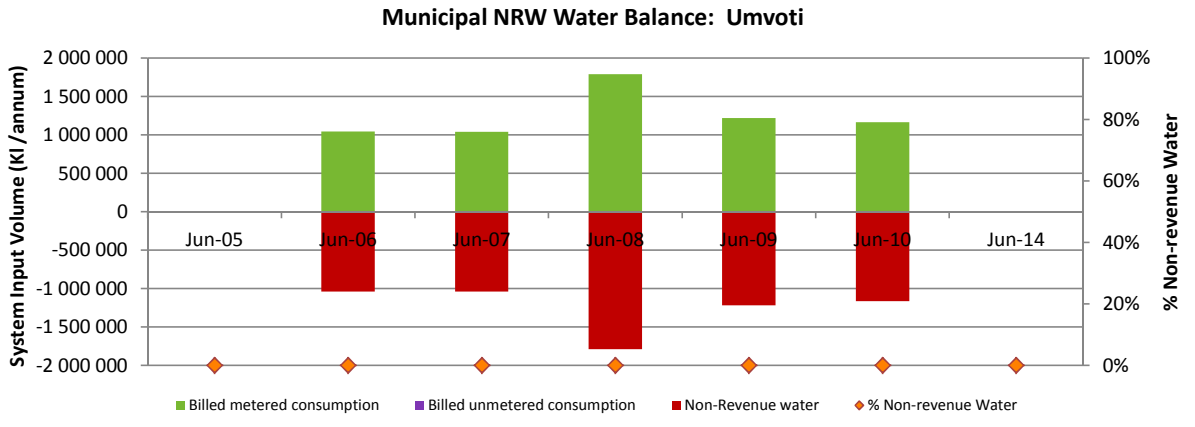

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN244 | | | | | | | | No |
| District Municipality | Umzinyathi | | | | | | | | Category |
| Municipality | Msinga | | | | | | | | B4 |
| Settlements | Pomeroy | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 178 990 | 180 011 | 181 060 | 182 394 | 183 462 | 170 071 | |
| | Households | | 36 321 | 36 562 | 36 730 | 37 006 | 37 181 | 34 473 | |
| | Connections - metered | | 0 | 40 | 83 | 91 | 92 | 126 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 1 | |
| | Length of mains (km) | | 0 | 1 | 2 | 2 | 2 | 3 | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | 49 295 | 97 839 | 262 672 | 235 138 | 223 458 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 49 295 | 97 839 | 262 672 | 235 138 | 223 458 | 0 |
| | Non-Revenue water | kl/annum | 0 | -49 295 | -97 839 | -262 672 | -235 138 | -223 458 | 0 |
| | Water Losses | kl/annum | 0 | -49 295 | -97 839 | -262 672 | -235 138 | -223 458 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 1 | 1 | 4 | 4 | 4 | No data |
| | Billed : m³ / household / month | | No data | 0 | 0 | 1 | 1 | 1 | No data |
| | % Population growth | | | 0.57% | 0.58% | 0.74% | 0.59% | -7.30% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



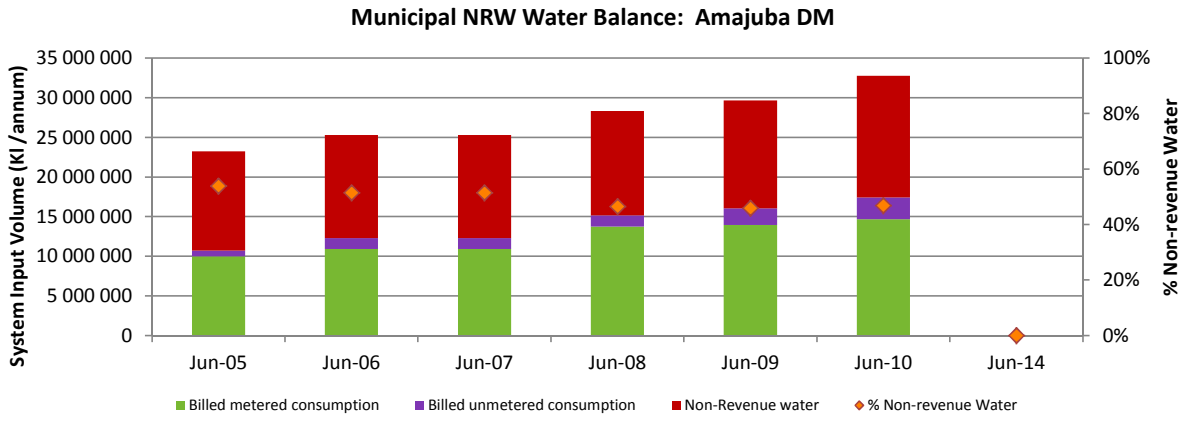

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN245 | | | | | | | | No |
| District Municipality | Umzinyathi | | | | | | | | Category |
| Municipality | Umvoti | | | | | | | | B3 |
| Settlements | UMVOTI , GREYTOWN | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 98 612 | 99 149 | 99 701 | 100 363 | 100 920 | 94 902 | |
| | Households | | 22 066 | 22 191 | 22 296 | 22 460 | 22 566 | 21 234 | |
| | Connections - metered | | 2 868 | 2 724 | 2 796 | 2 815 | 2 695 | 2 813 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 4 | |
| | Length of mains (km) | | ~~57~~ | ~~54~~ | ~~56~~ | ~~56~~ | ~~54~~ | ~~56~~ | |
| | System input volume | kl/annum | 0 | 0 | 0 | | | | |
| | Billed metered consumption | kl/annum | 0 | 1 042 080 | 1 041 465 | 1 791 225 | 1 219 858 | 1 164 033 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 1 042 080 | 1 041 465 | 1 791 225 | 1 219 858 | 1 164 033 | 0 |
| | Non-Revenue water | kl/annum | 0 | -1 042 080 | -1 041 465 | -1 791 225 | -1 219 858 | -1 164 033 | 0 |
| | Water Losses | kl/annum | 0 | -1 042 080 | -1 041 465 | -1 791 225 | -1 219 858 | -1 164 033 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 29 | 29 | 49 | 33 | 34 | No data |
| | Billed : m³ / household / month | | No data | 4 | 4 | 7 | 5 | 5 | No data |
| | % Population growth | | | 0.54% | 0.56% | 0.66% | 0.55% | -5.96% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



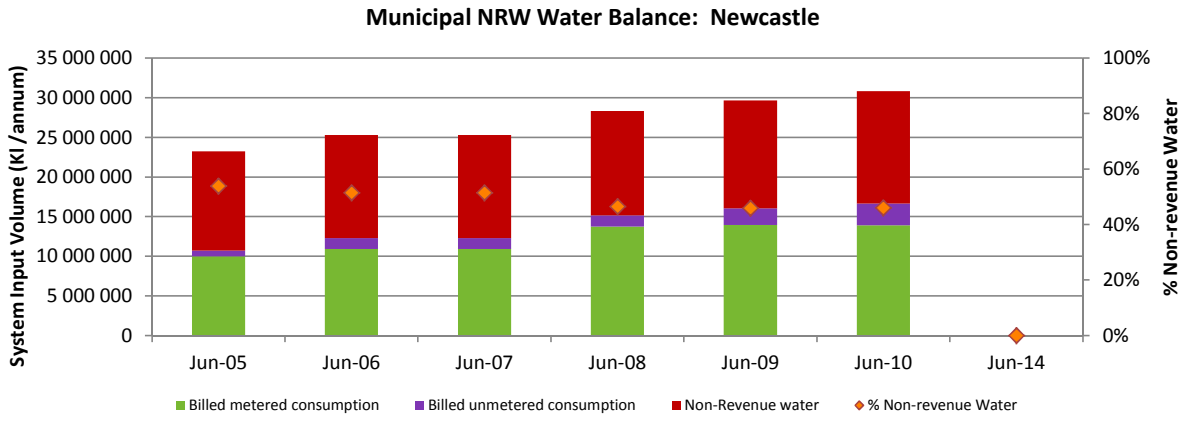

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC25 | | | | | | | | Yes |
| District Municipality | Amajuba | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 508 142 | 511 147 | 514 203 | 518 075 | 521 169 | 510 517 | 0 |
| | Households | | 110 135 | 110 780 | 111 432 | 112 296 | 112 958 | 110 828 | 0 |
| | Connections - metered | | 0 | 0 | 0 | 0 | 39 607 | 39 607 | 0 |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 7 393 | 7 393 | 0 |
| | Length of mains (km) | | 0 | 0 | 0 | 0 | 0 | 153 | 0 |
| | System input volume | kl/annum | 23 238 625 | 25 275 589 | 25 275 589 | 28 333 333 | 29 642 833 | 32 777 217 | 0 |
| | Billed metered consumption | kl/annum | 9 995 574 | 10 926 025 | 10 926 025 | 13 750 000 | 13 957 320 | 14 686 398 | 0 |
| | Billed unmetered consumption | kl/annum | 732 934 | 1 347 624 | 1 347 624 | 1 416 666 | 2 083 333 | 2 736 026 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 10 728 509 | 12 273 649 | 12 273 649 | 15 166 666 | 16 040 653 | 17 422 424 | 0 |
| | Non-Revenue water | kl/annum | 12 510 116 | 13 001 940 | 13 001 940 | 13 166 667 | 13 602 180 | 15 354 793 | 0 |
| | Water Losses | kl/annum | 12 510 116 | 13 001 940 | 13 001 940 | 13 166 667 | 13 602 180 | 15 354 793 | 0 |
| | % Non-revenue water | | 53.8% | 51.4% | 51.4% | 46.5% | 45.9% | 46.8% | No data |
| | % Water Losses | | 53.8% | 51.4% | 51.4% | 46.5% | 45.9% | 46.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 125 | 135 | 135 | 150 | 156 | 176 | No data |
| | Input: m³ / household / month | | 18 | 19 | 19 | 21 | 22 | 25 | No data |
| | Billed : Litres / capita / day | | 58 | 66 | 65 | 80 | 84 | 93 | No data |
| | Billed : m³ / household / month | | 8 | 9 | 9 | 11 | 12 | 13 | No data |
| | % Population growth | | | 0.59% | 0.60% | 0.75% | 0.60% | -2.04% | |
| | % Water demand growth | | | 8.77% | 0.00% | 12.10% | 4.62% | 10.57% | |
| Source of information | | | | | | | | | |



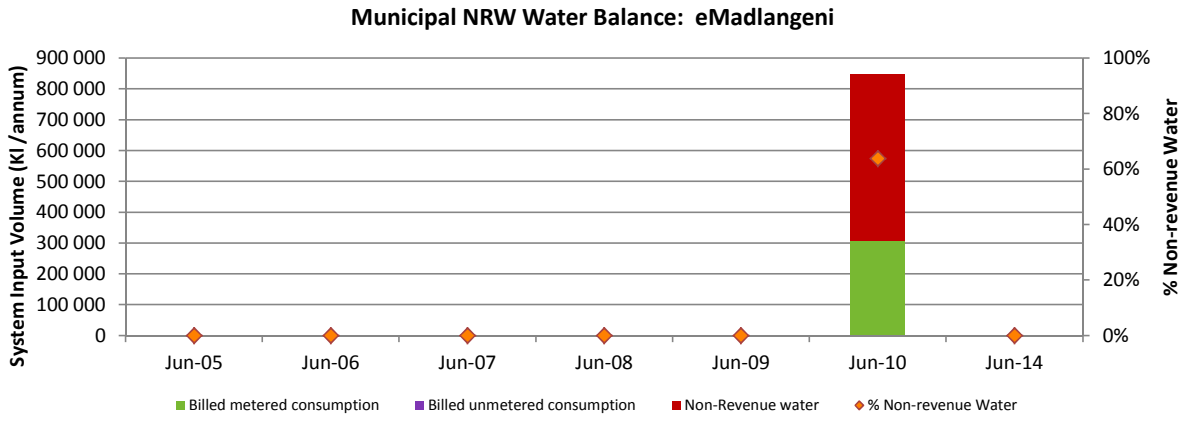

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN252 | | | | | | | | Yes |
| District Municipality | Amajuba | | | | | | | | Category |
| Municipality | Newcastle | | | | | | | | B1 |
| Settlements | BUHLEBOMZINYATHI, MADADENI, NEWCASTLE, OSIZWENI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 362 640 | 364 790 | 366 975 | 369 744 | 371 958 | 371 028 | |
| | Households | | 81 355 | 81 840 | 82 327 | 82 950 | 83 446 | 83 238 | |
| | Connections - metered | | | | | | 39 607 | 39 607 | |
| | Connections - Unmetered | | | | | | 7 393 | 7 393 | |
| | Length of mains (km) | | | | | | | | |
| | System input volume | kl/annum | ~~23 238 625~~ | 25 275 589 | 25 275 589 | 28 333 333 | 29 642 833 | 30 807 095 | |
| | Billed metered consumption | kl/annum | ~~9 995 574~~ | 10 926 025 | 10 926 025 | 13 750 000 | 13 957 320 | 13 906 446 | |
| | Billed unmetered consumption | kl/annum | ~~732 934~~ | 1 347 624 | 1 347 624 | 1 416 666 | 2 083 333 | ~~2 736 026~~ | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 10 728 509 | 12 273 649 | 12 273 649 | 15 166 666 | 16 040 653 | 16 642 472 | 0 |
| | Non-Revenue water | kl/annum | 12 510 116 | 13 001 940 | 13 001 940 | 13 166 667 | 13 602 180 | 14 164 623 | 0 |
| | Water Losses | kl/annum | 12 510 116 | 13 001 940 | 13 001 940 | 13 166 667 | 13 602 180 | 14 164 623 | 0 |
| | % Non-revenue water | | 53.8% | 51.4% | 51.4% | 46.5% | 45.9% | 46.0% | No data |
| | % Water Losses | | 53.8% | 51.4% | 51.4% | 46.5% | 45.9% | 46.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 176 | 190 | 189 | 210 | 218 | 227 | No data |
| | Input: m³ / household / month | | 24 | 26 | 26 | 28 | 30 | 31 | No data |
| | Billed : Litres / capita / day | | 81 | 92 | 92 | 112 | 118 | 123 | No data |
| | Billed : m³ / household / month | | 11 | 12 | 12 | 15 | 16 | 17 | No data |
| | % Population growth | | | 0.59% | 0.60% | 0.75% | 0.60% | -0.25% | |
| | % Water demand growth | | | 8.77% | 0.00% | 12.10% | 4.62% | 3.93% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



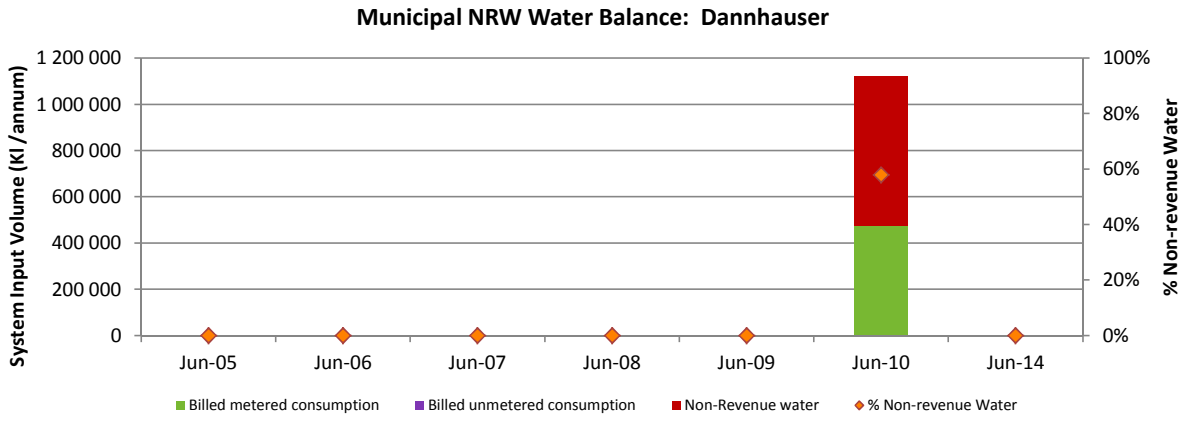

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN253 | | | | | | | | No |
| District Municipality | Amajuba | | | | | | | | Category |
| Municipality | eMadlangeni | | | | | | | | B3 |
| Settlements | Bloedrivier, Groenvlei, Kingsley, Utrecht | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 34 783 | 34 988 | 35 196 | 35 461 | 35 672 | 33 549 | |
| | Households | | 6 993 | 7 034 | 7 076 | 7 133 | 7 175 | 6 749 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 66 | |
| | System input volume | kl/annum | | | | | | 848 501 | |
| | Billed metered consumption | kl/annum | | | | | | 307 248 | |
| | Billed unmetered consumption | kl/annum | | | | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 307 248 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 541 253 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 541 253 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | 63.8% | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | 63.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | 69 | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | 10 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | 25 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | 4 | No data |
| | % Population growth | | | 0.59% | 0.59% | 0.75% | 0.60% | -5.95% | |
| | % Water demand growth | | | | | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



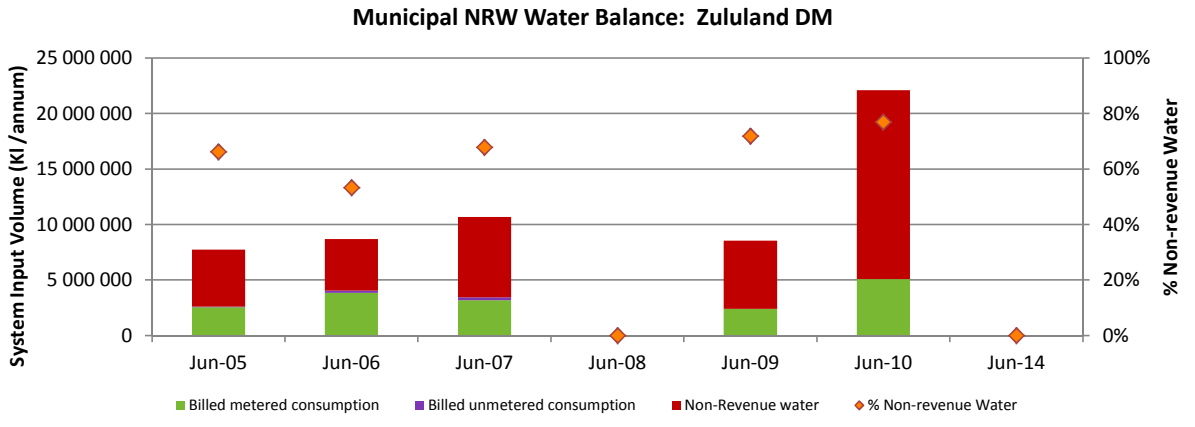

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Province | | KwaZulu-Natal | | | | | | WSA |
| | Municipal Code | | KZN254 | | | | | | No |
| | District Municipality | | Amajuba | | | | | | Category |
| | Municipality | | Dannhauser | | | | | | B4 |
| | Settlements | | Dannhauser, Hattingspruit, Durnacol | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 110 719 | 111 369 | 112 032 | 112 870 | 113 539 | 105 940 | |
| | Households | | 21 787 | 21 906 | 22 029 | 22 213 | 22 337 | 20 841 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 87 | |
| | System input volume | kl/annum | | | | | | 1 121 621 | |
| | Billed metered consumption | kl/annum | | | | | | 472 704 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 472 704 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 648 917 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 648 917 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | 57.9% | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | 57.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | 29 | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | 4 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | 12 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | 2 | No data |
| | % Population growth | | | 0.59% | 0.60% | 0.75% | 0.59% | -6.69% | |
| | % Water demand growth | | | | | | | #DIV/0! | |
| | Source of information | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC26 | | | | | | | | Yes |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 848 239 | 855 892 | 860 973 | 867 403 | 872 563 | 825 250 | 0 |
| | Households | | 160 452 | 161 894 | 162 781 | 164 064 | 164 969 | 152 177 | 0 |
| | Connections - metered | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Length of mains (km) | | 0 | 0 | 0 | 0 | 0 | 630 | 0 |
| | System input volume | kl/annum | 7 729 910 | 8 687 860 | 10 686 100 | 0 | 8 558 710 | 22 109 144 | 0 |
| | Billed metered consumption | kl/annum | 2 539 932 | 3 829 351 | 3 172 449 | 0 | 2 411 808 | 5 086 759 | 0 |
| | Billed unmetered consumption | kl/annum | 70 800 | 225 960 | 262 505 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 2 610 732 | 4 055 311 | 3 434 954 | 0 | 2 411 808 | 5 086 759 | 0 |
| | Non-Revenue water | kl/annum | 5 119 178 | 4 632 549 | 7 251 146 | 0 | 6 146 902 | 17 022 385 | 0 |
| | Water Losses | kl/annum | 5 119 178 | 4 632 549 | 7 251 146 | 0 | 6 146 902 | 17 022 385 | 0 |
| | % Non-revenue water | | 66.2% | 53.3% | 67.9% | No data | 71.8% | 77.0% | No data |
| | % Water Losses | | 66.2% | 53.3% | 67.9% | No data | 71.8% | 77.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 25 | 28 | 34 | No data | 27 | 73 | No data |
| | Input: m³ / household / month | | 4 | 4 | 5 | No data | 4 | 12 | No data |
| | Billed : Litres / capita / day | | 8 | 13 | 11 | No data | 8 | 17 | No data |
| | Billed : m³ / household / month | | 1 | 2 | 2 | No data | 1 | 3 | No data |
| | % Population growth | | | 0.90% | 0.59% | 0.75% | 0.59% | -5.42% | |
| | % Water demand growth | | | 12.39% | 23.00% | | #DIV/0! | 158.32% | |
| Source of information | | | | | | | | | |




Comments

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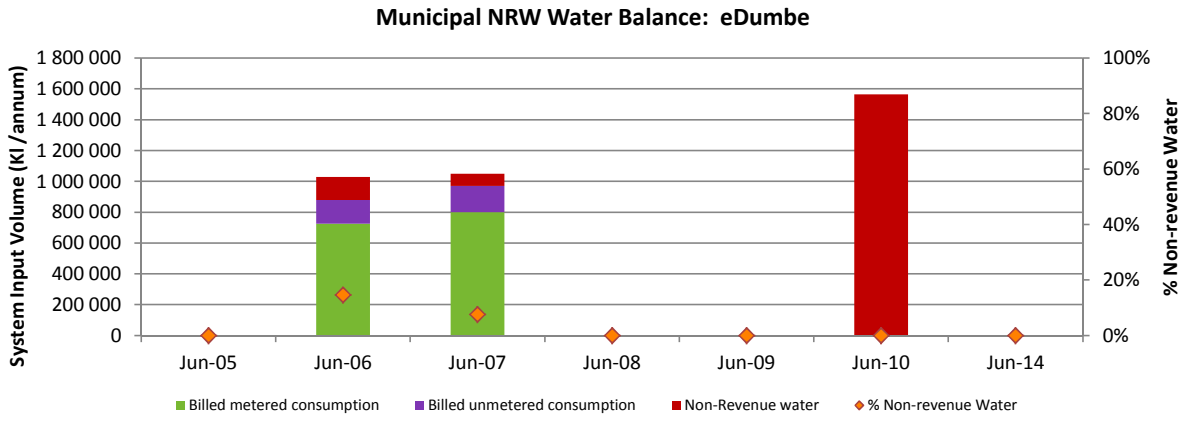
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN261 | | | | | | | | No |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | eDumbe | | | | | | | | B3 |
| Settlements | PAULPIETERSBURG | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 88 986 | 89 789 | 90 325 | 91 005 | 91 548 | 88 744 | |
| | Households | | 17 153 | 17 315 | 17 413 | 17 548 | 17 647 | 13 122 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 73 | |
| | System input volume | kl/annum | | 1 028 750 | 1 050 000 | | | 1 565 581 | |
| | Billed metered consumption | kl/annum | | 725 246 | 800 000 | | | | |
| | Billed unmetered consumption | kl/annum | | 153 504 | 170 496 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 878 750 | 970 496 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 150 000 | 79 504 | 0 | 0 | 1 565 581 | 0 |
| | Water Losses | kl/annum | 0 | 150 000 | 79 504 | 0 | 0 | 1 565 581 | 0 |
| | % Non-revenue water | | No data | 14.6% | 7.6% | No data | No data | No data | No data |
| | % Water Losses | | No data | 14.6% | 7.6% | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 31 | 32 | No data | No data | 48 | No data |
| | Input: m³ / household / month | | No data | 5 | 5 | No data | No data | 10 | No data |
| | Billed : Litres / capita / day | | No data | 27 | 29 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 4 | 5 | No data | No data | No data | No data |
| | % Population growth | | | 0.90% | 0.60% | 0.75% | 0.60% | -3.06% | |
| | % Water demand growth | | | #DIV/0! | 2.07% | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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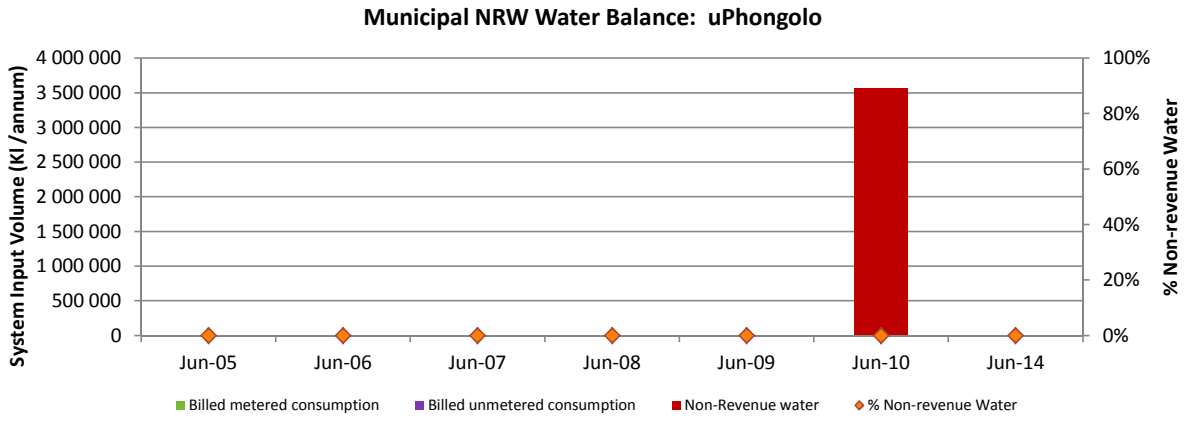
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN262 | | | | | | | | No |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | uPhongolo | | | | | | | | B4 |
| Settlements | Phongola,Belgrade | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 130 102 | 131 263 | 132 047 | 133 030 | 133 821 | 125 643 | |
| | Households | | 28 282 | 28 531 | 28 692 | 28 918 | 29 085 | 27 312 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 134 | |
| | System input volume | kl/annum | | | | | | 3 561 798 | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 3 561 798 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 3 561 798 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | 78 | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | 11 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.89% | 0.60% | 0.74% | 0.59% | -6.11% | |
| | % Water demand growth | | | | | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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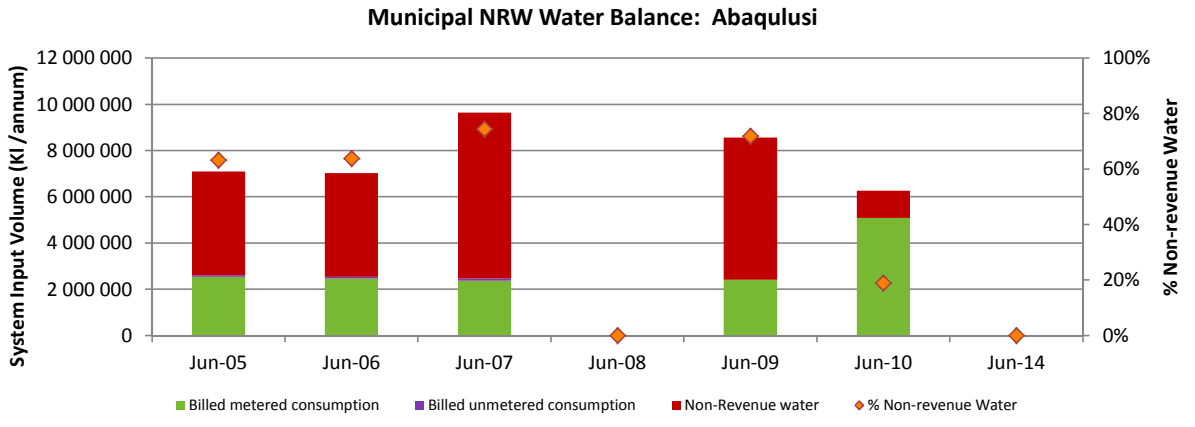
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN263 | | | | | | | | No |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | Abaqulusi | | | | | | | | B3 |
| Settlements | MONDLO, VRYHEID | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 207 170 | 209 054 | 210 296 | 211 886 | 213 148 | 206 585 | |
| | Households | | 40 861 | 41 234 | 41 477 | 41 788 | 42 034 | 40 751 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 177 | |
| | System input volume | kl/annum | 7 093 281 | 7 022 481 | 9 636 100 | | 8 558 710 | 6 268 776 | |
| | Billed metered consumption | kl/annum | 2 539 932 | 2 469 132 | 2 372 449 | | 2 411 808 | 5 086 759 | |
| | Billed unmetered consumption | kl/annum | 70 800 | 70 800 | 92 009 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 610 732 | 2 539 932 | 2 464 458 | 0 | 2 411 808 | 5 086 759 | 0 |
| | Non-Revenue water | kl/annum | 4 482 549 | 4 482 549 | 7 171 642 | 0 | 6 146 902 | 1 182 017 | 0 |
| | Water Losses | kl/annum | 4 482 549 | 4 482 549 | 7 171 642 | 0 | 6 146 902 | 1 182 017 | 0 |
| | % Non-revenue water | | 63.2% | 63.8% | 74.4% | No data | 71.8% | 18.9% | No data |
| | % Water Losses | | 63.2% | 63.8% | 74.4% | No data | 71.8% | 18.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 94 | 92 | 126 | No data | 110 | 83 | No data |
| | Input: m³ / household / month | | 14 | 14 | 19 | No data | 17 | 13 | No data |
| | Billed : Litres / capita / day | | 35 | 33 | 32 | No data | 31 | 67 | No data |
| | Billed : m³ / household / month | | 5 | 5 | 5 | No data | 5 | 10 | No data |
| | % Population growth | | | 0.91% | 0.59% | 0.76% | 0.60% | -3.08% | |
| | % Water demand growth | | | -1.00% | 37.22% | | #DIV/0! | -26.76% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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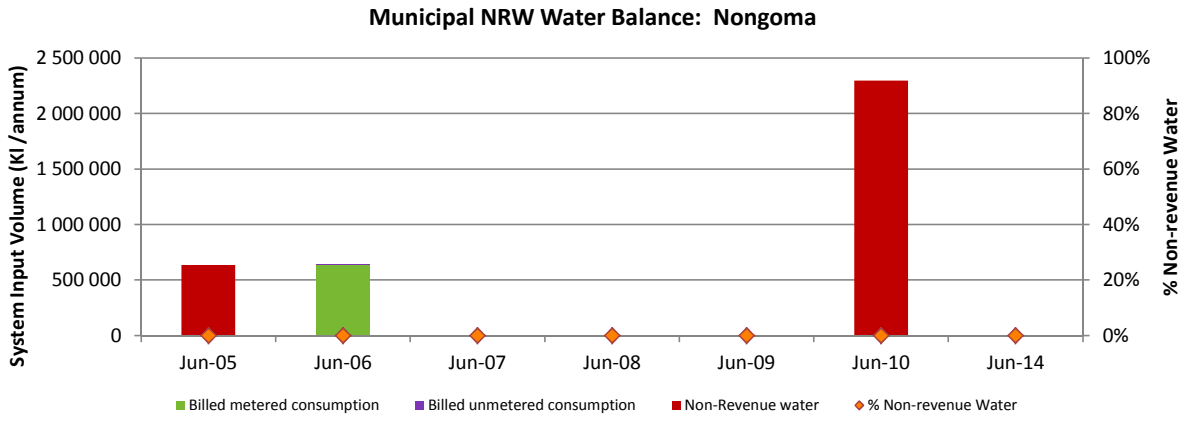
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN265 | | | | | | | | No |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | Nongoma | | | | | | | | B4 |
| Settlements | Nongoma | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 215 026 | 216 972 | 218 257 | 219 878 | 221 178 | 205 243 | |
| | Households | | 35 899 | 36 239 | 36 424 | 36 701 | 36 888 | 34 228 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 68 | |
| | System input volume | kl/annum | 636 629 | 636 629 | 0 | | | 2 297 335 | |
| | Billed metered consumption | kl/annum | 0 | 634 973 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 1 656 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 636 629 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 636 629 | 0 | 0 | 0 | 0 | 2 297 335 | 0 |
| | Water Losses | kl/annum | 636 629 | 0 | 0 | 0 | 0 | 2 297 335 | 0 |
| | % Non-revenue water | | No data | Check data | No data | No data | No data | No data | No data |
| | % Water Losses | | 100.0% | No data | No data | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 8 | 8 | No data | No data | No data | 31 | No data |
| | Input: m³ / household / month | | 1 | 1 | No data | No data | No data | 6 | No data |
| | Billed : Litres / capita / day | | No data | 8 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 1 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.91% | 0.59% | 0.74% | 0.59% | -7.20% | |
| | % Water demand growth | | | 0.00% | | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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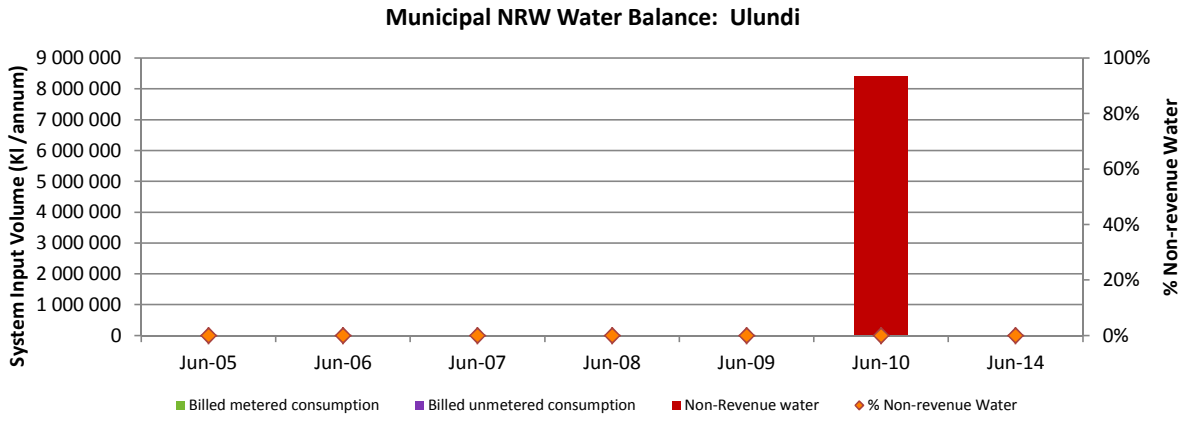
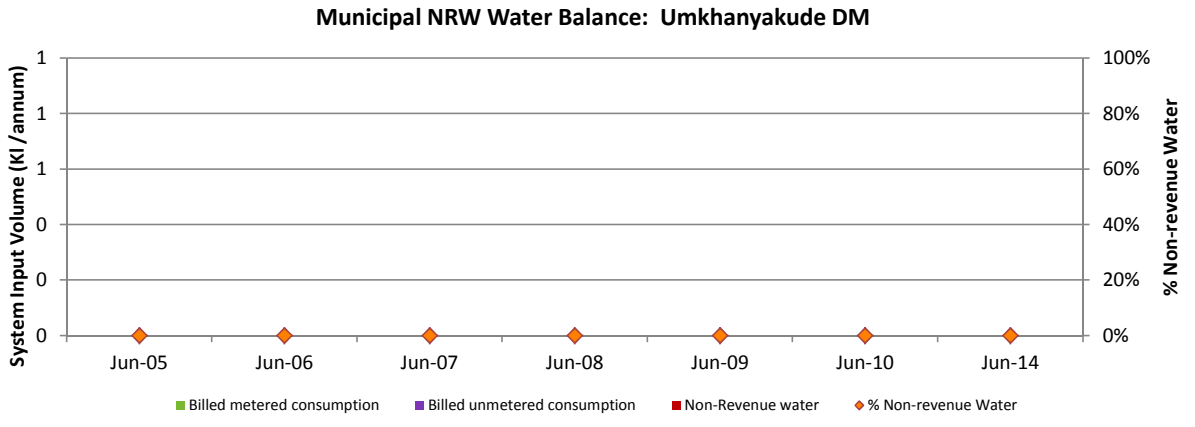
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN266 | | | | | | | | No |
| District Municipality | Zululand | | | | | | | | Category |
| Municipality | Ulundi | | | | | | | | B4 |
| Settlements | Ulundi | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 206 955 | 208 814 | 210 048 | 211 604 | 212 868 | 199 035 | |
| | Households | | 38 257 | 38 575 | 38 775 | 39 109 | 39 315 | 36 764 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 179 | |
| | System input volume | kl/annum | | | | | | 8 415 655 | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 8 415 655 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 8 415 655 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | 116 | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | 19 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.90% | 0.59% | 0.74% | 0.60% | -6.50% | |
| | % Water demand growth | | | | | | | #DIV/0! | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



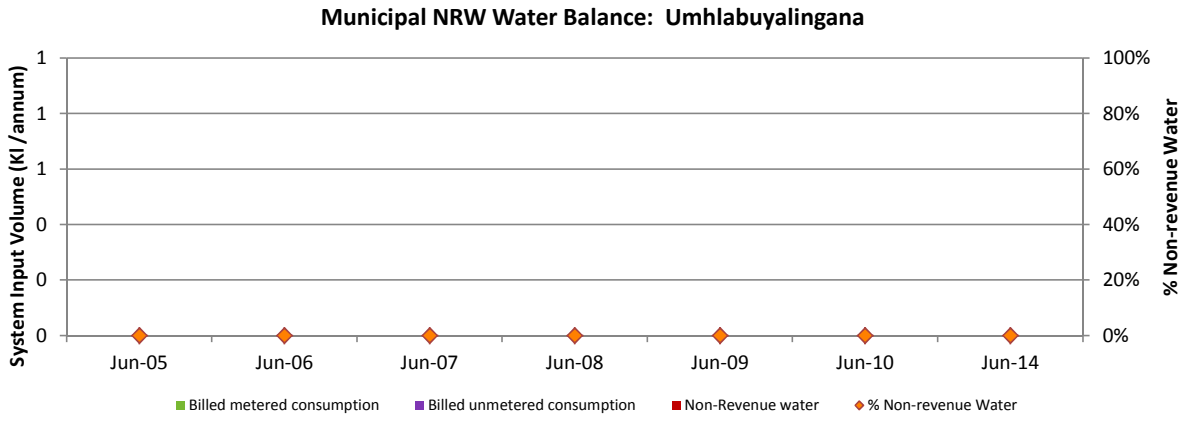

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC27 | | | | | | | | Yes |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 609 051 | 616 510 | 620 151 | 624 717 | 628 419 | 583 909 | 0 |
| | Households | | 112 599 | 113 995 | 114 550 | 115 481 | 116 039 | 107 876 | 0 |
| | Connections - metered | | 33 572 | 33 984 | 34 185 | 34 438 | 34 643 | 32 401 | 0 |
| | Connections - Unmetered | | 37 097 | 37 558 | 37 736 | 38 046 | 38 225 | 35 455 | 0 |
| | Length of mains (km) | | 1 413 | 1 431 | 1 438 | 1 450 | 1 457 | 1 357 | 0 |
| | System input volume | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Billed metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.22% | 0.59% | 0.74% | 0.59% | -7.08% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | | | | | | | |



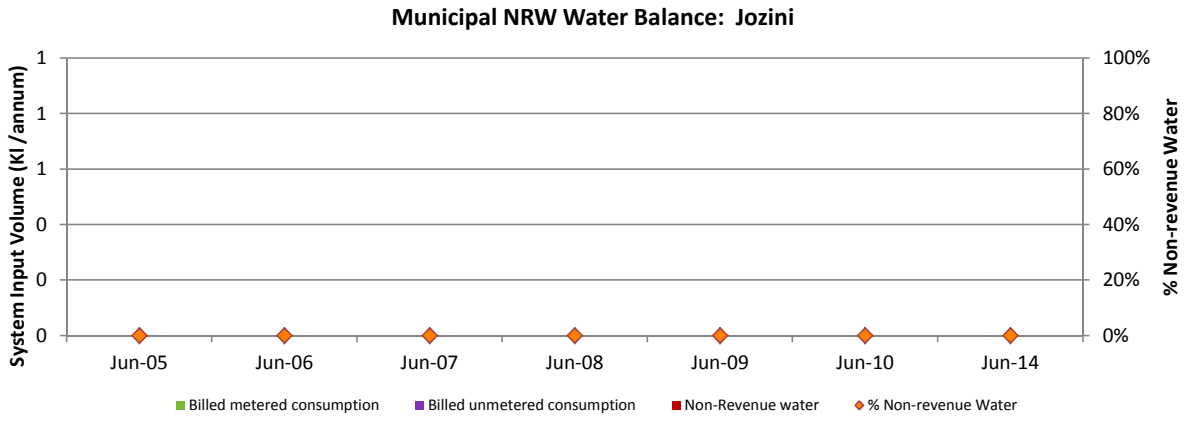

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN271 | | | | | | | | No |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | Umhlabuyalingana | | | | | | | | B4 |
| Settlements | Emangusi | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 152 677 | 154 550 | 155 449 | 156 561 | 157 467 | 145 974 | |
| | Households | | 29 471 | 29 844 | 29 988 | 30 222 | 30 367 | 28 137 | |
| | Connections - metered | | ~~8 393~~ | ~~8 496~~ | ~~8 546~~ | 8 607 | ~~8 657~~ | ~~8 025~~ | |
| | Connections - Unmetered | | ~~4 707~~ | ~~4 767~~ | ~~4 790~~ | 4 827 | ~~4 850~~ | ~~4 494~~ | |
| | Length of mains (km) | | ~~262~~ | ~~265~~ | ~~267~~ | ~~269~~ | ~~270~~ | ~~250~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.23% | 0.58% | 0.72% | 0.58% | -7.30% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



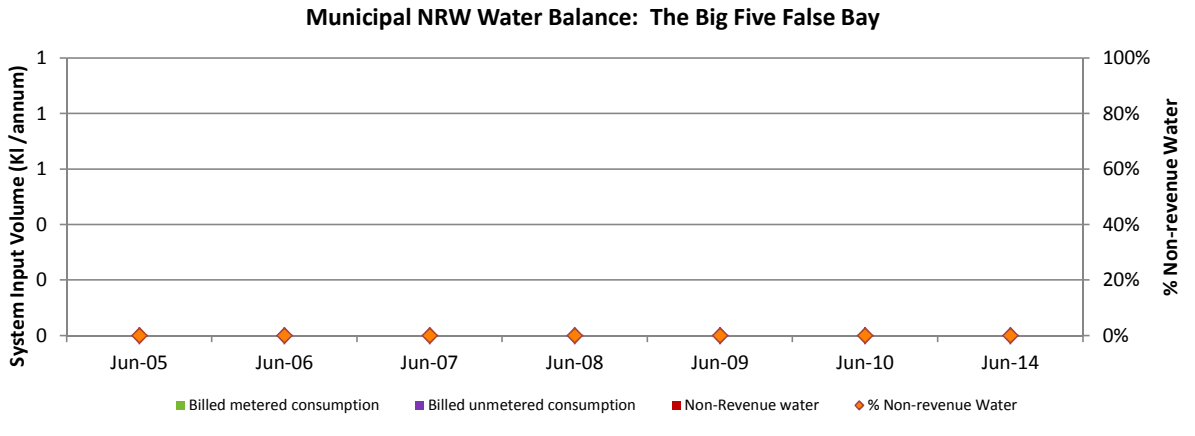

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN272 | | | | | | | | No |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | Jozini | | | | | | | | B4 |
| Settlements | Mkuze | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 197 882 | 200 307 | 201 491 | 202 984 | 204 185 | 189 302 | |
| | Households | | 37 844 | 38 297 | 38 481 | 38 807 | 38 991 | 36 167 | |
| | Connections - metered | | ~~7 900~~ | ~~7 997~~ | ~~8 044~~ | 8 104 | ~~8 152~~ | ~~7 558~~ | |
| | Connections - Unmetered | | ~~16 551~~ | ~~16 749~~ | ~~16 829~~ | 16 972 | ~~17 052~~ | ~~15 817~~ | |
| | Length of mains (km) | | ~~489~~ | ~~495~~ | ~~497~~ | ~~502~~ | ~~504~~ | ~~468~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.23% | 0.59% | 0.74% | 0.59% | -7.29% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



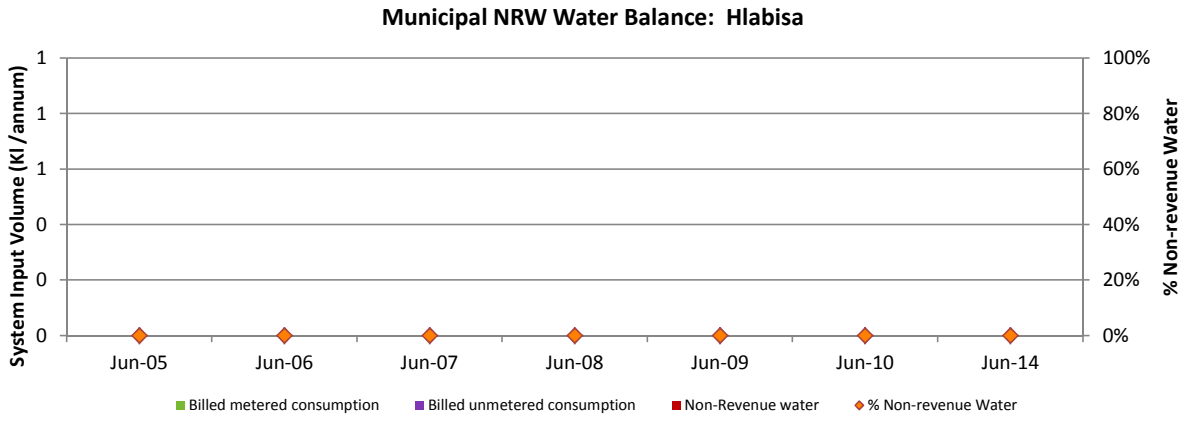

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | No |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | The Big Five False Bay | | | | | | | | B3 |
| Settlements | Hluhluwe | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 33 725 | 34 136 | 34 341 | 34 598 | 34 808 | 32 265 | |
| | Households | | 7 010 | 7 092 | 7 131 | 7 191 | 7 230 | 6 702 | |
| | Connections - metered | | ~~5 923~~ | ~~5 995~~ | ~~6 031~~ | 6 076 | ~~6 113~~ | ~~5 666~~ | |
| | Connections - Unmetered | | ~~358~~ | ~~362~~ | ~~364~~ | 367 | ~~369~~ | ~~342~~ | |
| | Length of mains (km) | | ~~126~~ | ~~127~~ | ~~128~~ | ~~129~~ | ~~130~~ | ~~120~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.22% | 0.60% | 0.75% | 0.61% | -7.31% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



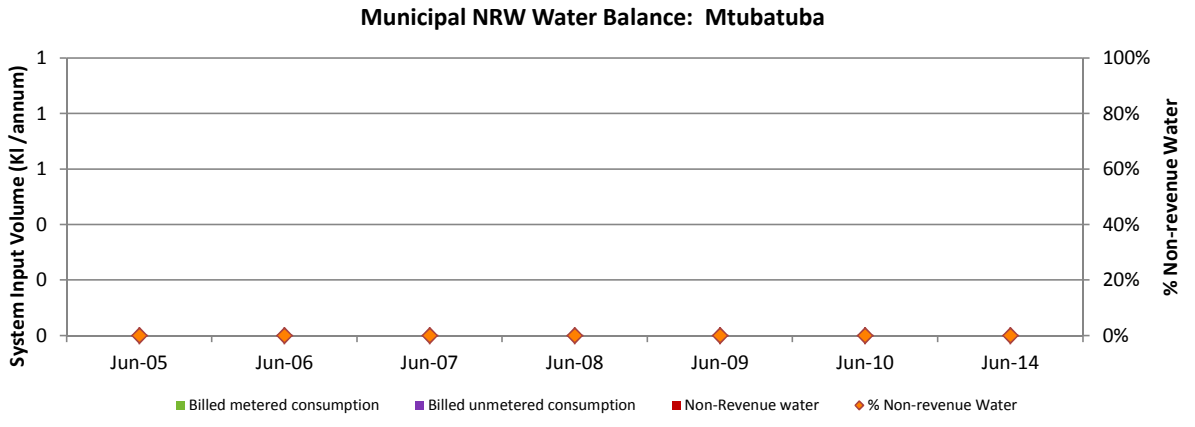

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | No |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | Hlabisa | | | | | | | | B4 |
| Settlements | Somkele | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 194 782 | 197 164 | 198 334 | 199 806 | 201 005 | 186 429 | |
| | Households | | 31 261 | 31 663 | 31 809 | 32 066 | 32 214 | 29 870 | |
| | Connections - metered | | ~~4 522~~ | ~~4 578~~ | ~~4 605~~ | 4 639 | ~~4 667~~ | ~~4 328~~ | |
| | Connections - Unmetered | | ~~15 261~~ | ~~15 457~~ | ~~15 529~~ | 15 654 | ~~15 726~~ | ~~14 582~~ | |
| | Length of mains (km) | | ~~396~~ | ~~401~~ | ~~403~~ | ~~406~~ | ~~408~~ | ~~378~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.22% | 0.59% | 0.74% | 0.60% | -7.25% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



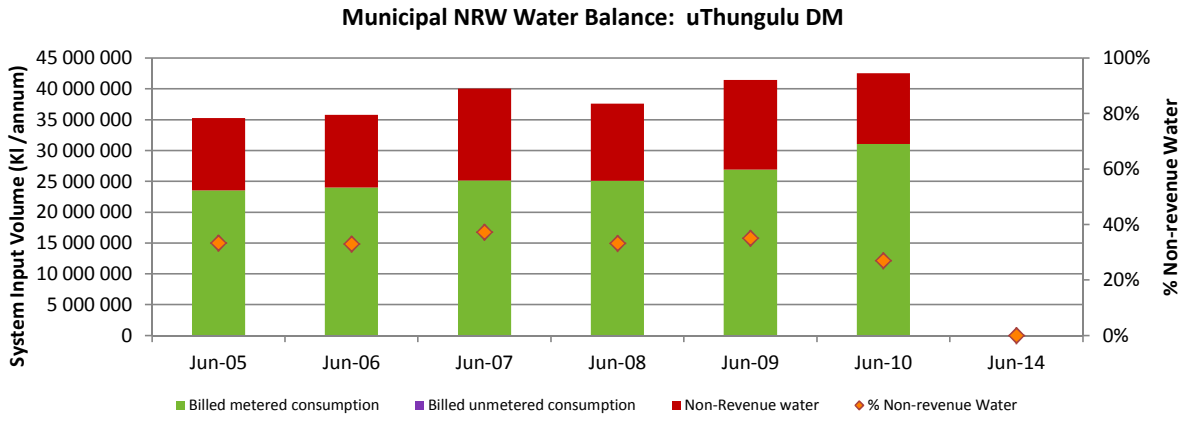

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | No |
| District Municipality | Umkhanyakude | | | | | | | | Category |
| Municipality | Mtubatuba | | | | | | | | B3 |
| Settlements | Mtubatuba | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 29 985 | 30 353 | 30 536 | 30 768 | 30 954 | 29 939 | |
| | Households | | 7 013 | 7 099 | 7 141 | 7 195 | 7 237 | 7 000 | |
| | Connections - metered | | 6 834 | 6 917 | 6 959 | 7 012 | 7 054 | 6 823 | |
| | Connections - Unmetered | | 220 | 223 | 224 | 226 | 227 | 220 | |
| | Length of mains (km) | | 141 | 143 | 144 | 145 | 146 | 141 | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.23% | 0.60% | 0.76% | 0.60% | -3.28% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



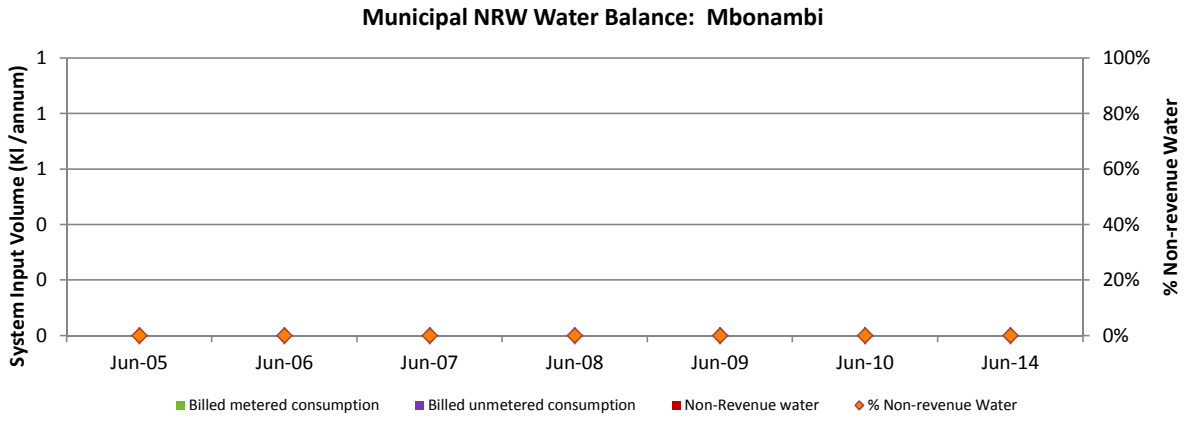

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC28 | | | | | | | | Yes |
| District Municipality | uThungulu | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 967 236 | 976 830 | 982 663 | 990 036 | 1 000 788 | 954 382 | 0 |
| | Households | | 197 272 | 199 183 | 200 242 | 201 931 | 203 003 | 193 538 | 0 |
| | Connections - metered | | 60 012 | 62 912 | 63 456 | 65 098 | 65 509 | 63 006 | 0 |
| | Connections - Unmetered | | 48 051 | 48 508 | 48 744 | 49 180 | 49 420 | 45 913 | 0 |
| | Length of mains (km) | | 1 895 | 1 912 | 1 921 | 1 936 | 1 968 | 1 839 | 0 |
| | System input volume | kl/annum | 35 285 136 | 35 786 323 | 40 035 518 | 37 618 269 | 41 463 656 | 42 557 901 | 0 |
| | Billed metered consumption | kl/annum | 23 518 762 | 23 993 374 | 25 129 778 | 25 119 463 | 26 918 445 | 31 059 590 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 23 518 762 | 23 993 374 | 25 129 778 | 25 119 463 | 26 918 445 | 31 059 590 | 0 |
| | Non-Revenue water | kl/annum | 11 766 374 | 11 792 949 | 14 905 740 | 12 498 806 | 14 545 211 | 11 498 311 | 0 |
| | Water Losses | kl/annum | 11 766 374 | 11 792 949 | 14 905 740 | 12 498 806 | 14 545 211 | 11 498 311 | 0 |
| | % Non-revenue water | | 33.3% | 33.0% | 37.2% | 33.2% | 35.1% | 27.0% | No data |
| | % Water Losses | | 33.3% | 33.0% | 37.2% | 33.2% | 35.1% | 27.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 100 | 100 | 112 | 104 | 114 | 122 | No data |
| | Input: m³ / household / month | | 15 | 15 | 17 | 16 | 17 | 18 | No data |
| | Billed : Litres / capita / day | | 67 | 67 | 70 | 70 | 74 | 89 | No data |
| | Billed : m³ / household / month | | 10 | 10 | 10 | 10 | 11 | 13 | No data |
| | % Population growth | | | 0.99% | 0.60% | 0.75% | 1.09% | -4.64% | |
| | % Water demand growth | | | 1.42% | 11.87% | -6.04% | 10.22% | 2.64% | |
| Source of information | | | | | | | | | |



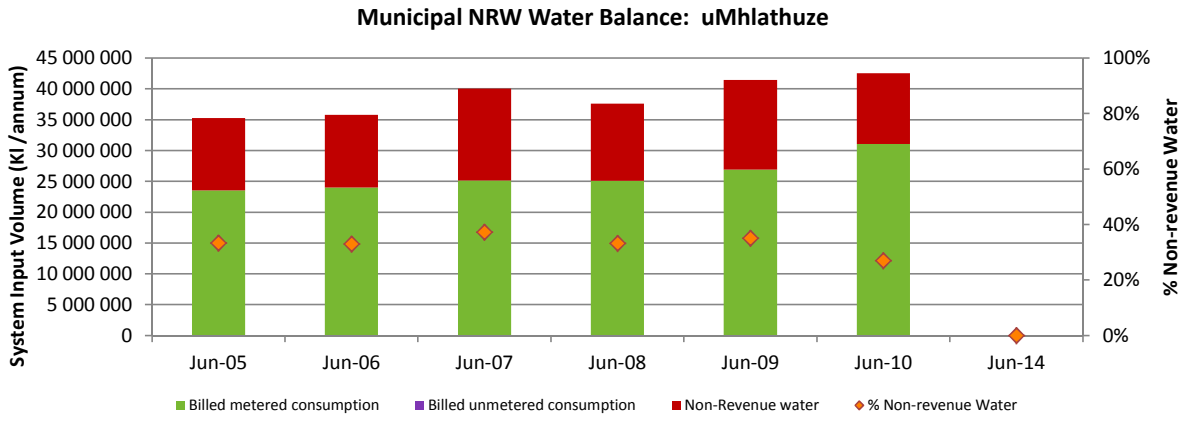

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN281 | | | | | | | | No |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | Mbonambi | | | | | | | | B4 |
| Settlements | KwaMbonambi | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 113 826 | 114 951 | 115 638 | 116 506 | 117 200 | 108 834 | |
| | Households | | 21 348 | 21 553 | 21 665 | 21 850 | 21 966 | 20 407 | |
| | Connections - metered | | ~~6 383~~ | ~~6 446~~ | ~~6 484~~ | 6 533 | ~~6 572~~ | ~~6 103~~ | |
| | Connections - Unmetered | | ~~11 870~~ | ~~11 984~~ | ~~12 046~~ | 12 149 | ~~12 213~~ | ~~11 347~~ | |
| | Length of mains (km) | | ~~365~~ | ~~369~~ | ~~371~~ | ~~374~~ | ~~376~~ | ~~349~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.99% | 0.60% | 0.75% | 0.60% | -7.14% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



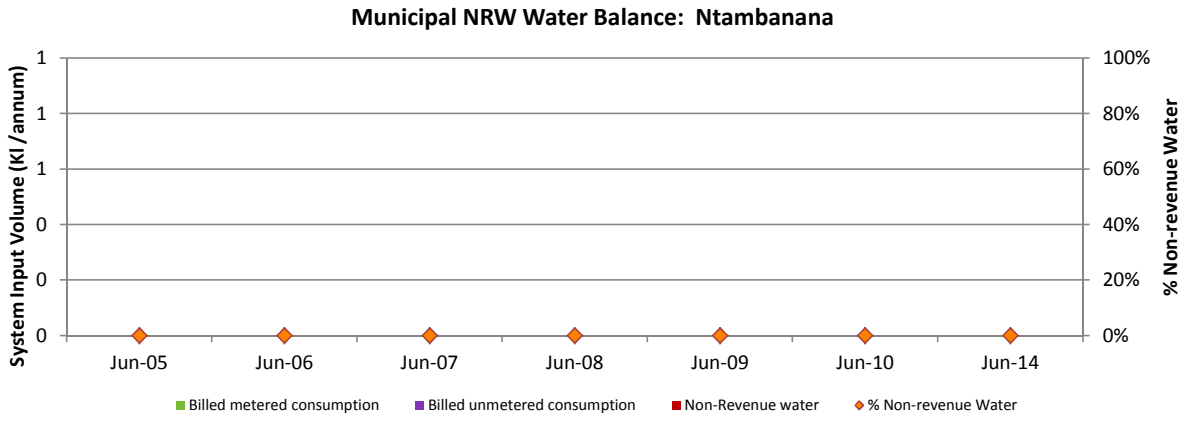

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | Yes |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | uMhlathuze | | | | | | | | B1 |
| Settlements | DONDOLO, EMPANGENI, RICHARDS BAY, ESIKHAWINI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 331 036 | 334 331 | 336 339 | 338 890 | 345 776 | 345 776 | |
| | Households | | 80 563 | 81 368 | 81 858 | 82 478 | 82 972 | 82 000 | |
| | Connections - metered | | 19 500 | 22 000 | 22 300 | 23 635 | 23 800 | 24 213 | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | 124 | 124 | 124 | 124 | 145 | 145 | |
| | System input volume | kl/annum | 35 285 136 | 35 786 323 | 40 035 518 | 37 618 269 | 41 463 656 | 42 557 901 | |
| | Billed metered consumption | kl/annum | 23 518 762 | 23 993 374 | 25 129 778 | 25 119 463 | 26 918 445 | 31 059 590 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 23 518 762 | 23 993 374 | 25 129 778 | 25 119 463 | 26 918 445 | 31 059 590 | 0 |
| | Non-Revenue water | kl/annum | 11 766 374 | 11 792 949 | 14 905 740 | 12 498 806 | 14 545 211 | 11 498 311 | 0 |
| | Water Losses | kl/annum | 11 766 374 | 11 792 949 | 14 905 740 | 12 498 806 | 14 545 211 | 11 498 311 | 0 |
| | % Non-revenue water | | 33.3% | 33.0% | 37.2% | 33.2% | 35.1% | 27.0% | No data |
| | % Water Losses | | 33.3% | 33.0% | 37.2% | 33.2% | 35.1% | 27.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 292 | 293 | 326 | 304 | 329 | 337 | No data |
| | Input: m³ / household / month | | 36 | 37 | 41 | 38 | 42 | 43 | No data |
| | Billed : Litres / capita / day | | 195 | 197 | 205 | 203 | 213 | 246 | No data |
| | Billed : m³ / household / month | | 24 | 25 | 26 | 25 | 27 | 32 | No data |
| | % Population growth | | | 1.00% | 0.60% | 0.76% | 2.03% | 0.00% | |
| | % Water demand growth | | | 1.42% | 11.87% | -6.04% | 10.22% | 2.64% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



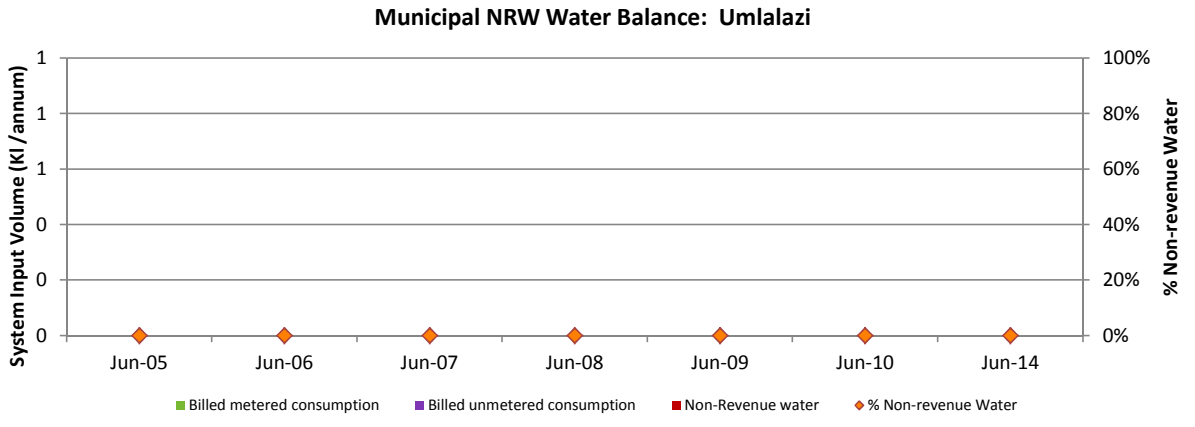

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN283 | | | | | | | | No |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | Ntambanana | | | | | | | | B4 |
| Settlements | Ntambanana | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 90 777 | 91 685 | 92 228 | 92 903 | 93 456 | 86 628 | |
| | Households | | 13 953 | 14 078 | 14 147 | 14 280 | 14 350 | 13 299 | |
| | Connections - metered | | ~~2 984~~ | ~~3 014~~ | ~~3 032~~ | 3 054 | ~~3 072~~ | ~~2 848~~ | |
| | Connections - Unmetered | | ~~4 965~~ | ~~5 009~~ | ~~5 034~~ | 5 081 | ~~5 106~~ | ~~4 732~~ | |
| | Length of mains (km) | | ~~159~~ | ~~160~~ | ~~161~~ | ~~163~~ | ~~164~~ | ~~152~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.00% | 0.59% | 0.73% | 0.60% | -7.31% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



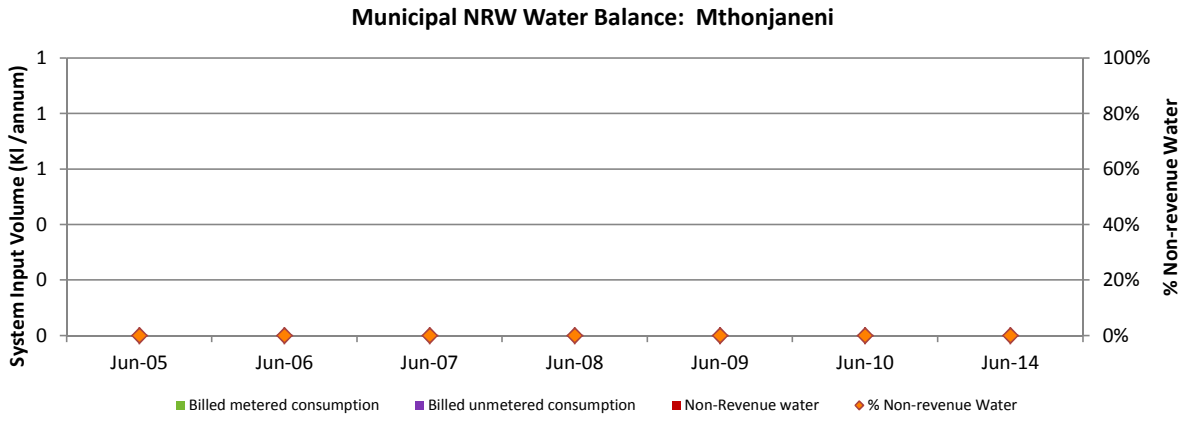

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN | | | | | | | | No |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | Umlalazi | | | | | | | | B4 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 235 548 | 237 893 | 239 313 | 241 109 | 242 544 | 225 598 | |
| | Households | | 43 032 | 43 448 | 43 667 | 44 034 | 44 255 | 41 158 | |
| | Connections - metered | | ~~14 120~~ | ~~14 260~~ | ~~14 345~~ | 14 453 | ~~14 539~~ | ~~13 523~~ | |
| | Connections - Unmetered | | ~~17 886~~ | ~~18 058~~ | ~~18 149~~ | 18 302 | ~~18 394~~ | ~~17 107~~ | |
| | Length of mains (km) | | ~~640~~ | ~~646~~ | ~~650~~ | ~~655~~ | ~~659~~ | ~~613~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.00% | 0.60% | 0.75% | 0.60% | -6.99% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



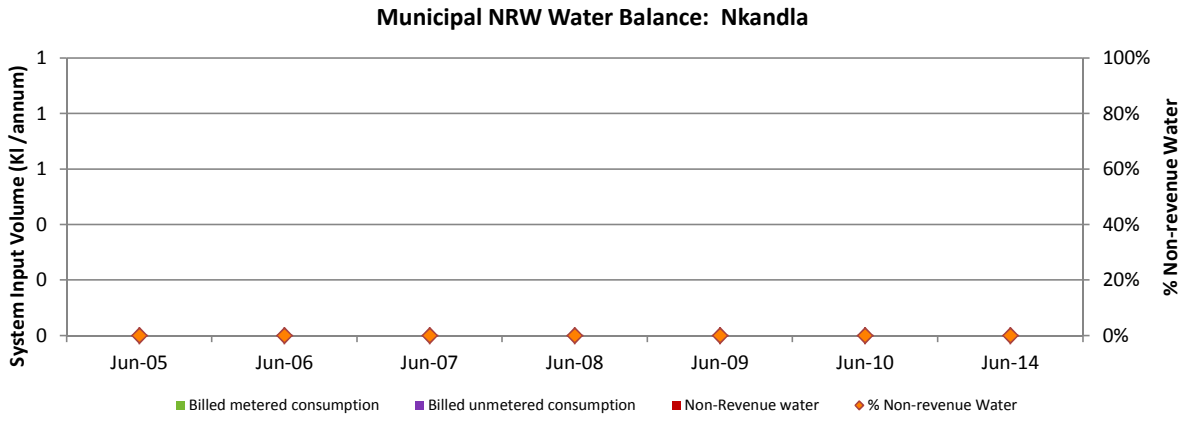

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN285 | | | | | | | | No |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | Mthonjaneni | | | | | | | | B3 |
| Settlements | Melmoth | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 53 748 | 54 274 | 54 593 | 55 001 | 55 323 | 51 778 | |
| | Households | | 11 294 | 11 397 | 11 453 | 11 564 | 11 620 | 10 875 | |
| | Connections - metered | | ~~8 097~~ | ~~8 176~~ | ~~8 225~~ | 8 286 | ~~8 335~~ | ~~7 800~~ | |
| | Connections - Unmetered | | ~~2 754~~ | ~~2 779~~ | ~~2 793~~ | 2 820 | ~~2 834~~ | ~~2 652~~ | |
| | Length of mains (km) | | ~~217~~ | ~~219~~ | ~~220~~ | ~~222~~ | ~~223~~ | ~~209~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.98% | 0.59% | 0.75% | 0.59% | -6.41% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



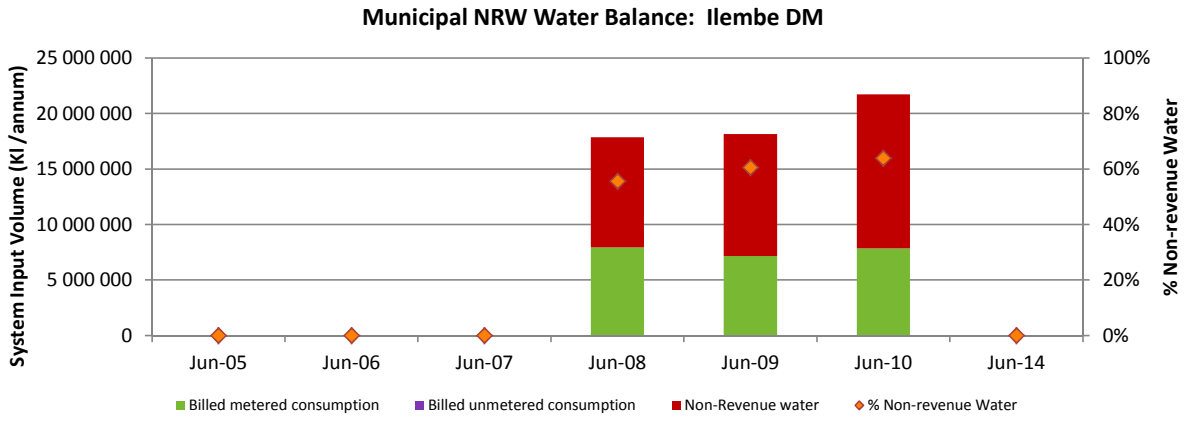

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN286 | | | | | | | | No |
| District Municipality | Uthungulu | | | | | | | | Category |
| Municipality | Nkandla | | | | | | | | B4 |
| Settlements | Nkandla | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 142 301 | 143 696 | 144 552 | 145 627 | 146 489 | 135 768 | |
| | Households | | 27 082 | 27 339 | 27 452 | 27 725 | 27 840 | 25 799 | |
| | Connections - metered | | ~~8 928~~ | ~~9 016~~ | ~~9 070~~ | 9 137 | ~~9 191~~ | ~~8 518~~ | |
| | Connections - Unmetered | | ~~10 577~~ | ~~10 677~~ | ~~10 721~~ | 10 828 | ~~10 873~~ | ~~10 076~~ | |
| | Length of mains (km) | | ~~390~~ | ~~394~~ | ~~396~~ | ~~399~~ | ~~401~~ | ~~372~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.98% | 0.60% | 0.74% | 0.59% | -7.32% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



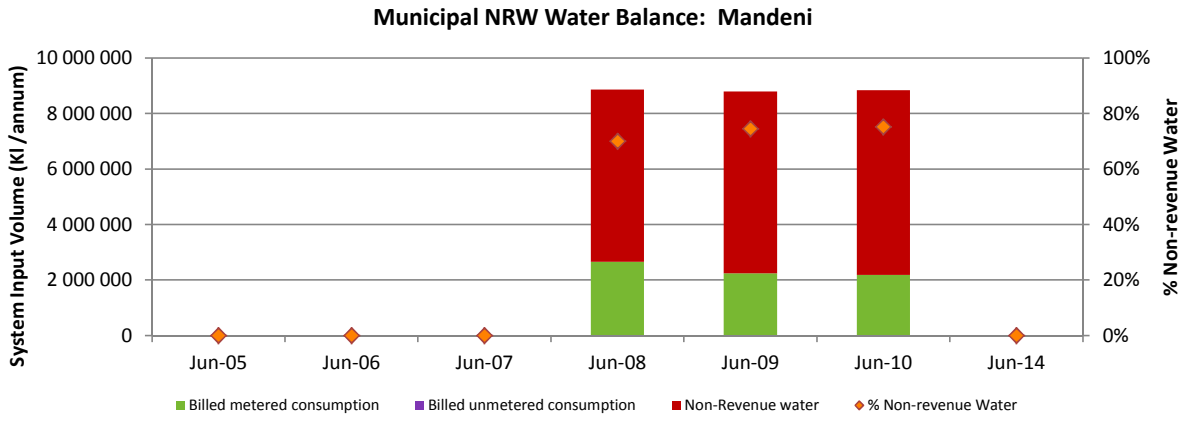

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC29 | | | | | | | | Yes |
| District Municipality | Ilembe | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 597 185 | 602 205 | 605 807 | 610 362 | 614 008 | 580 001 | 0 |
| | Households | | 134 603 | 135 723 | 136 503 | 137 575 | 138 366 | 131 221 | 0 |
| | Connections - metered | | 0 | 0 | 0 | 0 | 0 | 26 603 | 0 |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Length of mains (km) | | 0 | 0 | 0 | 0 | 0 | 2 205 | 0 |
| | System input volume | kl/annum | 0 | 0 | 0 | 17 872 290 | 18 164 823 | 21 720 087 | 0 |
| | Billed metered consumption | kl/annum | 0 | 0 | 0 | 7 928 393 | 7 160 421 | 7 851 916 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 7 928 393 | 7 160 421 | 7 851 916 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 9 943 897 | 11 004 402 | 13 868 171 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 9 943 897 | 11 004 402 | 13 868 171 | 0 |
| | % Non-revenue water | | No data | No data | No data | 55.6% | 60.6% | 63.8% | No data |
| | % Water Losses | | No data | No data | No data | 55.6% | 60.6% | 63.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | 80 | 81 | 103 | No data |
| | Input: m³ / household / month | | No data | No data | No data | 11 | 11 | 14 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | 36 | 32 | 37 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | 5 | 4 | 5 | No data |
| | % Population growth | | | 0.84% | 0.60% | 0.75% | 0.60% | -5.54% | |
| | % Water demand growth | | | | | #DIV/0! | 1.64% | 19.57% | |
| Source of information | | | | | | | | | |



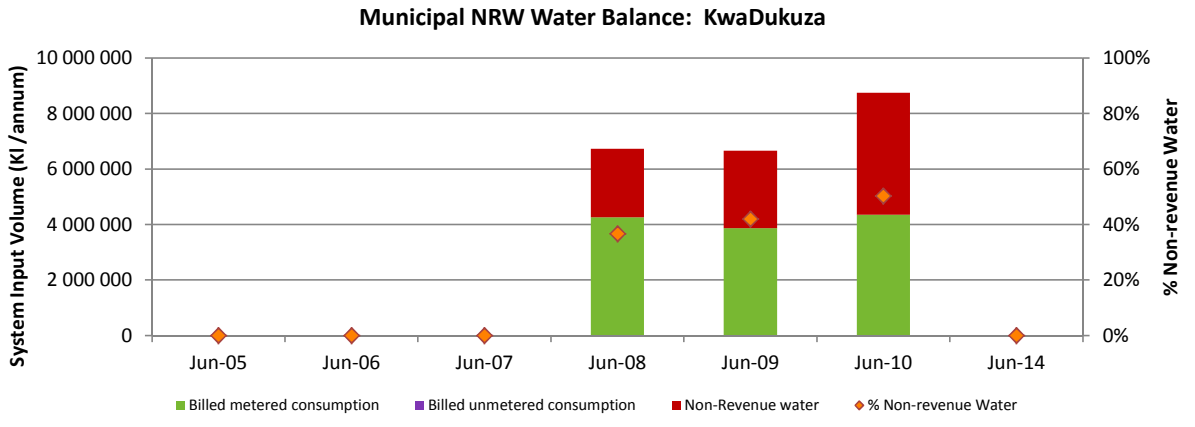

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN291 | | | | | | | | No |
| District Municipality | Ilembe | | | | | | | | Category |
| Municipality | Mandeni | | | | | | | | B4 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 137 129 | 138 287 | 139 117 | 140 163 | 141 001 | 131 671 | |
| | Households | | 32 352 | 32 623 | 32 811 | 33 064 | 33 254 | 31 053 | |
| | Connections - metered | | | | | | | 4 790 | |
| | Connections - Unmetered | | | | | | | 0 | |
| | Length of mains (km) | | | | | | | 361 | |
| | System input volume | kl/annum | | | | 8 861 373 | 8 797 110 | 8 846 940 | |
| | Billed metered consumption | kl/annum | | | | 2 656 399 | 2 238 415 | 2 189 113 | |
| | Billed unmetered consumption | kl/annum | | | | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 2 656 399 | 2 238 415 | 2 189 113 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 6 204 974 | 6 558 695 | 6 657 827 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 6 204 974 | 6 558 695 | 6 657 827 | 0 |
| | % Non-revenue water | | No data | No data | No data | 70.0% | 74.6% | 75.3% | No data |
| | % Water Losses | | No data | No data | No data | 70.0% | 74.6% | 75.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | 173 | 171 | 184 | No data |
| | Input: m³ / household / month | | No data | No data | No data | 22 | 22 | 24 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | 52 | 43 | 46 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | 7 | 6 | 6 | No data |
| | % Population growth | | | 0.84% | 0.60% | 0.75% | 0.60% | -6.62% | |
| | % Water demand growth | | | | | #DIV/0! | -0.73% | 0.57% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS NRW report | |



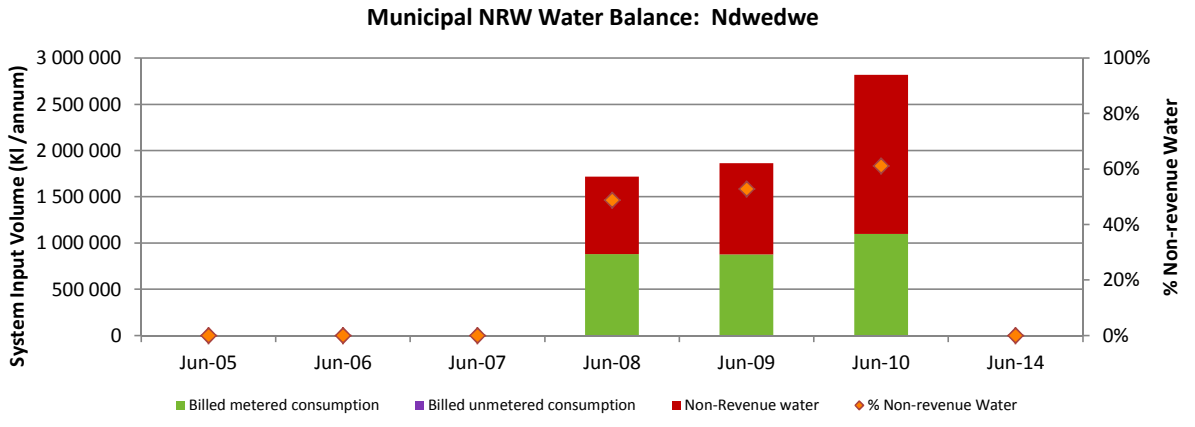

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN292 | | | | | | | | No |
| District Municipality | Ilembe | | | | | | | | Category |
| Municipality | KwaDukuza | | | | | | | | B2 |
| Settlements | LOWER TUGELA, STANGER | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 169 415 | 170 845 | 171 870 | 173 170 | 174 211 | 171 344 | |
| | Households | | 46 755 | 47 148 | 47 427 | 47 793 | 48 077 | 47 286 | |
| | Connections - metered | | | | | | | 14 316 | |
| | Connections - Unmetered | | | | | | 0 | 0 | |
| | Length of mains (km) | | | | | | | 417 | |
| | System input volume | kl/annum | | | | 6 728 643 | 6 663 211 | 8 750 568 | |
| | Billed metered consumption | kl/annum | | | | 4 263 583 | 3 866 301 | 4 349 094 | |
| | Billed unmetered consumption | kl/annum | | | | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 4 263 583 | 3 866 301 | 4 349 094 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 2 465 060 | 2 796 910 | 4 401 474 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 2 465 060 | 2 796 910 | 4 401 474 | 0 |
| | % Non-revenue water | | No data | No data | No data | 36.6% | 42.0% | 50.3% | No data |
| | % Water Losses | | No data | No data | No data | 36.6% | 42.0% | 50.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | 106 | 105 | 140 | No data |
| | Input: m³ / household / month | | No data | No data | No data | 12 | 12 | 15 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | 67 | 61 | 70 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | 7 | 7 | 8 | No data |
| | % Population growth | | | 0.84% | 0.60% | 0.76% | 0.60% | -1.65% | |
| | % Water demand growth | | | | | #DIV/0! | -0.97% | 31.33% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS NRW report | |



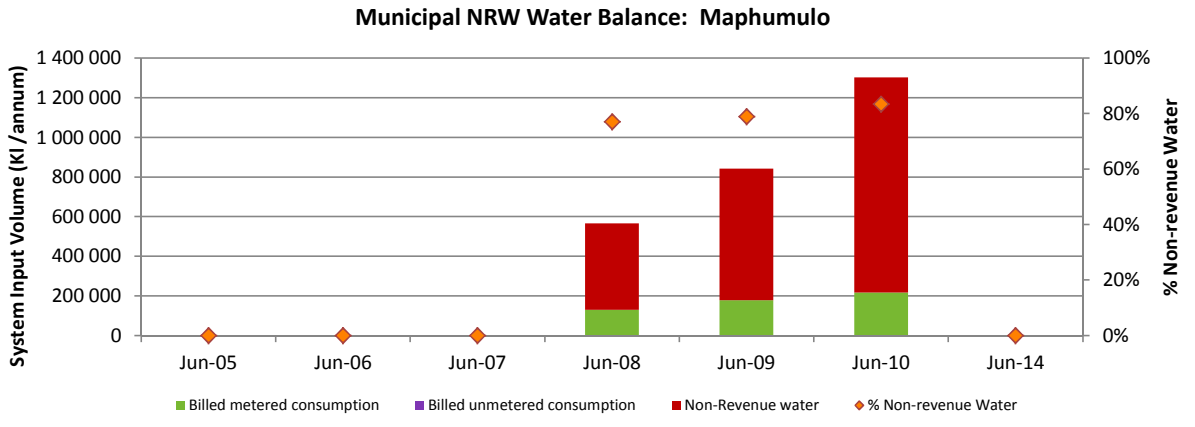

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN293 | | | | | | | | No |
| District Municipality | Ilembe | | | | | | | | Category |
| Municipality | Ndwedwe | | | | | | | | B4 |
| Settlements | Ndwedwe | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 162 031 | 163 389 | 164 364 | 165 593 | 166 579 | 154 409 | |
| | Households | | 30 746 | 31 000 | 31 177 | 31 419 | 31 599 | 29 299 | |
| | Connections - metered | | | | | | | 7 057 | |
| | Connections - Unmetered | | | | | | | 0 | |
| | Length of mains (km) | | | | | | | 1 144 | |
| | System input volume | kl/annum | | | | 1 716 501 | 1 862 265 | 2 820 534 | |
| | Billed metered consumption | kl/annum | | | | 878 849 | 877 993 | 1 097 508 | |
| | Billed unmetered consumption | kl/annum | | | | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 878 849 | 877 993 | 1 097 508 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 837 652 | 984 272 | 1 723 026 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 837 652 | 984 272 | 1 723 026 | 0 |
| | % Non-revenue water | | No data | No data | No data | 48.8% | 52.9% | 61.1% | No data |
| | % Water Losses | | No data | No data | No data | 48.8% | 52.9% | 61.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | 28 | 31 | 50 | No data |
| | Input: m³ / household / month | | No data | No data | No data | 5 | 5 | 8 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | 15 | 14 | 19 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | 2 | 2 | 3 | No data |
| | % Population growth | | | 0.84% | 0.60% | 0.75% | 0.60% | -7.31% | |
| | % Water demand growth | | | | | #DIV/0! | 8.49% | 51.46% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS NRW Report | |



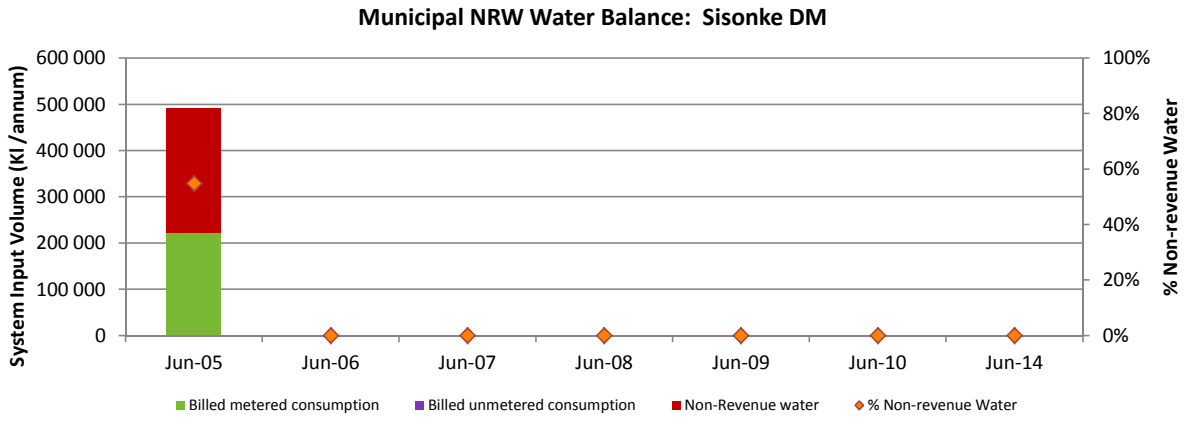

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN294 | | | | | | | | No |
| District Municipality | Ilembe | | | | | | | | Category |
| Municipality | Maphumulo | | | | | | | | B4 |
| Settlements | Maphumulo | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 128 610 | 129 684 | 130 456 | 131 436 | 132 217 | 122 577 | |
| | Households | | 24 750 | 24 952 | 25 088 | 25 299 | 25 436 | 23 583 | |
| | Connections - metered | | | | | | | 440 | |
| | Connections - Unmetered | | | | | | | 0 | |
| | Length of mains (km) | | | | | | | 283 | |
| | System input volume | kl/annum | | | | 565 773 | 842 237 | 1 302 045 | |
| | Billed metered consumption | kl/annum | | | | 129 562 | 177 712 | 216 201 | |
| | Billed unmetered consumption | kl/annum | | | | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 129 562 | 177 712 | 216 201 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 436 211 | 664 525 | 1 085 844 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 436 211 | 664 525 | 1 085 844 | 0 |
| | % Non-revenue water | | No data | No data | No data | 77.1% | 78.9% | 83.4% | No data |
| | % Water Losses | | No data | No data | No data | 77.1% | 78.9% | 83.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | 12 | 17 | 29 | No data |
| | Input: m³ / household / month | | No data | No data | No data | 2 | 3 | 5 | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | 3 | 4 | 5 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | 0 | 1 | 1 | No data |
| | % Population growth | | | 0.84% | 0.60% | 0.75% | 0.59% | -7.29% | |
| | % Water demand growth | | | | | #DIV/0! | 48.86% | 54.59% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS NRW report | |



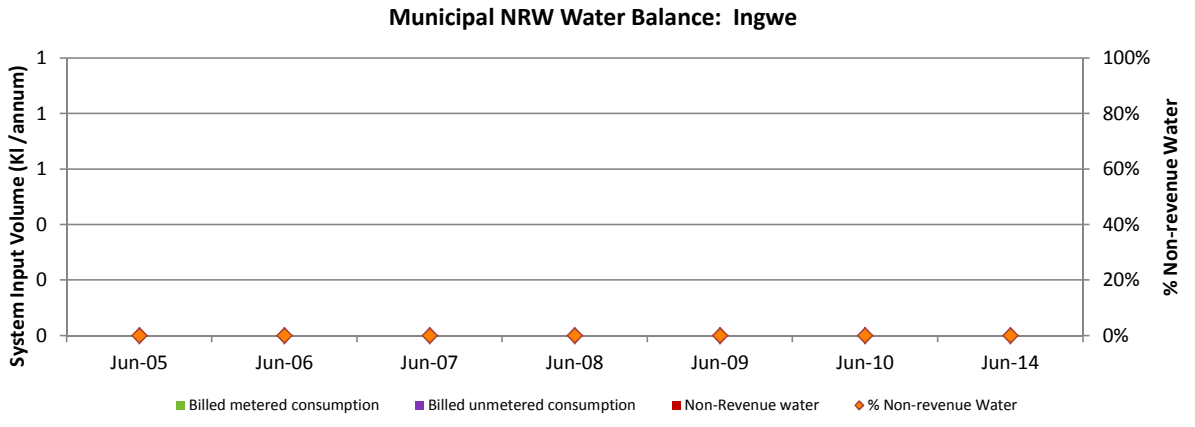

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | DC43 | | | | | | | | Yes |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 487 240 | 491 295 | 494 144 | 497 666 | 500 538 | 469 183 | 0 |
| | Households | | 115 845 | 116 863 | 117 454 | 118 324 | 118 922 | 112 041 | 0 |
| | Connections - metered | | 47 838 | 48 274 | 48 548 | 48 878 | 49 154 | 47 012 | 0 |
| | Connections - Unmetered | | 39 647 | 39 982 | 40 189 | 40 497 | 40 707 | 37 969 | 0 |
| | Length of mains (km) | | 1 750 | 1 765 | 1 775 | 1 788 | 1 797 | 1 700 | 0 |
| | System input volume | kl/annum | 490 937 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Billed metered consumption | kl/annum | 221 817 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 221 817 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 269 120 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 269 120 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 54.8% | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | 54.8% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 3 | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 0 | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 1 | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 0 | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.83% | 0.58% | 0.71% | 0.58% | -6.26% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | | | | | | | |



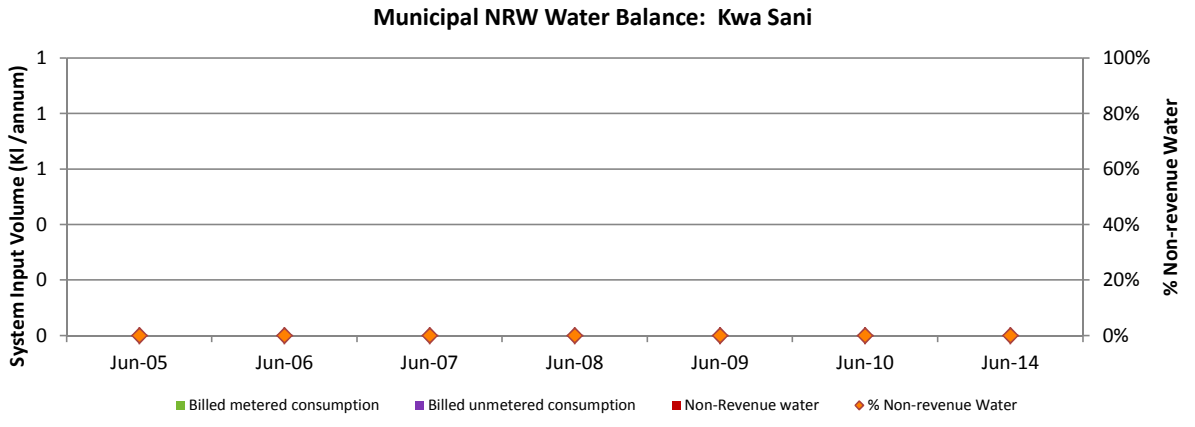

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN431 | | | | | | | | No |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | Ingwe | | | | | | | | B4 |
| Settlements | Creighton | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 119 096 | 120 317 | 121 011 | 121 874 | 122 572 | 113 676 | |
| | Households | | 24 791 | 25 031 | 25 161 | 25 355 | 25 487 | 23 645 | |
| | Connections - metered | | ~~8 200~~ | ~~8 284~~ | ~~8 332~~ | 8 391 | ~~8 439~~ | ~~7 827~~ | |
| | Connections - Unmetered | | ~~10 465~~ | ~~10 566~~ | ~~10 621~~ | 10 703 | ~~10 759~~ | ~~9 981~~ | |
| | Length of mains (km) | | ~~373~~ | ~~377~~ | ~~379~~ | ~~382~~ | ~~384~~ | ~~356~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.03% | 0.58% | 0.71% | 0.57% | -7.26% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



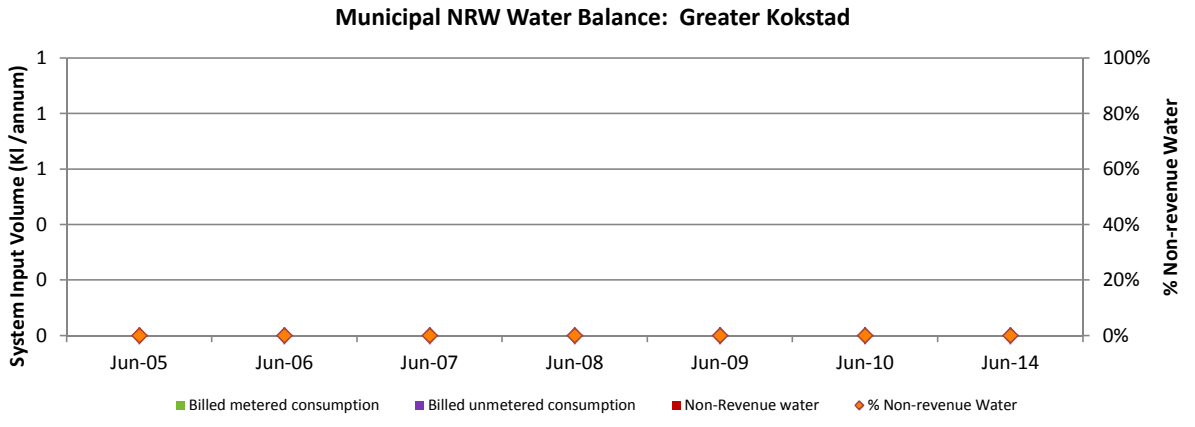

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN432 | | | | | | | | No |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | Kwa Sani | | | | | | | | B3 |
| Settlements | Underberg | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 16 914 | 17 067 | 17 153 | 17 249 | 17 336 | 16 200 | |
| | Households | | 5 139 | 5 190 | 5 215 | 5 241 | 5 266 | 4 937 | |
| | Connections - metered | | ~~3 890~~ | ~~3 925~~ | ~~3 945~~ | 3 967 | ~~3 987~~ | ~~3 726~~ | |
| | Connections - Unmetered | | ~~1 275~~ | ~~1 287~~ | ~~1 294~~ | 1 300 | ~~1 306~~ | ~~1 225~~ | |
| | Length of mains (km) | | ~~103~~ | ~~104~~ | ~~105~~ | ~~105~~ | ~~106~~ | ~~99~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.90% | 0.50% | 0.56% | 0.50% | -6.55% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



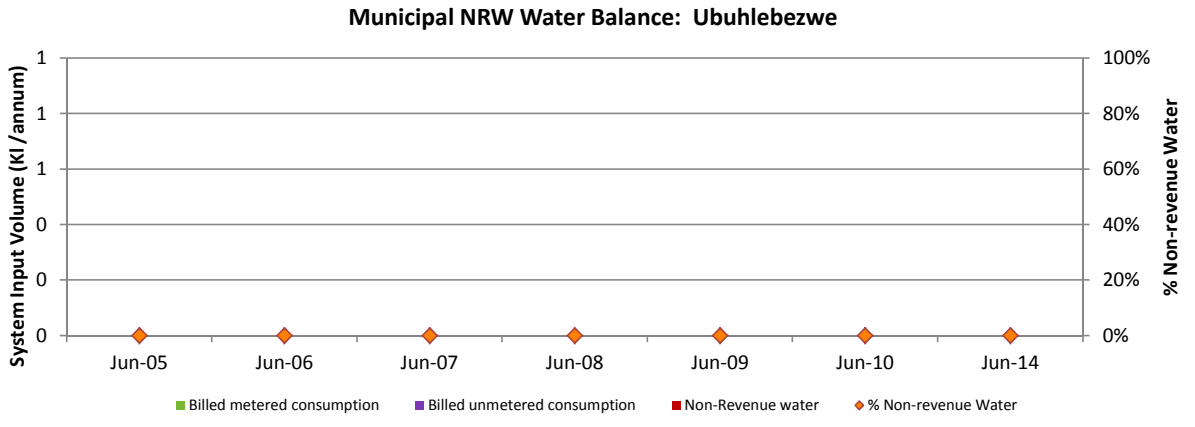

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN433 | | | | | | | | No |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | Greater Kokstad | | | | | | | | B2 |
| Settlements | KOKSTAD | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 62 300 | 62 920 | 63 273 | 63 685 | 64 041 | 63 436 | |
| | Households | | 22 665 | 22 945 | 23 045 | 23 190 | 23 291 | 23 121 | |
| | Connections - metered | | ~~20 879~~ | ~~21 087~~ | ~~21 205~~ | 21 343 | ~~21 462~~ | ~~21 260~~ | |
| | Connections - Unmetered | | ~~1 932~~ | ~~1 956~~ | ~~1 965~~ | 1 977 | ~~1 986~~ | ~~1 971~~ | |
| | Length of mains (km) | | ~~456~~ | ~~461~~ | ~~463~~ | ~~466~~ | ~~469~~ | ~~465~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.00% | 0.56% | 0.65% | 0.56% | -0.94% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



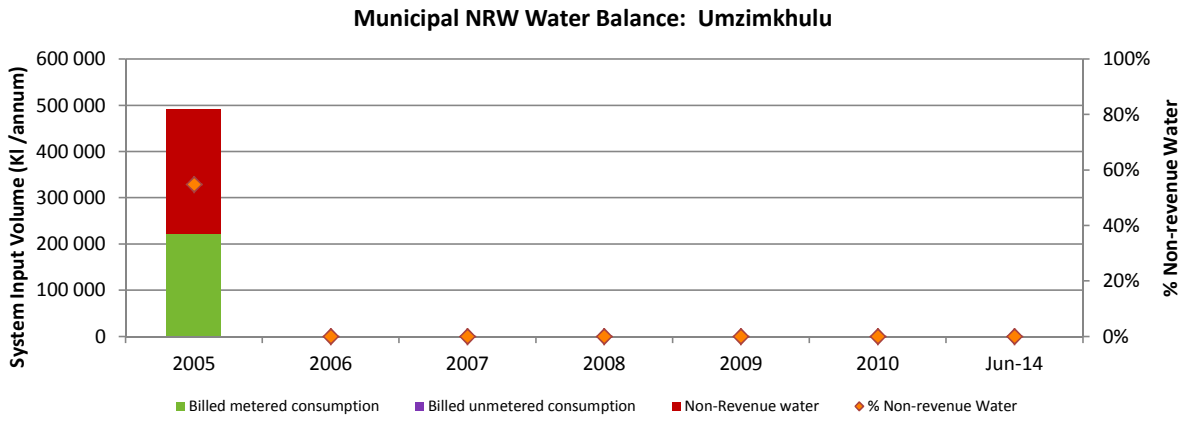

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN434 | | | | | | | | No |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | Ubuhlebezwe | | | | | | | | B4 |
| Settlements | IXOPO | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 112 603 | 113 743 | 114 397 | 115 204 | 115 868 | 107 839 | |
| | Households | | 24 813 | 25 070 | 25 198 | 25 395 | 25 526 | 23 749 | |
| | Connections - metered | | ~~6 297~~ | ~~6 360~~ | ~~6 397~~ | 6 442 | ~~6 479~~ | ~~6 030~~ | |
| | Connections - Unmetered | | ~~12 684~~ | ~~12 815~~ | ~~12 880~~ | 12 981 | ~~13 048~~ | ~~12 140~~ | |
| | Length of mains (km) | | ~~380~~ | ~~384~~ | ~~386~~ | ~~388~~ | ~~391~~ | ~~363~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 1.01% | 0.57% | 0.71% | 0.58% | -6.93% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | KwaZulu-Natal | | | | | | | | WSA |
| Municipal Code | KZN435 | | | | | | | | No |
| District Municipality | Sisonke | | | | | | | | Category |
| Municipality | Umzimkhulu | | | | | | | | B4 |
| Settlements | Umzimkulu | | | | | | | | Target |
| Year ending | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Jun-14 |
| Input Data | Population | | 176 327 | 177 248 | 178 310 | 179 654 | 180 721 | 168 032 | |
| | Households | | 38 437 | 38 627 | 38 835 | 39 143 | 39 352 | 36 589 | |
| | Connections - metered | | ~~8 573~~ | ~~8 618~~ | ~~8 670~~ | 8 735 | ~~8 787~~ | ~~8 170~~ | |
| | Connections - Unmetered | | ~~13 292~~ | ~~13 358~~ | ~~13 429~~ | 13 536 | ~~13 608~~ | ~~12 653~~ | |
| | Length of mains (km) | | ~~437~~ | ~~440~~ | ~~442~~ | ~~445~~ | ~~448~~ | ~~416~~ | |
| | System input volume | kl/annum | 490 937 | | | | | | |
| | Billed metered consumption | kl/annum | 221 817 | | | | | | |
| | Billed unmetered consumption | kl/annum | 0 | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 221 817 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 269 120 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 269 120 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 54.8% | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | 54.8% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 8 | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 1 | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 3 | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 0 | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.52% | 0.60% | 0.75% | 0.59% | -7.02% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

# National Non-Revenue Water Assessment

## Limpopo Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Intoductory notes

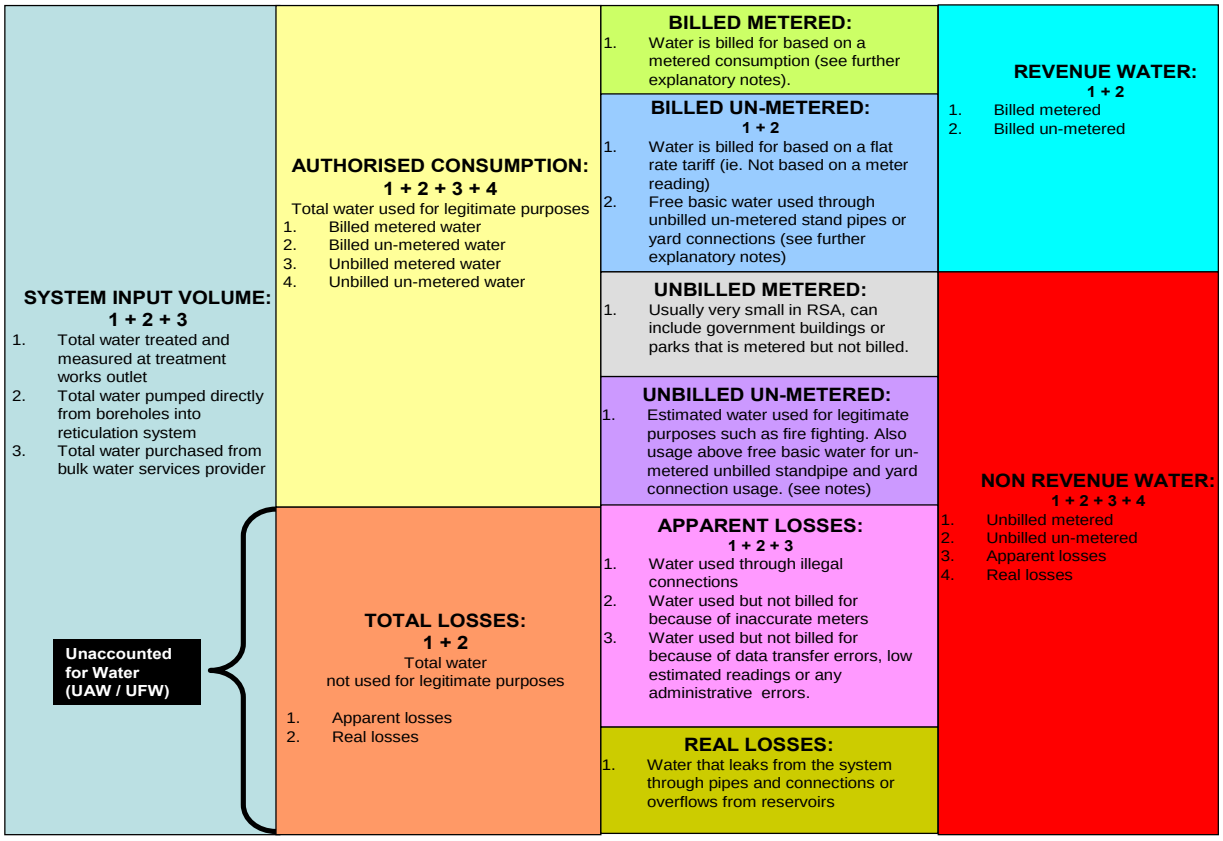
### Terminilogy

| Accronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Mesurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (prefered term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not prefered term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calcualted values unsing trends or averages | |

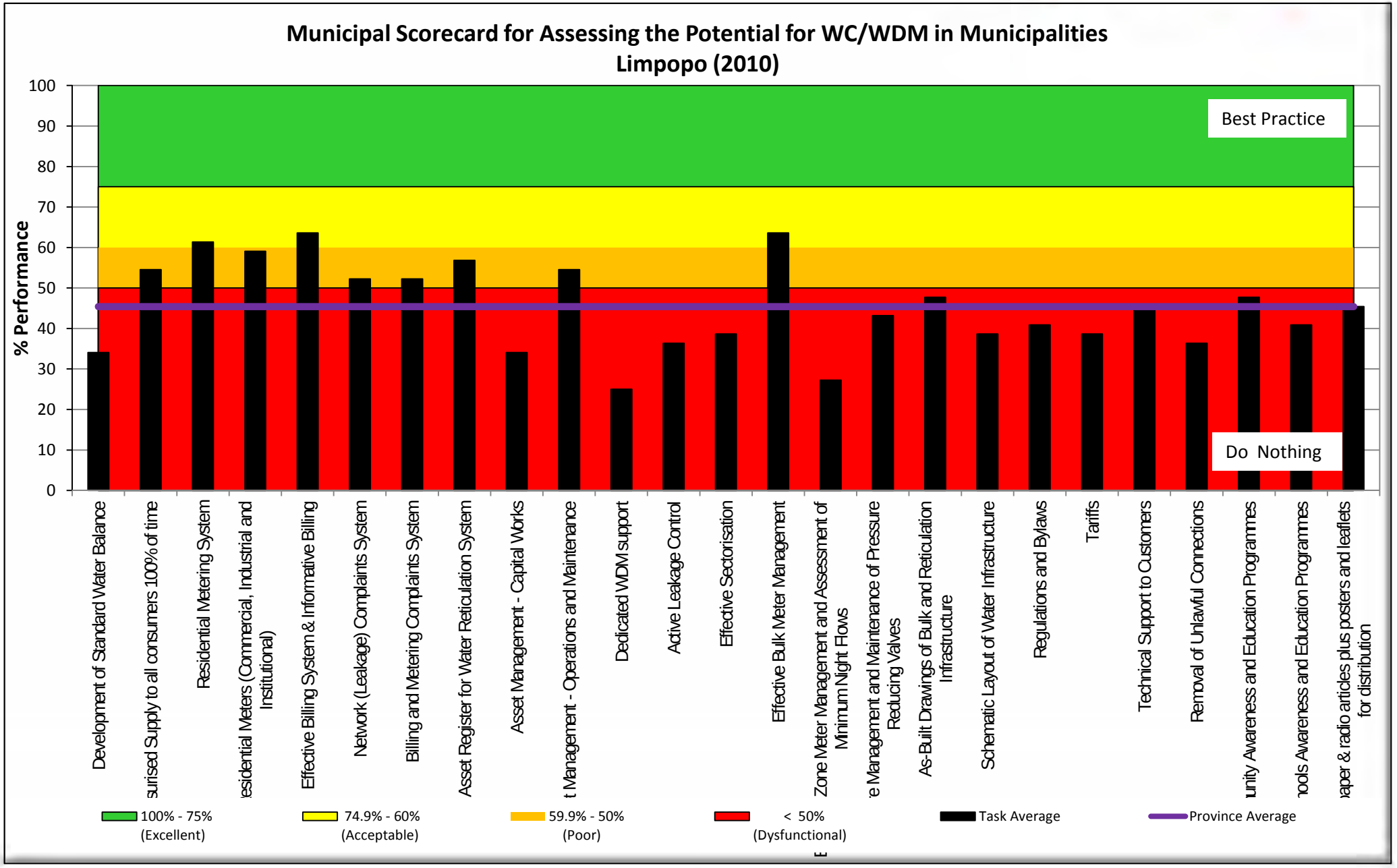
### Standard IWA Water Balance

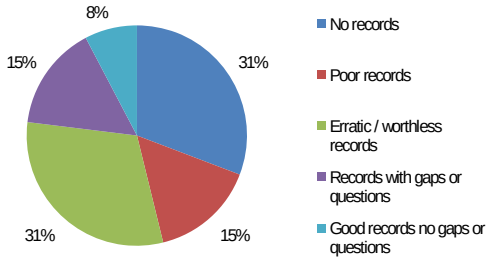
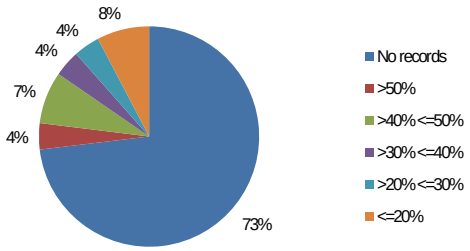
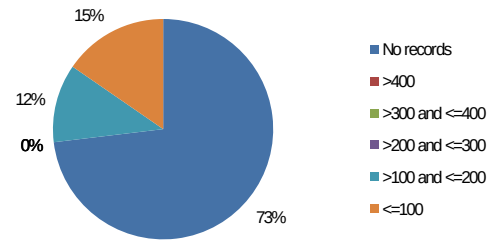
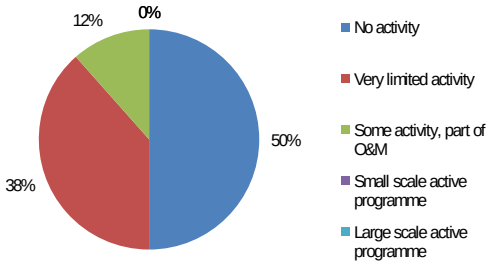
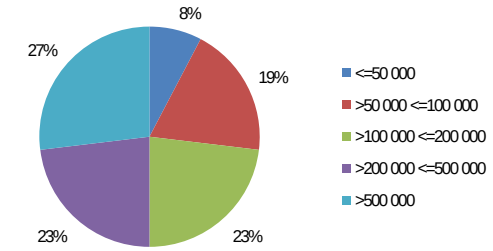


| Province | Limpopo |
|---|---|

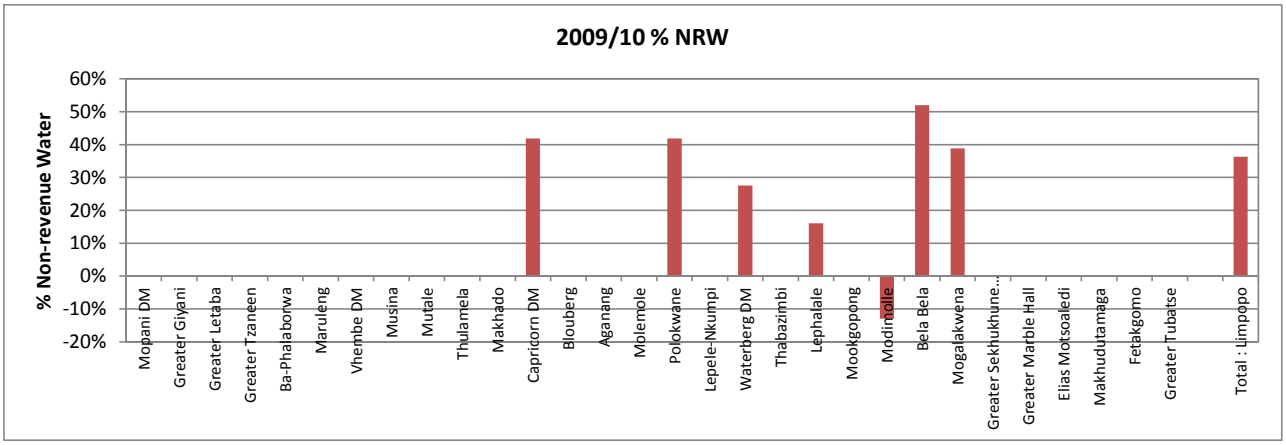
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | DC33 | Mopani | Mopani DM | C2 | Yes |
| 2 | LIM331 | Mopani | Greater Giyani | B4 | No |
| 3 | LIM332 | Mopani | Greater Letaba | B4 | No |
| 4 | LIM333 | Mopani | Greater Tzaneen | B4 | No |
| 5 | LIM334 | Mopani | Ba-Phalaborwa | B3 | No |
| 6 | LIM335 | Mopani | Maruleng | B4 | No |
| 7 | DC34 | Vhembe | Vhembe DM | C2 | Yes |
| 8 | LIM341 | Vhembe | Musina | B3 | No |
| 9 | LIM342 | Vhembe | Mutale | B4 | No |
| 10 | LIM343 | Vhembe | Thulamela | B4 | No |
| 11 | LIM344 | Vhembe | Makhado | B4 | No |
| 12 | DC35 | Capricorn | Capricorn DM | C2 | Yes |
| 13 | LIM351 | Capricorn | Blouberg | B4 | No |
| 14 | LIM352 | Capricorn | Aganang | B4 | No |
| 15 | LIM353 | Capricorn | Molemole | B4 | Yes |
| 16 | LIM354 | Capricorn | Polokwane | B1 | Yes |
| 17 | LIM355 | Capricorn | Lepele-Nkumpi | B4 | No |
| 18 | DC36 | Waterberg | Waterberg DM | C1 | No |
| 19 | LIM361 | Waterberg | Thabazimbi | B3 | Yes |
| 20 | LIM362 | Waterberg | Lephalale | B3 | Yes |
| 21 | LIM364 | Waterberg | Mookgopong | B3 | Yes |
| 22 | LIM365 | Waterberg | Modimolle | B3 | No |
| 23 | LIM366 | Waterberg | Bela-Bela | B3 | Yes |
| 24 | LIM367 | Waterberg | Mogalakwena | B2 | Yes |
| 25 | DC47 | Greater Sekhukhune | Greater Sekhukhune DM | C2 | Yes |
| 26 | LIM471 | Greater Sekhukhune | Greater Marble Hall | B4 | No |
| 27 | LIM472 | Greater Sekhukhune | Elias Motsoaledi | B4 | No |
| 28 | LIM473 | Greater Sekhukhune | Makhuduthamaga | B4 | No |
| 29 | LIM474 | Greater Sekhukhune | Fetakgomo | B4 | No |
| 30 | LIM475 | Greater Sekhukhune | Greater Tubatse | B4 | No |

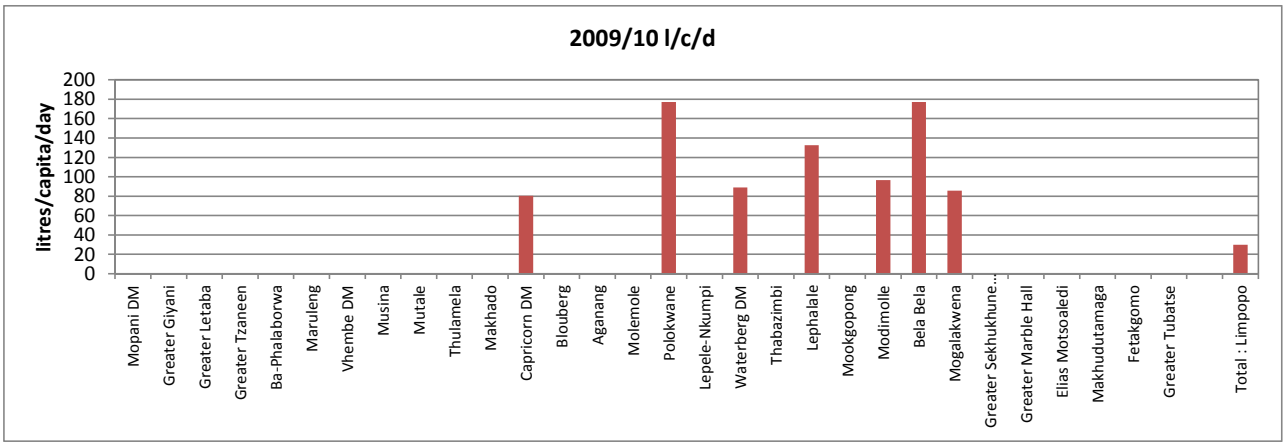
# National NRW Assessment

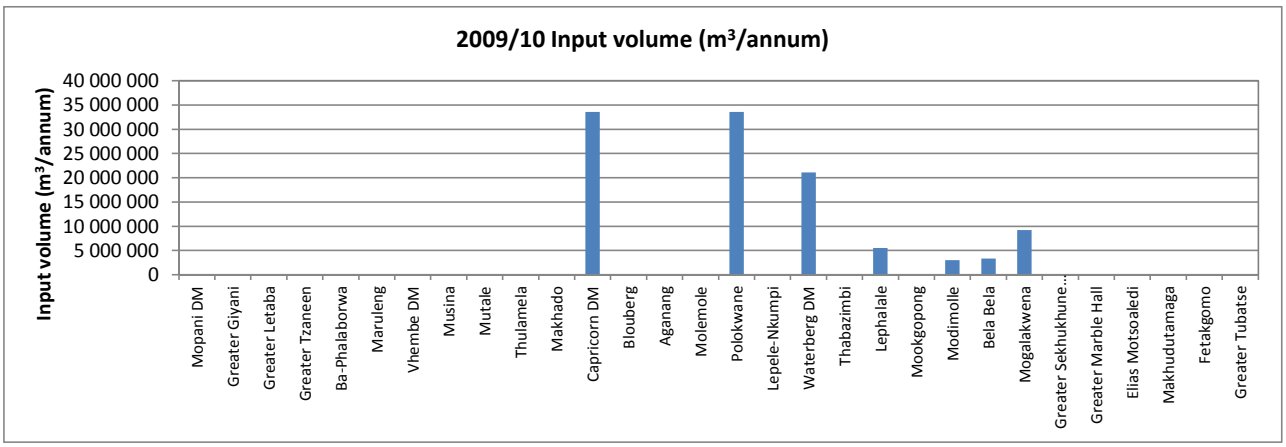


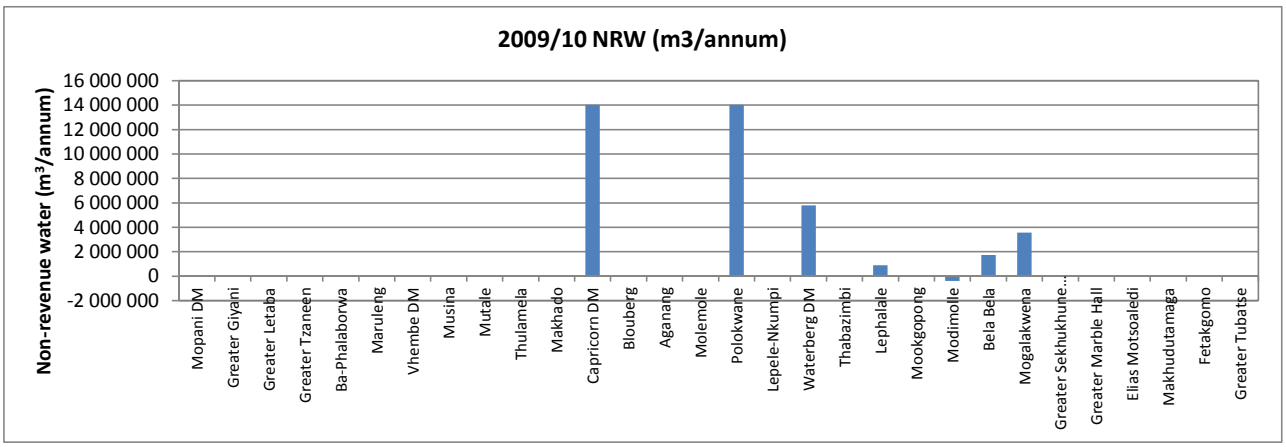
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 26 | | |
| 1 | No records | 8 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 4 | | |
| 3 | Erratic / worthless records | 8 | | |
| 4 | Records with gaps or questions | 4 | | |
| 5 | Good records no gaps or questions | 2 | | |
| | | | | |
| **% NRW** | | 26 | | |
| 0 | No records | 19 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 1 | | |
| 2 | >40% <=50% | 2 | | |
| 3 | >30% <=40% | 1 | | |
| 4 | >20% <=30% | 1 | | |
| 5 | <=20% | 2 | | |
| **litres / capita / day** | | 26 | | |
| 0 | No records | 19 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 0 | | |
| 2 | >300 and <=400 | 0 | | |
| 3 | >200 and <=300 | 0 | | |
| 4 | >100 and <=200 | 3 | | |
| 5 | <=100 | 4 | | |
| **NRW Activity** | | 26 | | |
| 1 | No activity | 13 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 10 | | |
| 3 | Some activity, part of O&M | 3 | | |
| 4 | Small scale active programme | 0 | | |
| 5 | Large scale active programme | 0 | | |
| | | | | |
| **Potential NRW Impact** | | 26 | | |
| 1 | <=50 000 | 2 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 5 | | |
| 3 | >100 000 <=200 000 | 6 | | |
| 4 | >200 000 <=500 000 | 6 | | |
| 5 | >500 000 | 7 | | |
| | | | | |

**Key Performance Indicators**

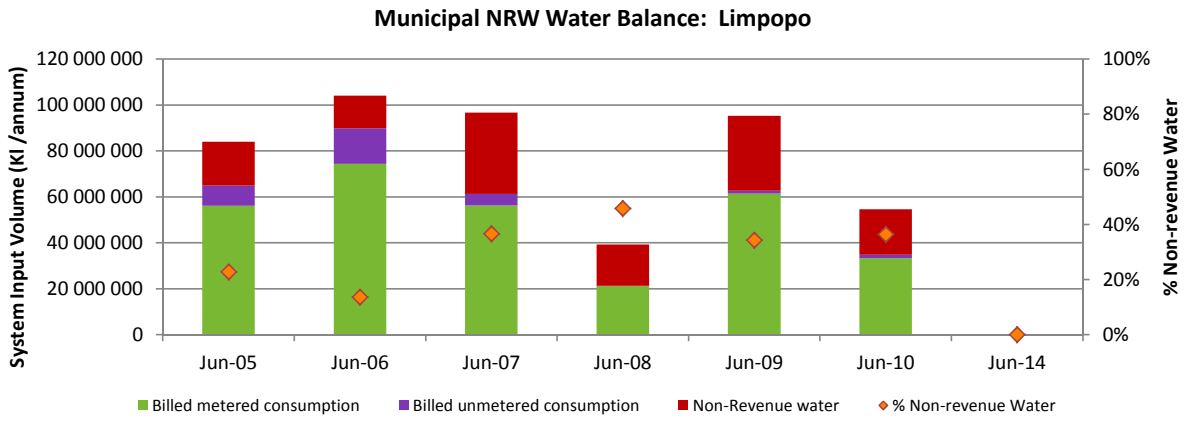


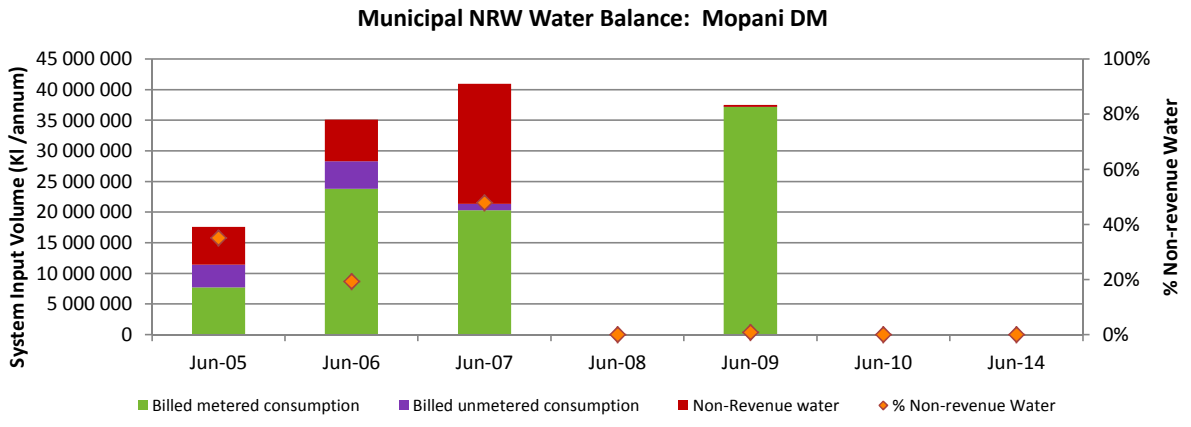



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Limpopo | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 5 262 160 | 5 291 458 | 5 323 185 | 5 363 093 | 5 395 267 | 5 016 092 | 0 |
| | Households | | 1 235 847 | 1 242 909 | 1 250 308 | 1 259 743 | 1 267 240 | 1 177 831 | 0 |
| | Connections - metered | | 537 380 | 540 472 | 543 676 | 549 044 | 552 422 | 597 671 | 0 |
| | Connections - Unmetered | | 288 368 | 289 710 | 291 501 | 293 790 | 295 612 | 349 063 | 0 |
| | Length of mains (km) | | 16 280 | 16 387 | 16 503 | 16 655 | 16 754 | 529 219 | 0 |
| | System input volume | kl/annum | 83 948 779 | 104 082 376 | 96 680 467 | 39 276 093 | 95 275 734 | 54 627 267 | 0 |
| | Billed metered consumption | kl/annum | 56 061 142 | 74 389 912 | 56 280 915 | 21 081 491 | 61 449 886 | 33 318 512 | 0 |
| | Billed unmetered consumption | kl/annum | 8 797 380 | 15 488 623 | 5 030 087 | 235 974 | 1 182 038 | 1 473 300 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 64 858 522 | 89 878 535 | 61 311 002 | 21 317 465 | 62 631 924 | 34 791 812 | 0 |
| | Non-Revenue water | kl/annum | 19 090 257 | 14 203 841 | 35 369 465 | 17 958 628 | 32 643 810 | 19 835 455 | 0 |
| | Water Losses | kl/annum | 19 090 257 | 14 203 841 | 35 369 465 | 17 958 628 | 32 643 810 | 19 835 455 | 0 |
| | % Non-revenue water | | 22.7% | 13.6% | 36.6% | 45.7% | 34.3% | 36.3% | No data |
| | % Water Losses | | 22.7% | 13.6% | 36.6% | 45.7% | 34.3% | 36.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 44 | 54 | 50 | 20 | 48 | 30 | No data |
| | Input: m³ / household / month | | 6 | 7 | 6 | 3 | 6 | 4 | No data |
| | Billed : Litres / capita / day | | 34 | 47 | 32 | 11 | 32 | 19 | No data |
| | Billed : m³ / household / month | | 4 | 6 | 4 | 1 | 4 | 2 | No data |
| | % Population growth | | | 0.56% | 0.60% | 0.75% | 0.60% | -7.03% | |
| | % Water demand growth | | | 23.98% | -7.11% | -59.38% | 142.58% | -42.66% | |
| Source of information | | | | | | | | | |



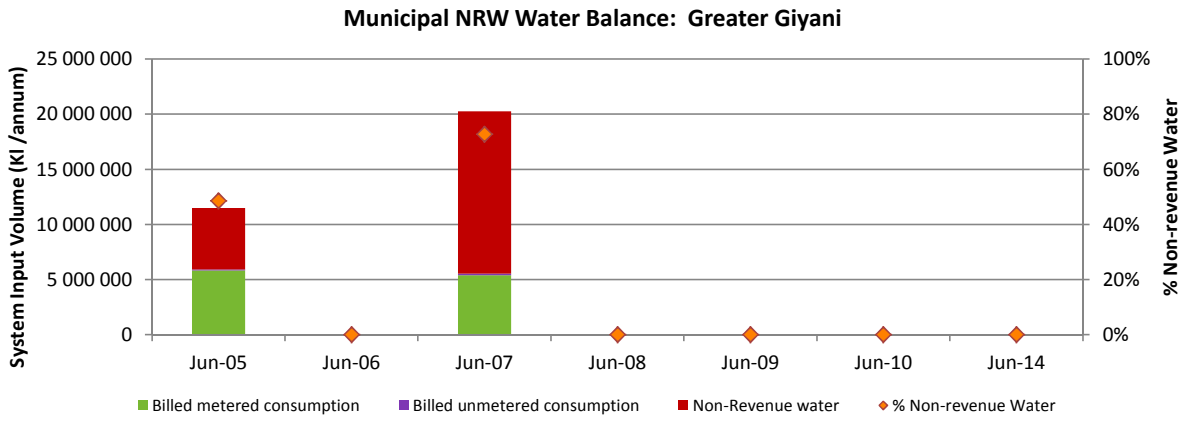

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | DC33 | | | | | | | Yes |
| District Municipality | | Mopani | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 115 627 | 1 123 018 | 1 129 751 | 1 138 225 | 1 145 059 | 1 062 148 | 0 |
| | Households | | 263 749 | 265 497 | 267 088 | 269 096 | 270 703 | 251 195 | 0 |
| | Connections - metered | | 144 339 | 145 297 | 146 169 | 147 265 | 148 149 | 137 977 | 0 |
| | Connections - Unmetered | | 67 574 | 68 023 | 68 430 | 68 944 | 69 356 | 64 091 | 0 |
| | Length of mains (km) | | 4 238 | 4 266 | 4 292 | 4 324 | 4 350 | 4 041 | 0 |
| | System input volume | kl/annum | 17 579 095 | 35 093 803 | 40 962 800 | 0 | 37 534 012 | 0 | 0 |
| | Billed metered consumption | kl/annum | 7 723 084 | 23 789 177 | 20 322 055 | 0 | 37 204 005 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 3 690 576 | 4 544 112 | 1 042 084 | 0 | 10 800 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 11 413 660 | 28 333 289 | 21 364 139 | 0 | 37 214 805 | 0 | 0 |
| | Non-Revenue water | kl/annum | 6 165 435 | 6 760 514 | 19 598 661 | 0 | 319 207 | 0 | 0 |
| | Water Losses | kl/annum | 6 165 435 | 6 760 514 | 19 598 661 | 0 | 319 207 | 0 | 0 |
| | % Non-revenue water | | 35.1% | 19.3% | 47.8% | No data | 0.9% | No data | No data |
| | % Water Losses | | 35.1% | 19.3% | 47.8% | No data | 0.9% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 43 | 86 | 99 | No data | 90 | No data | No data |
| | Input: m³ / household / month | | 6 | 11 | 13 | No data | 12 | No data | No data |
| | Billed : Litres / capita / day | | 28 | 69 | 52 | No data | 89 | No data | No data |
| | Billed : m³ / household / month | | 4 | 9 | 7 | No data | 11 | No data | No data |
| | % Population growth | | | 0.66% | 0.60% | 0.75% | 0.60% | -7.24% | |
| | % Water demand growth | | | 99.63% | 16.72% | | #DIV/0! | | |
| Source of information | | | | | | | | | |




Comments

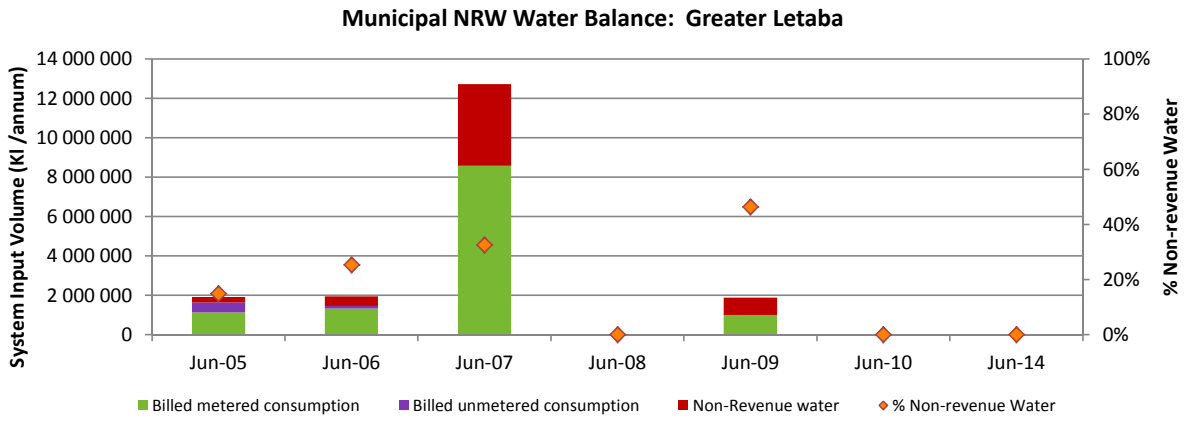
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM331 | | | | | | | No |
| District Municipality | | Mopani | | | | | | | Category |
| Municipality | | Greater Giyani | | | | | | | B4 |
| Settlements | | GIYANI | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 252 267 | 253 926 | 255 450 | 257 365 | 258 910 | 237 692 | |
| | Households | | 58 318 | 58 701 | 59 056 | 59 495 | 59 852 | 54 947 | |
| | Connections - metered | | ~~33 967~~ | ~~34 190~~ | ~~34 395~~ | 34 653 | ~~34 861~~ | ~~32 004~~ | |
| | Connections - Unmetered | | ~~10 093~~ | ~~10 160~~ | ~~10 221~~ | 10 297 | ~~10 359~~ | ~~9 510~~ | |
| | Length of mains (km) | | ~~881~~ | ~~887~~ | ~~892~~ | ~~899~~ | ~~904~~ | ~~830~~ | |
| | System input volume | kl/annum | 11 481 129 | | 20 268 000 | | | | |
| | Billed metered consumption | kl/annum | 5 830 780 | | 5 400 000 | | | | |
| | Billed unmetered consumption | kl/annum | 78 696 | | 138 546 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 909 476 | 0 | 5 538 546 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 5 571 653 | 0 | 14 729 454 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 5 571 653 | 0 | 14 729 454 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 48.5% | No data | 72.7% | No data | No data | No data | No data |
| | % Water Losses | | 48.5% | No data | 72.7% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 125 | No data | 217 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 16 | No data | 29 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 64 | No data | 59 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 8 | No data | 8 | No data | No data | No data | No data |
| | % Population growth | | | 0.66% | 0.60% | 0.75% | 0.60% | -8.20% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Input volume cannot double in 2 years?

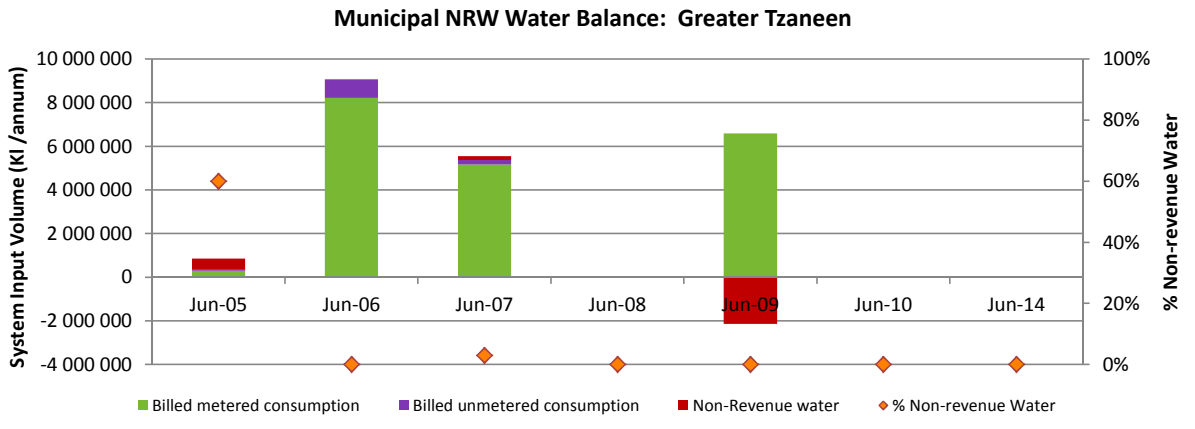
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM332 | | | | | | | No |
| District Municipality | | Mopani | | | | | | | Category |
| Municipality | | Greater Letaba | | | | | | | B4 |
| Settlements | | SEKGOPO, DUIWELSKLOOF | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 240 345 | 241 914 | 243 363 | 245 192 | 246 664 | 225 681 | |
| | Households | | 56 954 | 57 324 | 57 665 | 58 095 | 58 442 | 53 468 | |
| | Connections - metered | | 23 638 | 23 793 | 23 935 | 24 115 | 24 260 | 22 196 | |
| | Connections - Unmetered | | 22 000 | 22 143 | 22 275 | 22 441 | 22 575 | 20 654 | |
| | Length of mains (km) | | 913 | 919 | 924 | 931 | 937 | 857 | |
| | System input volume | kl/annum | 1 915 930 | 1 942 982 | 12 733 408 | | 1 882 332 | | |
| | Billed metered consumption | kl/annum | 1 125 782 | 1 331 249 | 8 585 396 | | 998 170 | | |
| | Billed unmetered consumption | kl/annum | 504 000 | 120 000 | 0 | | 10 800 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 629 782 | 1 451 249 | 8 585 396 | 0 | 1 008 970 | 0 | 0 |
| | Non-Revenue water | kl/annum | 286 148 | 491 733 | 4 148 012 | 0 | 873 362 | 0 | 0 |
| | Water Losses | kl/annum | 286 148 | 491 733 | 4 148 012 | 0 | 873 362 | 0 | 0 |
| | % Non-revenue water | | 14.9% | 25.3% | 32.6% | No data | 46.4% | No data | No data |
| | % Water Losses | | 14.9% | 25.3% | 32.6% | No data | 46.4% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 22 | 22 | 143 | No data | 21 | No data | No data |
| | Input: m³ / household / month | | 3 | 3 | 18 | No data | 3 | No data | No data |
| | Billed : Litres / capita / day | | 19 | 16 | 97 | No data | 11 | No data | No data |
| | Billed : m³ / household / month | | 2 | 2 | 12 | No data | 1 | No data | No data |
| | % Population growth | | | 0.65% | 0.60% | 0.75% | 0.60% | -8.51% | |
| | % Water demand growth | | | 1.41% | 555.35% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Input volume for 2005, 2006, 2009 seem unrealistically low?

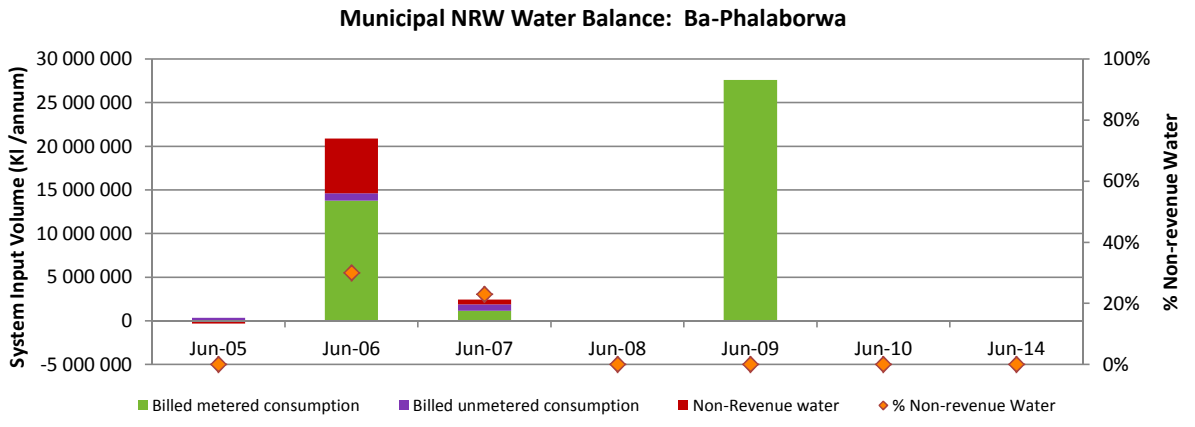
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM333 | | | | | | | No |
| District Municipality | | Mopani | | | | | | | Category |
| Municipality | | Greater Tzaneen | | | | | | | B4 |
| Settlements | | DAN, TZANEEN, NKOWANKOWA | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 388 340 | 390 887 | 393 230 | 396 177 | 398 557 | 370 789 | |
| | Households | | 93 324 | 93 939 | 94 502 | 95 221 | 95 790 | 89 118 | |
| | Connections - metered | | ~~41 969~~ | ~~42 244~~ | ~~42 498~~ | 42 816 | ~~43 073~~ | ~~40 072~~ | |
| | Connections - Unmetered | | ~~24 768~~ | ~~24 931~~ | ~~25 080~~ | 25 271 | ~~25 422~~ | ~~23 651~~ | |
| | Length of mains (km) | | ~~1 335~~ | ~~1 344~~ | ~~1 352~~ | ~~1 362~~ | ~~1 370~~ | ~~1 274~~ | |
| | System input volume | kl/annum | 854 266 | 9 064 133 | 5 540 963 | | ~~4 450 835~~ | | |
| | Billed metered consumption | kl/annum | 298 706 | 8 218 421 | 5 172 762 | | ~~6 588 561~~ | | |
| | Billed unmetered consumption | kl/annum | 43 560 | 845 712 | 202 618 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 342 266 | 9 064 133 | 5 375 380 | 0 | 6 588 561 | 0 | 0 |
| | Non-Revenue water | kl/annum | 512 000 | 0 | 165 583 | 0 | -2 137 726 | 0 | 0 |
| | Water Losses | kl/annum | 512 000 | 0 | 165 583 | 0 | -2 137 726 | 0 | 0 |
| | % Non-revenue water | | 59.9% | Check data | 3.0% | No data | Check data | No data | No data |
| | % Water Losses | | 59.9% | No data | 3.0% | No data | Check data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 6 | 64 | 39 | No data | 31 | No data | No data |
| | Input: m³ / household / month | | 1 | 8 | 5 | No data | 4 | No data | No data |
| | Billed : Litres / capita / day | | 2 | 64 | 37 | No data | 45 | No data | No data |
| | Billed : m³ / household / month | | 0 | 8 | 5 | No data | 6 | No data | No data |
| | % Population growth | | | 0.66% | 0.60% | 0.75% | 0.60% | -6.97% | |
| | % Water demand growth | | | 961.04% | -38.87% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Input volume fluctuating?

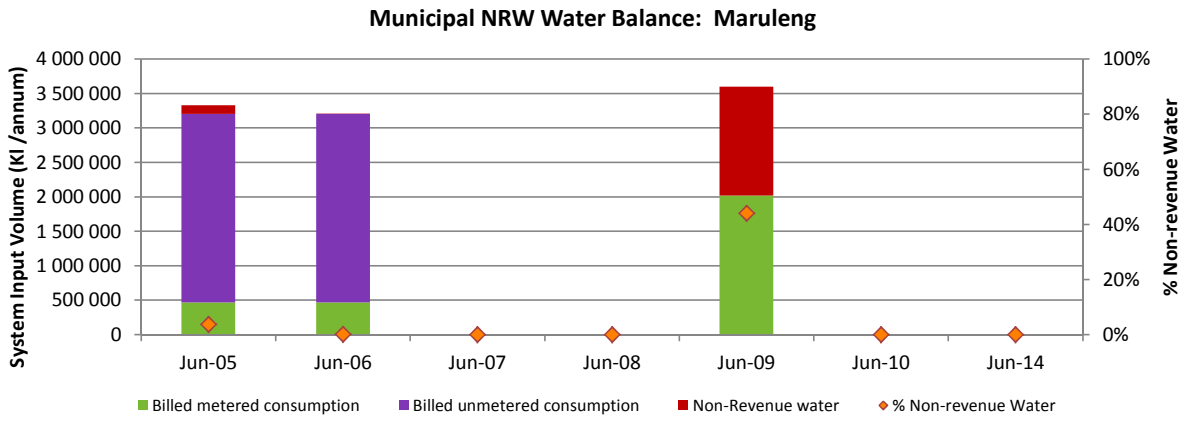
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM334 | | | | | | No |
| District Municipality | | | Mopani | | | | | | Category |
| Municipality | | | Ba-Phalaborwa | | | | | | B3 |
| Settlements | | | LULEKANI , NAMAKGALE, PHALABORWA | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 138 317 | 139 225 | 140 061 | 141 114 | 141 962 | 137 283 | |
| | Households | | 34 109 | 34 332 | 34 537 | 34 799 | 35 005 | 33 851 | |
| | Connections - metered | | ~~30 580~~ | ~~30 780~~ | ~~30 965~~ | 31 198 | ~~31 385~~ | ~~30 351~~ | |
| | Connections - Unmetered | | ~~3 734~~ | ~~3 759~~ | ~~3 781~~ | 3 810 | ~~3 833~~ | ~~3 706~~ | |
| | Length of mains (km) | | ~~686~~ | ~~691~~ | ~~695~~ | ~~700~~ | ~~704~~ | ~~681~~ | |
| | System input volume | kl/annum | 0 | 20 877 272 | 2 420 429 | | 27 600 000 | | |
| | Billed metered consumption | kl/annum | 0 | 13 771 691 | 1 163 897 | | 27 600 000 | | |
| | Billed unmetered consumption | kl/annum | 328 320 | 842 400 | 700 920 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 328 320 | 14 614 091 | 1 864 817 | 0 | 27 600 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | -328 320 | 6 263 181 | 555 612 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | -328 320 | 6 263 181 | 555 612 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | 30.0% | 23.0% | No data | Check data | No data | No data |
| | % Water Losses | | No data | 30.0% | 23.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 411 | 47 | No data | 533 | No data | No data |
| | Input: m³ / household / month | | No data | 51 | 6 | No data | 66 | No data | No data |
| | Billed : Litres / capita / day | | 7 | 288 | 36 | No data | 533 | No data | No data |
| | Billed : m³ / household / month | | 1 | 35 | 4 | No data | 66 | No data | No data |
| | % Population growth | | | 0.66% | 0.60% | 0.75% | 0.60% | -3.30% | |
| | % Water demand growth | | | #DIV/0! | -88.41% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

Only data for 2006 looks realistic

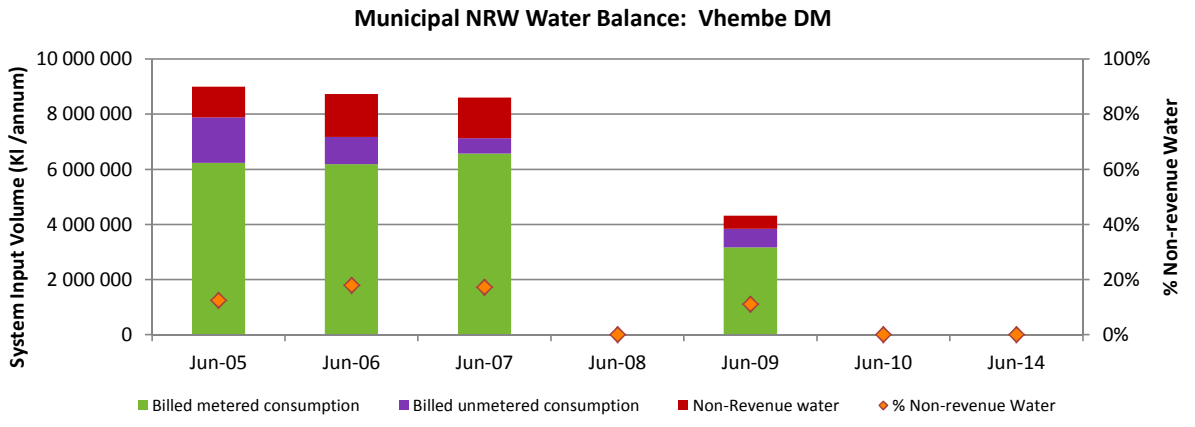
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM335 | | | | | | | No |
| District Municipality | | Mopani | | | | | | | Category |
| Municipality | | Maruleng | | | | | | | B4 |
| Settlements | | Hoedspruit | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 96 358 | 97 066 | 97 647 | 98 377 | 98 966 | 90 703 | |
| | Households | | 21 044 | 21 201 | 21 328 | 21 486 | 21 614 | 19 811 | |
| | Connections - metered | | ~~14 186~~ | ~~14 290~~ | ~~14 376~~ | 14 483 | ~~14 570~~ | ~~13 353~~ | |
| | Connections - Unmetered | | ~~6 978~~ | ~~7 030~~ | ~~7 073~~ | 7 125 | ~~7 167~~ | ~~6 570~~ | |
| | Length of mains (km) | | ~~423~~ | ~~426~~ | ~~429~~ | ~~432~~ | ~~435~~ | ~~398~~ | |
| | System input volume | kl/annum | 3 327 770 | 3 209 416 | | | 3 600 845 | | |
| | Billed metered consumption | kl/annum | 467 816 | 467 816 | | | 2 017 274 | | |
| | Billed unmetered consumption | kl/annum | 2 736 000 | 2 736 000 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 203 816 | 3 203 816 | 0 | 0 | 2 017 274 | 0 | 0 |
| | Non-Revenue water | kl/annum | 123 954 | 5 600 | 0 | 0 | 1 583 571 | 0 | 0 |
| | Water Losses | kl/annum | 123 954 | 5 600 | 0 | 0 | 1 583 571 | 0 | 0 |
| | % Non-revenue water | | 3.7% | 0.2% | No data | No data | 44.0% | No data | No data |
| | % Water Losses | | 3.7% | 0.2% | No data | No data | 44.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 95 | 91 | No data | No data | 100 | No data | No data |
| | Input: m³ / household / month | | 13 | 13 | No data | No data | 14 | No data | No data |
| | Billed : Litres / capita / day | | 91 | 90 | No data | No data | 56 | No data | No data |
| | Billed : m³ / household / month | | 13 | 13 | No data | No data | 8 | No data | No data |
| | % Population growth | | | 0.73% | 0.60% | 0.75% | 0.60% | -8.35% | |
| | % Water demand growth | | | -3.56% | | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

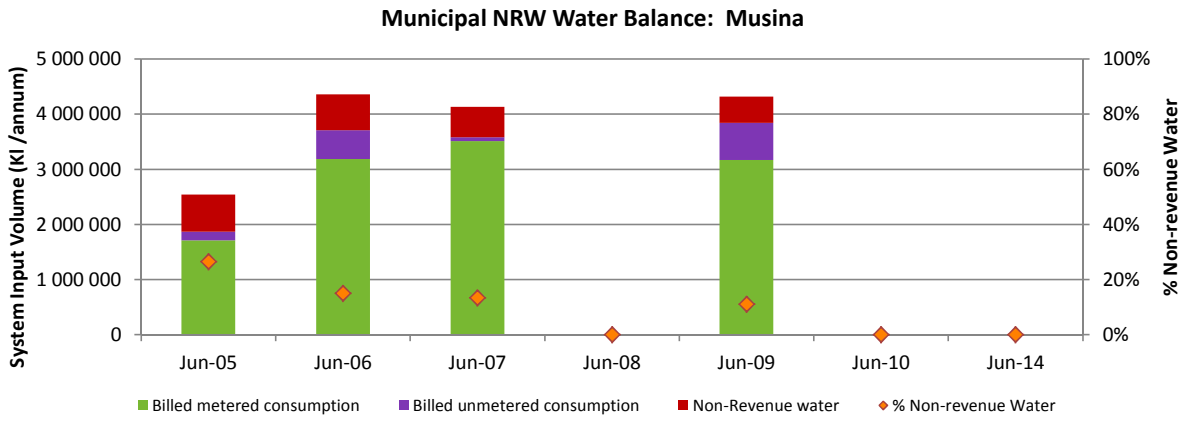
Only data for 2009 looks realistic

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | DC34 | | | | | | | Yes |
| District Municipality | | Capricorn | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 261 526 | 1 272 395 | 1 280 023 | 1 289 612 | 1 297 349 | 1 203 291 | 0 |
| | Households | | 292 169 | 294 701 | 296 457 | 298 679 | 300 463 | 278 936 | 0 |
| | Connections - metered | | 149 101 | 150 386 | 151 287 | 152 421 | 153 335 | 142 704 | 0 |
| | Connections - Unmetered | | 83 158 | 83 877 | 84 375 | 85 009 | 85 515 | 79 208 | 0 |
| | Length of mains (km) | | 4 645 | 4 685 | 4 713 | 4 749 | 4 777 | 4 438 | 0 |
| | System input volume | kl/annum | 8 999 243 | 8 733 455 | 8 600 977 | 0 | 4 319 860 | 0 | 0 |
| | Billed metered consumption | kl/annum | 6 234 339 | 6 184 081 | 6 565 174 | 0 | 3 168 682 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 1 649 304 | 986 976 | 559 195 | 0 | 675 231 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 7 883 643 | 7 171 057 | 7 124 369 | 0 | 3 843 913 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 115 600 | 1 562 398 | 1 476 608 | 0 | 475 947 | 0 | 0 |
| | Water Losses | kl/annum | 1 115 600 | 1 562 398 | 1 476 608 | 0 | 475 947 | 0 | 0 |
| | % Non-revenue water | | 12.4% | 17.9% | 17.2% | No data | 11.0% | No data | No data |
| | % Water Losses | | 12.4% | 17.9% | 17.2% | No data | 11.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 20 | 19 | 18 | No data | 9 | No data | No data |
| | Input: m³ / household / month | | 3 | 2 | 2 | No data | 1 | No data | No data |
| | Billed : Litres / capita / day | | 17 | 15 | 15 | No data | 8 | No data | No data |
| | Billed : m³ / household / month | | 2 | 2 | 2 | No data | 1 | No data | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.75% | 0.60% | -7.25% | |
| | % Water demand growth | | | -2.95% | -1.52% | | #DIV/0! | | |
| Source of information | | | | | | | | | |




Comments

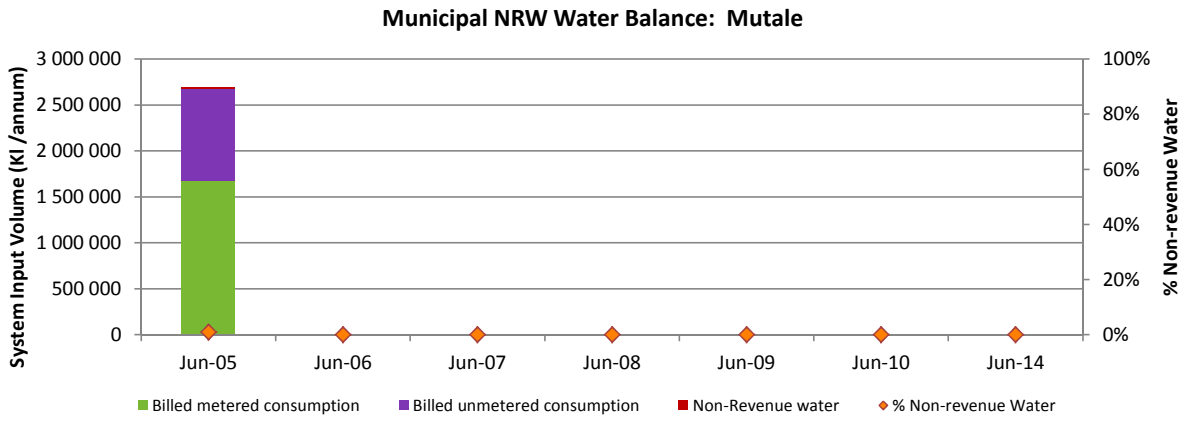
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM341 | | | | | | No |
| District Municipality | | | Vhembe | | | | | | Category |
| Municipality | | | Musina | | | | | | B3 |
| Settlements | | | NANCEFIELD, MESSINA | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 41 389 | 41 745 | 41 997 | 42 314 | 42 568 | 43 003 | |
| | Households | | 12 791 | 12 901 | 12 977 | 13 076 | 13 153 | 13 287 | |
| | Connections - metered | | ~~10 571~~ | ~~10 662~~ | ~~10 726~~ | 10 807 | ~~10 872~~ | ~~10 983~~ | |
| | Connections - Unmetered | | ~~2 296~~ | ~~2 316~~ | ~~2 329~~ | 2 347 | ~~2 361~~ | ~~2 385~~ | |
| | Length of mains (km) | | ~~257~~ | ~~260~~ | ~~261~~ | ~~263~~ | ~~265~~ | ~~267~~ | |
| | System input volume | kl/annum | 2 540 000 | 4 361 429 | 4 131 216 | | 4 319 860 | | |
| | Billed metered consumption | kl/annum | 1 708 568 | 3 187 681 | 3 508 846 | | ~~3 168 682~~ | | |
| | Billed unmetered consumption | kl/annum | 158 544 | 518 976 | 71 539 | | 675 231 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 867 112 | 3 706 657 | 3 580 385 | 0 | 3 843 913 | 0 | 0 |
| | Non-Revenue water | kl/annum | 672 888 | 654 772 | 550 831 | 0 | 475 947 | 0 | 0 |
| | Water Losses | kl/annum | 672 888 | 654 772 | 550 831 | 0 | 475 947 | 0 | 0 |
| | % Non-revenue water | | 26.5% | 15.0% | 13.3% | No data | 11.0% | No data | No data |
| | % Water Losses | | 26.5% | 15.0% | 13.3% | No data | 11.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 168 | 286 | 270 | No data | 278 | No data | No data |
| | Input: m³ / household / month | | 17 | 28 | 27 | No data | 27 | No data | No data |
| | Billed : Litres / capita / day | | 124 | 243 | 234 | No data | 247 | No data | No data |
| | Billed : m³ / household / month | | 12 | 24 | 23 | No data | 24 | No data | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.75% | 0.60% | 1.02% | |
| | % Water demand growth | | | 71.71% | -5.28% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

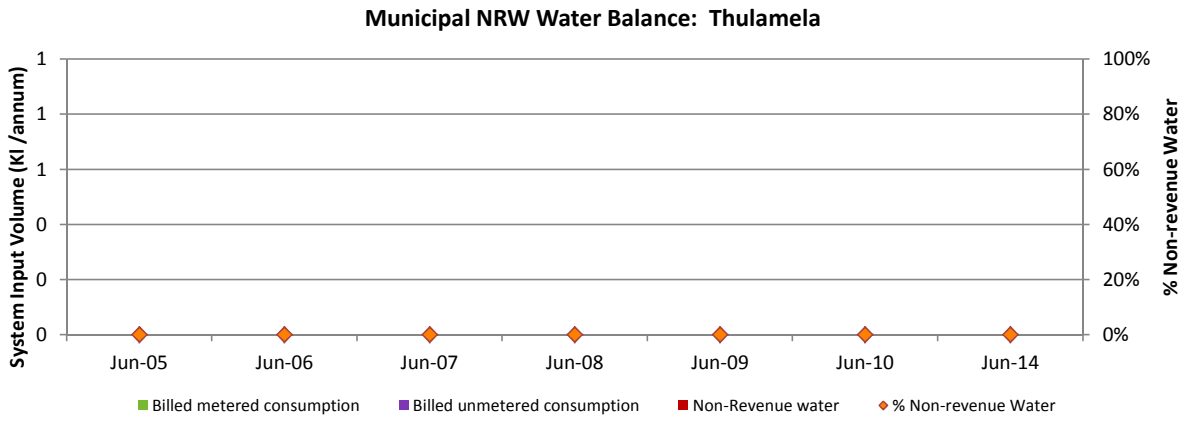
Input volume for 2005 seems incorrect?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM342 | | | | | | | No |
| District Municipality | | Vhembe | | | | | | | Category |
| Municipality | | Mutale | | | | | | | B4 |
| Settlements | | Mutale-Masisi | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 88 733 | 89 503 | 90 038 | 90 710 | 91 249 | 82 954 | |
| | Households | | 20 328 | 20 500 | 20 612 | 20 775 | 20 890 | 18 989 | |
| | Connections - metered | | ~~10 173~~ | ~~10 262~~ | ~~10 323~~ | 10 400 | ~~10 462~~ | ~~9 511~~ | |
| | Connections - Unmetered | | ~~10 273~~ | ~~10 360~~ | ~~10 417~~ | 10 499 | ~~10 557~~ | ~~9 596~~ | |
| | Length of mains (km) | | ~~409~~ | ~~412~~ | ~~415~~ | ~~418~~ | ~~420~~ | ~~382~~ | |
| | System input volume | kl/annum | 2 699 664 | | | | | | |
| | Billed metered consumption | kl/annum | 1 671 840 | | | | | | |
| | Billed unmetered consumption | kl/annum | 1 003 104 | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 674 944 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 24 720 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 24 720 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 0.9% | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | 0.9% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 83 | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 11 | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 83 | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 11 | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.87% | 0.60% | 0.75% | 0.59% | -9.09% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



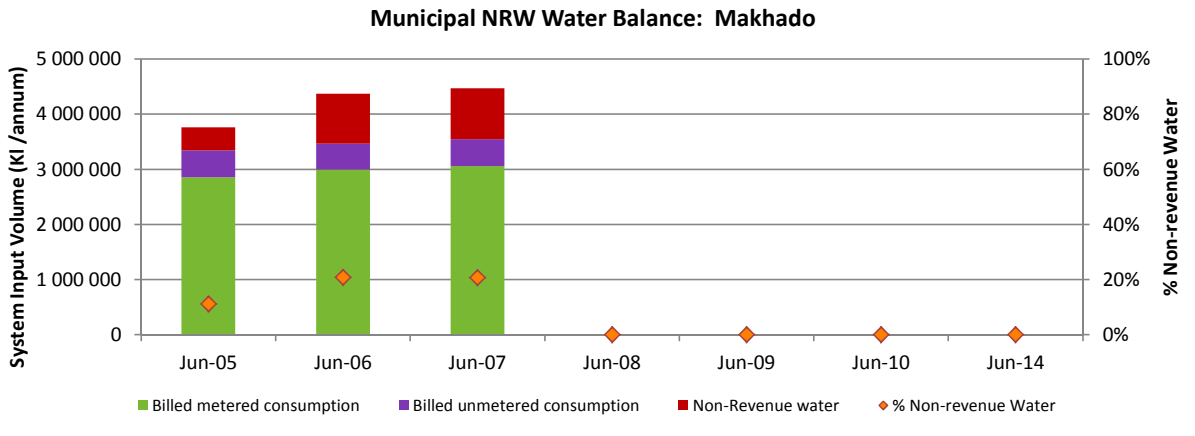

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM343 | | | | | | No |
| District Municipality | | | Vhembe | | | | | | Category |
| Municipality | | | Thulamela | | | | | | B4 |
| Settlements | | | MAKWARELA, SHAYANDIMA, THOHOYANDOU | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 609 763 | 615 020 | 618 707 | 623 346 | 627 094 | 583 067 | |
| | Households | | 138 641 | 139 844 | 140 687 | 141 729 | 142 584 | 132 568 | |
| | Connections - metered | | ~~67 777~~ | ~~68 362~~ | ~~68 771~~ | 69 287 | ~~69 704~~ | ~~64 810~~ | |
| | Connections - Unmetered | | ~~39 376~~ | ~~39 718~~ | ~~39 957~~ | 40 253 | ~~40 496~~ | ~~37 651~~ | |
| | Length of mains (km) | | ~~2 143~~ | ~~2 162~~ | ~~2 175~~ | ~~2 191~~ | ~~2 204~~ | ~~2 049~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.75% | 0.60% | -7.02% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



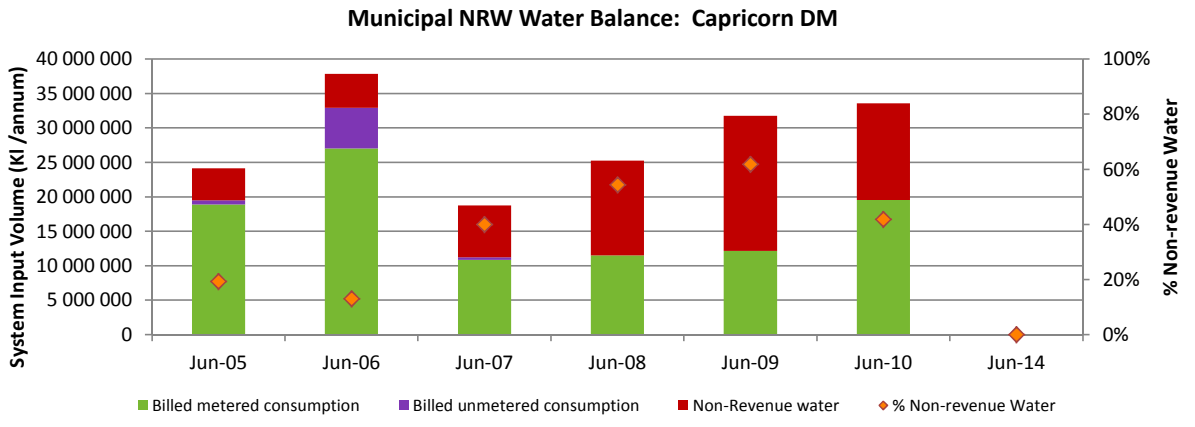

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Limpopo | | | | | | | | WSA |
| Municipal Code | LIM344 | | | | | | | | No |
| District Municipality | Vhembe | | | | | | | | Category |
| Municipality | Makhado | | | | | | | | B4 |
| Settlements | TSHAKHUMA, LOUIS TRICHARDT | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 521 641 | 526 127 | 529 281 | 533 242 | 536 438 | 494 267 | |
| | Households | | 120 409 | 121 456 | 122 181 | 123 099 | 123 836 | 114 092 | |
| | Connections - metered | | ~~60 580~~ | ~~61 101~~ | ~~61 467~~ | 61 927 | ~~62 298~~ | ~~57 401~~ | |
| | Connections - Unmetered | | ~~31 213~~ | ~~31 484~~ | ~~31 672~~ | 31 910 | ~~32 101~~ | ~~29 575~~ | |
| | Length of mains (km) | | ~~1 836~~ | ~~1 852~~ | ~~1 863~~ | ~~1 877~~ | ~~1 888~~ | ~~1 740~~ | |
| | System input volume | kl/annum | 3 759 579 | 4 372 026 | 4 469 761 | | | | |
| | Billed metered consumption | kl/annum | 2 853 931 | 2 996 400 | 3 056 328 | | | | |
| | Billed unmetered consumption | kl/annum | 487 656 | 468 000 | 487 656 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 341 587 | 3 464 400 | 3 543 984 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 417 992 | 907 626 | 925 777 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 417 992 | 907 626 | 925 777 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 11.1% | 20.8% | 20.7% | No data | No data | No data | No data |
| | % Water Losses | | 11.1% | 20.8% | 20.7% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 20 | 23 | 23 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 3 | 3 | 3 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 18 | 18 | 18 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 2 | 2 | 2 | No data | No data | No data | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.75% | 0.60% | -7.86% | |
| | % Water demand growth | | | 16.29% | 2.24% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



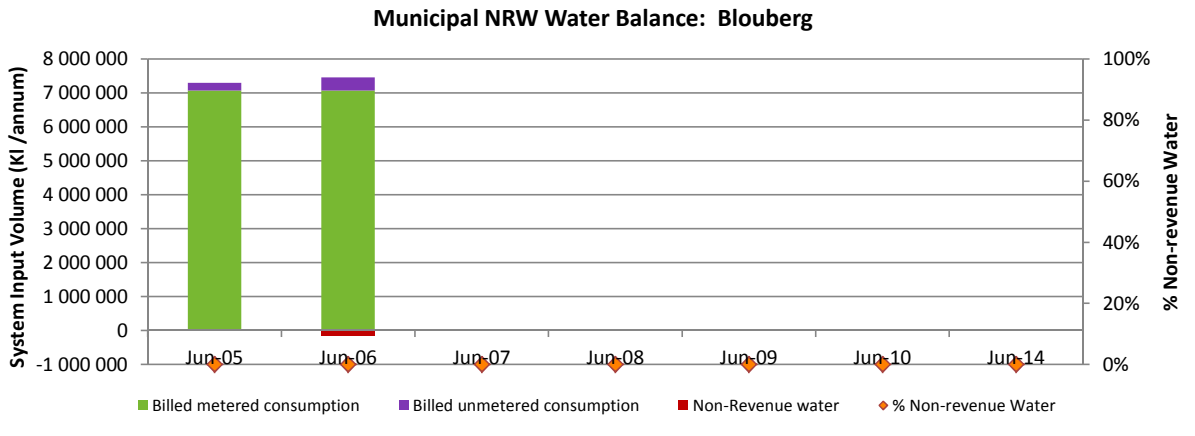

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | DC35 | | | | | | | Yes |
| District Municipality | | Capricorn | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 214 470 | 1 217 298 | 1 224 591 | 1 233 760 | 1 241 154 | 1 144 529 | 0 |
| | Households | | 298 568 | 299 265 | 301 034 | 303 319 | 305 114 | 281 501 | 0 |
| | Connections - metered | | 82 676 | 82 869 | 83 365 | 83 989 | 84 492 | 151 209 | 0 |
| | Connections - Unmetered | | 41 650 | 41 745 | 41 992 | 42 311 | 42 560 | 95 219 | 0 |
| | Length of mains (km) | | 2 487 | 2 492 | 2 507 | 2 526 | 2 541 | 3 684 | 0 |
| | System input volume | kl/annum | 24 142 248 | 37 869 537 | 18 728 695 | 25 251 093 | 31 773 490 | 33 555 165 | 0 |
| | Billed metered consumption | kl/annum | 18 886 896 | 27 016 365 | 10 875 001 | 11 508 689 | 12 142 377 | 19 523 972 | 0 |
| | Billed unmetered consumption | kl/annum | 589 104 | 5 908 704 | 360 000 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 19 476 000 | 32 925 069 | 11 235 001 | 11 508 689 | 12 142 377 | 19 523 972 | 0 |
| | Non-Revenue water | kl/annum | 4 666 248 | 4 944 468 | 7 493 694 | 13 742 404 | 19 631 113 | 14 031 193 | 0 |
| | Water Losses | kl/annum | 4 666 248 | 4 944 468 | 7 493 694 | 13 742 404 | 19 631 113 | 14 031 193 | 0 |
| | % Non-revenue water | | 19.3% | 13.1% | 40.0% | 54.4% | 61.8% | 41.8% | No data |
| | % Water Losses | | 19.3% | 13.1% | 40.0% | 54.4% | 61.8% | 41.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 54 | 85 | 42 | 56 | 70 | 80 | No data |
| | Input: m³ / household / month | | 7 | 11 | 5 | 7 | 9 | 10 | No data |
| | Billed : Litres / capita / day | | 44 | 74 | 25 | 26 | 27 | 47 | No data |
| | Billed : m³ / household / month | | 5 | 9 | 3 | 3 | 3 | 6 | No data |
| | % Population growth | | | 0.23% | 0.60% | 0.75% | 0.60% | -7.79% | |
| | % Water demand growth | | | 56.86% | -50.54% | 34.83% | 25.83% | 5.61% | |
| Source of information | | | | | | | | | |



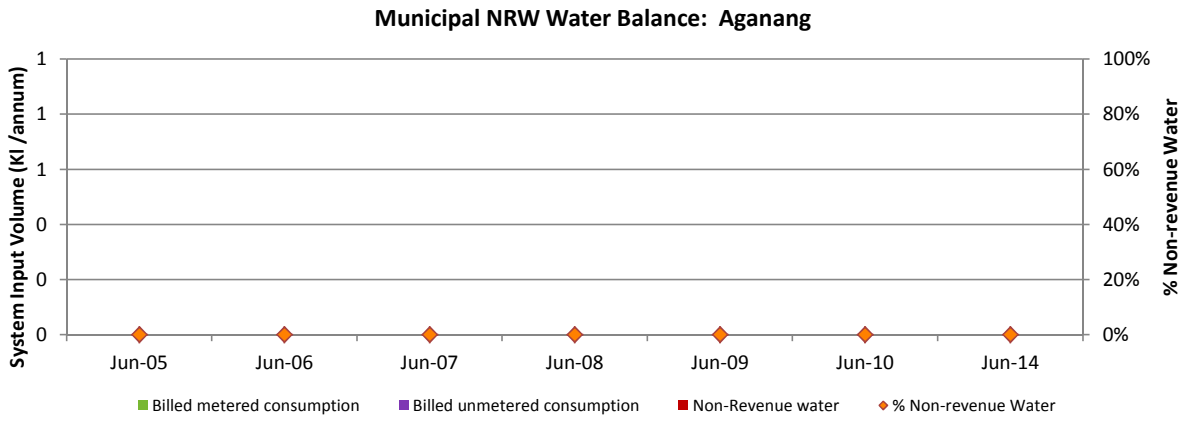

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM351 | | | | | | | No |
| District Municipality | | Capricorn | | | | | | | Category |
| Municipality | | Blouberg | | | | | | | B4 |
| Settlements | | Bochum/My Darling | | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | | Jun-14 |
| Input Data | Population | 167 221 | 167 606 | 168 616 | 169 883 | 170 907 | 155 420 | | |
| | Households | 36 947 | 37 027 | 37 248 | 37 536 | 37 757 | 34 333 | | |
| | Connections - metered | ~~18 464~~ | ~~18 507~~ | ~~18 618~~ | 18 758 | ~~18 871~~ | ~~17 161~~ | | |
| | Connections - Unmetered | ~~12 180~~ | ~~12 206~~ | ~~12 279~~ | 12 374 | ~~12 447~~ | ~~11 318~~ | | |
| | Length of mains (km) | ~~613~~ | ~~614~~ | ~~618~~ | ~~623~~ | ~~626~~ | ~~570~~ | | |
| | System input volume kl/annum | 7 300 000 | 7 300 000 | | | | | | |
| | Billed metered consumption kl/annum | 7 070 896 | 7 070 896 | | | | | | |
| | Billed unmetered consumption kl/annum | 229 104 | 384 000 | | | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 7 300 000 | 7 454 896 | 0 | 0 | 0 | 0 | | 0 |
| | Non-Revenue water kl/annum | 0 | -154 896 | 0 | 0 | 0 | 0 | | 0 |
| | Water Losses kl/annum | 0 | -154 896 | 0 | 0 | 0 | 0 | | 0 |
| | % Non-revenue water | Check data | Check data | No data | No data | No data | No data | | No data |
| | % Water Losses | No data | Check data | No data | No data | No data | No data | | No data |
| Key performance indicators | Input : Litres / capita / day | 120 | 119 | No data | No data | No data | No data | | No data |
| | Input: m³ / household / month | 16 | 16 | No data | No data | No data | No data | | No data |
| | Billed : Litres / capita / day | 120 | 122 | No data | No data | No data | No data | | No data |
| | Billed : m³ / household / month | 16 | 17 | No data | No data | No data | No data | | No data |
| | % Population growth | | 0.23% | 0.60% | 0.75% | 0.60% | -9.06% | | |
| | % Water demand growth | | 0.00% | | | | | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM352 | | | | | | No |
| District Municipality | | | Capricorn | | | | | | Category |
| Municipality | | | Aganang | | | | | | B4 |
| Settlements | | | Moletji/Matlala | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 153 032 | 153 387 | 154 302 | 155 450 | 156 378 | 142 161 | |
| | Households | | 34 967 | 35 048 | 35 253 | 35 518 | 35 725 | 32 481 | |
| | Connections - metered | | ~~17 927~~ | ~~17 968~~ | ~~18 076~~ | 18 210 | ~~18 319~~ | ~~16 653~~ | |
| | Connections - Unmetered | | ~~12 303~~ | ~~12 332~~ | ~~12 404~~ | 12 497 | ~~12 570~~ | ~~11 428~~ | |
| | Length of mains (km) | | ~~605~~ | ~~606~~ | ~~610~~ | ~~614~~ | ~~618~~ | ~~562~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.23% | 0.60% | 0.74% | 0.60% | -9.09% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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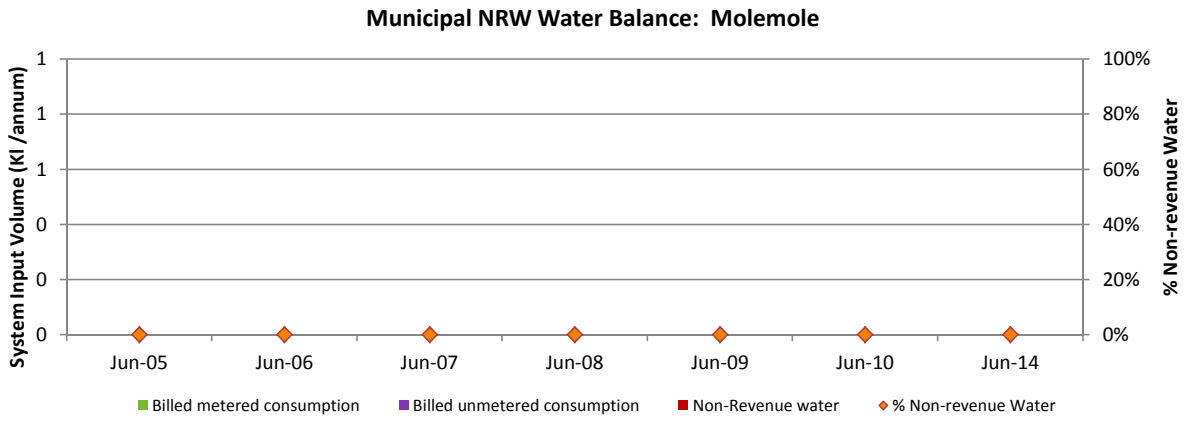
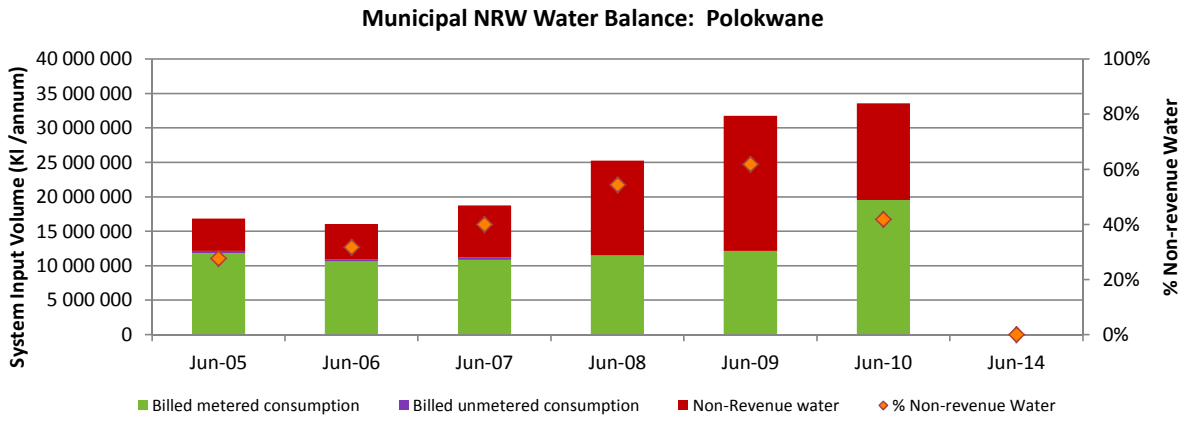
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM353 | | | | | | No |
| District Municipality | | | Capricorn | | | | | | Category |
| Municipality | | | Molemole | | | | | | B4 |
| Settlements | | | MPHAKANE, RAMAKGOPA, DENDRON/DIKGALE | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 113 426 | 113 694 | 114 376 | 115 233 | 115 923 | 105 578 | |
| | Households | | 30 342 | 30 411 | 30 591 | 30 823 | 31 008 | 28 243 | |
| | Connections - metered | | 20 974 | 21 023 | 21 150 | 21 308 | 21 436 | 19 523 | |
| | Connections - Unmetered | | 5 063 | 5 074 | 5 104 | 5 143 | 5 174 | 4 713 | |
| | Length of mains (km) | | 521 | 522 | 525 | 529 | 532 | 485 | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.24% | 0.60% | 0.75% | 0.60% | -8.92% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



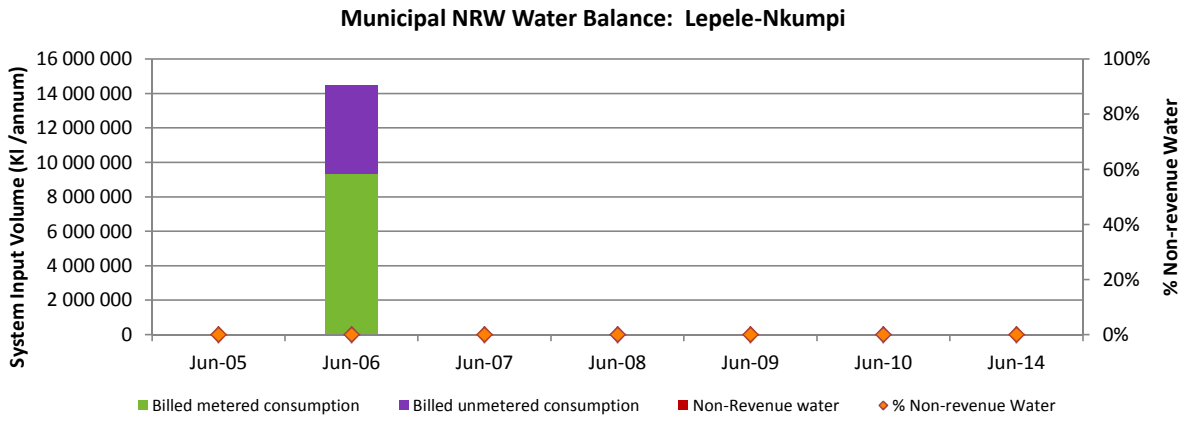

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM354 | | | | | | Yes |
| District Municipality | | | Capricorn | | | | | | Category |
| Municipality | | | Polokwane | | | | | | B1 |
| Settlements | | | DIKGALE, POLOKWANE, PERSKEBULT | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 544 548 | 545 816 | 549 087 | 553 203 | 556 524 | 518 674 | |
| | Households | | 140 564 | 140 899 | 141 733 | 142 807 | 143 655 | 133 889 | |
| | Connections - metered | | | | | | | 74 012 | |
| | Connections - Unmetered | | | | | | | 56 349 | |
| | Length of mains (km) | | | | | | | 1 363 | |
| | System input volume | kl/annum | 16 842 248 | 16 064 072 | 18 728 695 | ~~25 251 093~~ | 31 773 490 | 33 555 165 | |
| | Billed metered consumption | kl/annum | 11 816 000 | 10 604 708 | 10 875 001 | ~~11 508 689~~ | 12 142 377 | 19 523 972 | |
| | Billed unmetered consumption | kl/annum | 360 000 | 360 000 | 360 000 | | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 12 176 000 | 10 964 708 | 11 235 001 | 11 508 689 | 12 142 377 | 19 523 972 | 0 |
| | Non-Revenue water | kl/annum | 4 666 248 | 5 099 364 | 7 493 694 | 13 742 404 | 19 631 113 | 14 031 193 | 0 |
| | Water Losses | kl/annum | 4 666 248 | 5 099 364 | 7 493 694 | 13 742 404 | 19 631 113 | 14 031 193 | 0 |
| | % Non-revenue water | | 27.7% | 31.7% | 40.0% | 54.4% | 61.8% | 41.8% | No data |
| | % Water Losses | | 27.7% | 31.7% | 40.0% | 54.4% | 61.8% | 41.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 85 | 81 | 93 | 125 | 156 | 177 | No data |
| | Input: m³ / household / month | | 10 | 10 | 11 | 15 | 18 | 21 | No data |
| | Billed : Litres / capita / day | | 61 | 55 | 56 | 57 | 60 | 103 | No data |
| | Billed : m³ / household / month | | 7 | 6 | 7 | 7 | 7 | 12 | No data |
| | % Population growth | | | 0.23% | 0.60% | 0.75% | 0.60% | -6.80% | |
| | % Water demand growth | | | -4.62% | 16.59% | 34.83% | 25.83% | 5.61% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



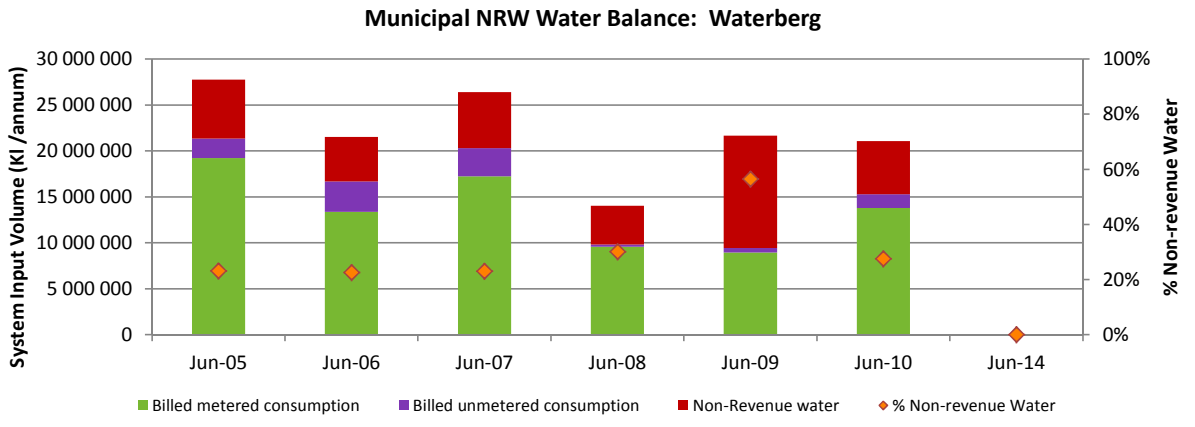

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM355 | | | | | | | No |
| District Municipality | | Capricorn | | | | | | | Category |
| Municipality | | Lepele-Nkumpi | | | | | | | B4 |
| Settlements | | LEBOWAKGOMO, MOGOTO, SELETENG | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 236 243 | 236 795 | 238 210 | 239 991 | 241 422 | 222 696 | |
| | Households | | 55 748 | 55 880 | 56 209 | 56 635 | 56 969 | 52 555 | |
| | Connections - metered | | ~~25 311~~ | ~~25 371~~ | ~~25 522~~ | 25 713 | ~~25 866~~ | ~~23 860~~ | |
| | Connections - Unmetered | | ~~12 104~~ | ~~12 133~~ | ~~12 205~~ | 12 297 | ~~12 370~~ | ~~11 411~~ | |
| | Length of mains (km) | | ~~748~~ | ~~750~~ | ~~755~~ | ~~760~~ | ~~765~~ | ~~705~~ | |
| | System input volume | kl/annum | | 14 505 465 | | | | | |
| | Billed metered consumption | kl/annum | | 9 340 761 | | | | | |
| | Billed unmetered consumption | kl/annum | | 5 164 704 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 14 505 465 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | Check data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 168 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | 22 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 168 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 22 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.23% | 0.60% | 0.75% | 0.60% | -7.76% | |
| | % Water demand growth | | | #DIV/0! | | | | | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



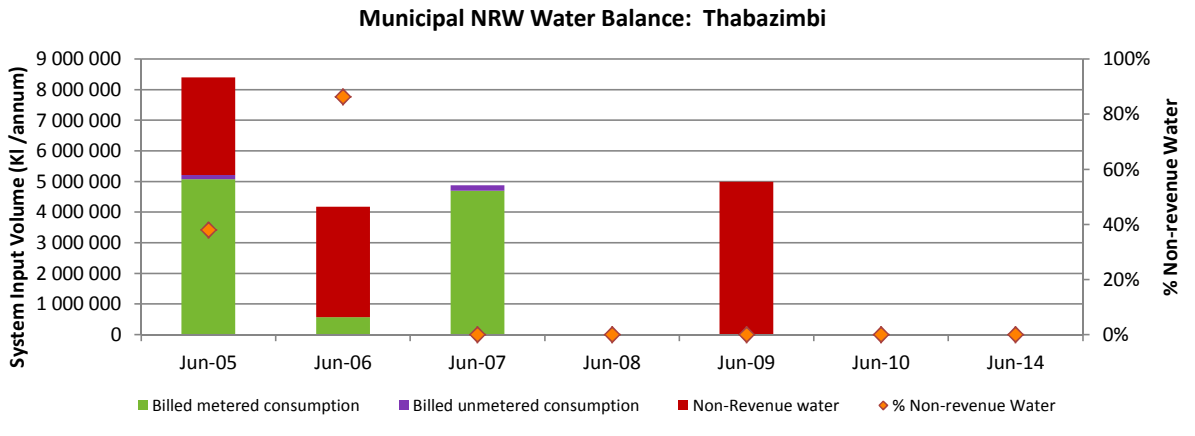

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | DC36 | | | | | | | No |
| District Municipality | | Waterberg | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 653 315 | 661 586 | 665 553 | 670 547 | 674 571 | 648 401 | 0 |
| | Households | | 165 834 | 167 932 | 168 942 | 170 200 | 171 222 | 163 267 | 0 |
| | Connections - metered | | 66 597 | 67 259 | 67 626 | 69 425 | 69 926 | 75 833 | 0 |
| | Connections - Unmetered | | 7 814 | 7 897 | 8 019 | 8 155 | 8 286 | 28 122 | 0 |
| | Length of mains (km) | | 1 253 | 1 287 | 1 313 | 1 350 | 1 357 | 513 608 | 0 |
| | System input volume | kl/annum | 27 764 494 | 21 530 413 | 26 390 800 | 14 025 000 | 21 648 372 | 21 072 102 | 0 |
| | Billed metered consumption | kl/annum | 19 224 707 | 13 380 591 | 17 241 091 | 9 572 802 | 8 934 822 | 13 794 540 | 0 |
| | Billed unmetered consumption | kl/annum | 2 110 164 | 3 290 599 | 3 068 808 | 235 974 | 496 007 | 1 473 300 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 21 334 871 | 16 671 190 | 20 309 899 | 9 808 776 | 9 430 829 | 15 267 840 | 0 |
| | Non-Revenue water | kl/annum | 6 429 623 | 4 859 223 | 6 080 901 | 4 216 224 | 12 217 543 | 5 804 262 | 0 |
| | Water Losses | kl/annum | 6 429 623 | 4 859 223 | 6 080 901 | 4 216 224 | 12 217 543 | 5 804 262 | 0 |
| | % Non-revenue water | | 23.2% | 22.6% | 23.0% | 30.1% | 56.4% | 27.5% | No data |
| | % Water Losses | | 23.2% | 22.6% | 23.0% | 30.1% | 56.4% | 27.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 116 | 89 | 109 | 57 | 88 | 89 | No data |
| | Input: m³ / household / month | | 14 | 11 | 13 | 7 | 11 | 11 | No data |
| | Billed : Litres / capita / day | | 89 | 69 | 84 | 40 | 38 | 65 | No data |
| | Billed : m³ / household / month | | 11 | 8 | 10 | 5 | 5 | 8 | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | -3.88% | |
| | % Water demand growth | | | -22.45% | 22.57% | -46.86% | 54.36% | -2.66% | |
| Source of information | | | | | | | | | |



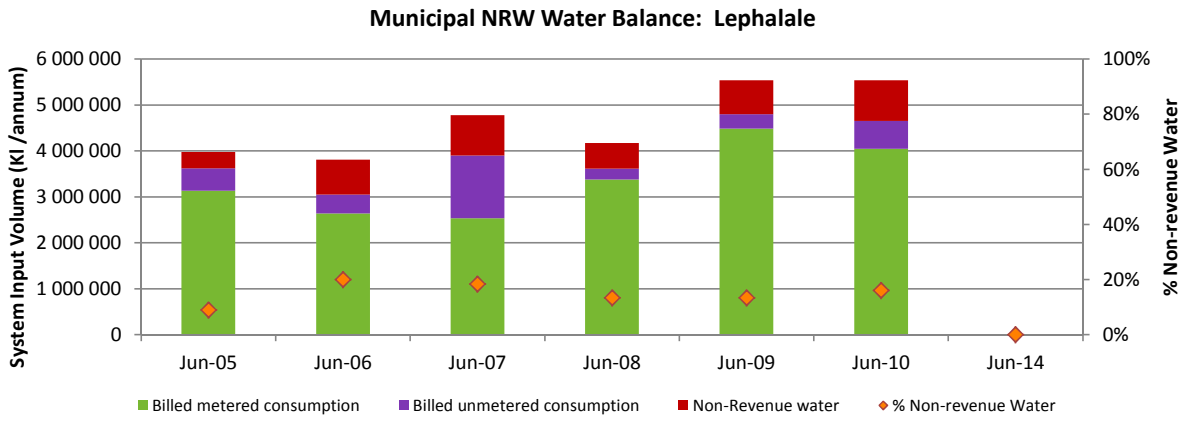

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Limpopo | | | | | | | | WSA |
| Municipal Code | LIM361 | | | | | | | | Yes |
| District Municipality | Waterberg | | | | | | | | Category |
| Municipality | Thabazimbi | | | | | | | | B3 |
| Settlements | THABAZIMBI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 67 253 | 68 106 | 68 515 | 69 030 | 69 444 | 64 184 | |
| | Households | | 22 392 | 22 674 | 22 810 | 22 983 | 23 121 | 21 371 | |
| | Connections - metered | | ~~15 958~~ | ~~16 161~~ | ~~16 258~~ | 16 380 | ~~16 478~~ | ~~15 230~~ | |
| | Connections - Unmetered | | ~~3 150~~ | ~~3 190~~ | ~~3 209~~ | 3 233 | ~~3 252~~ | ~~3 006~~ | |
| | Length of mains (km) | | ~~382~~ | ~~387~~ | ~~389~~ | ~~392~~ | ~~395~~ | ~~365~~ | |
| | System input volume | kl/annum | 8 396 229 | 4 182 041 | 4 878 712 | | ~~4 993 924~~ | | |
| | Billed metered consumption | kl/annum | 5 079 819 | 573 700 | 4 694 968 | | | | |
| | Billed unmetered consumption | kl/annum | 128 592 | 0 | 183 744 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 208 411 | 573 700 | 4 878 712 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 3 187 818 | 3 608 341 | 0 | 0 | 4 993 924 | 0 | 0 |
| | Water Losses | kl/annum | 3 187 818 | 3 608 341 | 0 | 0 | 4 993 924 | 0 | 0 |
| | % Non-revenue water | | 38.0% | 86.3% | Check data | No data | No data | No data | No data |
| | % Water Losses | | 38.0% | 86.3% | No data | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 342 | 168 | 195 | No data | 197 | No data | No data |
| | Input: m³ / household / month | | 31 | 15 | 18 | No data | 18 | No data | No data |
| | Billed : Litres / capita / day | | 212 | 23 | 195 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 19 | 2 | 18 | No data | No data | No data | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | -7.57% | |
| | % Water demand growth | | | -50.19% | 16.66% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



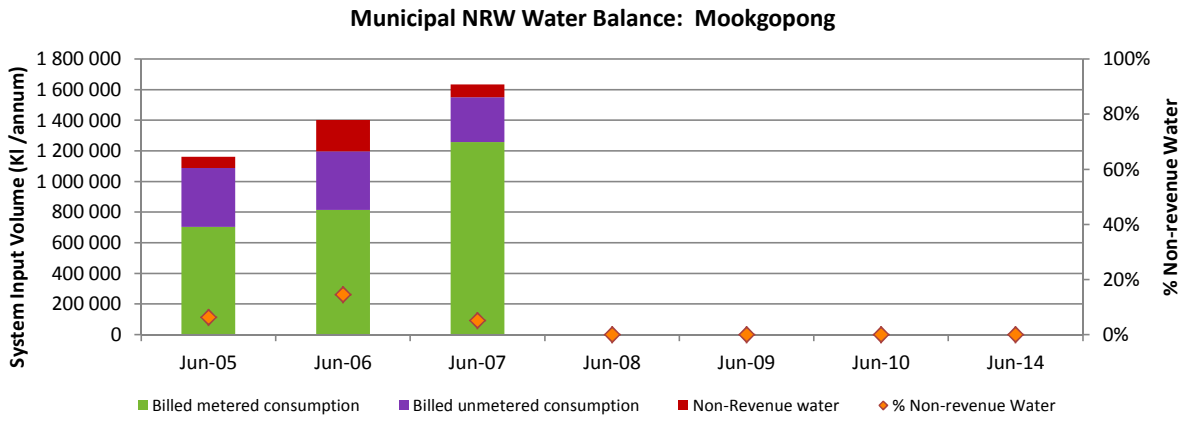

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM362 | | | | | | | Yes |
| District Municipality | | Waterberg | | | | | | | Category |
| Municipality | | Lephalale | | | | | | | B3 |
| Settlements | | ELLISRAS | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 101 453 | 102 736 | 103 349 | 104 120 | 104 745 | 114 595 | |
| | Households | | 25 928 | 26 256 | 26 410 | 26 610 | 26 767 | 27 950 | |
| | Connections - metered | | | | | | | 8 020 | |
| | Connections - Unmetered | | | | | | | 19 930 | |
| | Length of mains (km) | | | | | | | 512 297 | |
| | System input volume | kl/annum | 3 978 000 | 3 808 840 | 4 780 000 | 4 170 000 | 5 540 000 | 5 540 000 | |
| | Billed metered consumption | kl/annum | 3 134 400 | 2 636 000 | 2 535 000 | 3 377 700 | 4 487 400 | 4 044 200 | |
| | Billed unmetered consumption | kl/annum | 486 900 | 411 072 | 1 365 000 | 235 974 | 310 698 | 608 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 621 300 | 3 047 072 | 3 900 000 | 3 613 674 | 4 798 098 | 4 652 200 | 0 |
| | Non-Revenue water | kl/annum | 356 700 | 761 768 | 880 000 | 556 326 | 741 902 | 887 800 | 0 |
| | Water Losses | kl/annum | 356 700 | 761 768 | 880 000 | 556 326 | 741 902 | 887 800 | 0 |
| | % Non-revenue water | | 9.0% | 20.0% | 18.4% | 13.3% | 13.4% | 16.0% | No data |
| | % Water Losses | | 9.0% | 20.0% | 18.4% | 13.3% | 13.4% | 16.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 107 | 102 | 127 | 110 | 145 | 132 | No data |
| | Input: m³ / household / month | | 13 | 12 | 15 | 13 | 17 | 17 | No data |
| | Billed : Litres / capita / day | | 98 | 81 | 103 | 95 | 125 | 111 | No data |
| | Billed : m³ / household / month | | 12 | 10 | 12 | 11 | 15 | 14 | No data |
| | % Population growth | | | 1.26% | 0.60% | 0.75% | 0.60% | 9.40% | |
| | % Water demand growth | | | -4.25% | 25.50% | -12.76% | 32.85% | 0.00% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | | |



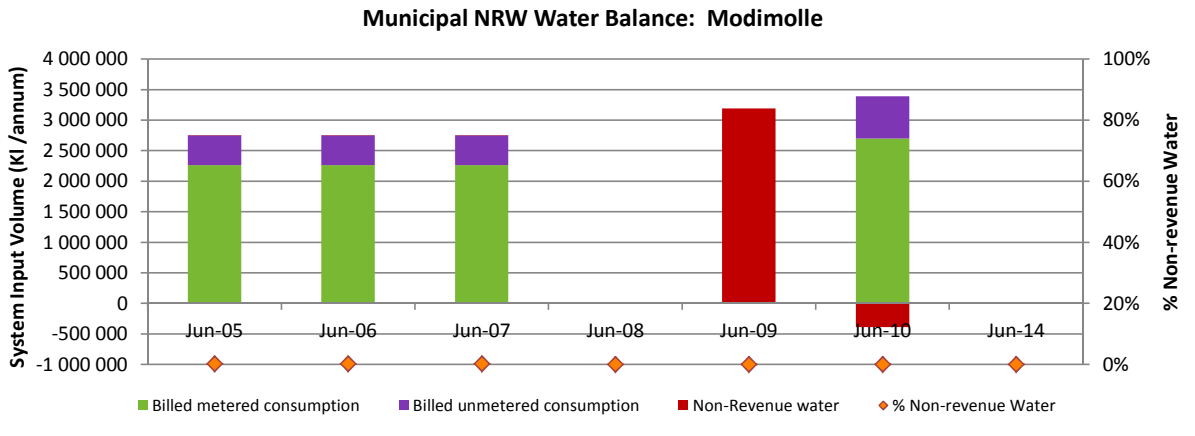

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Limpopo | | | | | | | | WSA |
| Municipal Code | LIM364 | | | | | | | | Yes |
| District Municipality | Waterberg | | | | | | | | Category |
| Municipality | Mookgopong | | | | | | | | B3 |
| Settlements | NABOOMSPRUIT | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 36 569 | 37 032 | 37 255 | 37 535 | 37 760 | 38 410 | |
| | Households | | 8 710 | 8 821 | 8 874 | 8 940 | 8 994 | 9 149 | |
| | Connections - metered | | ~~7 064~~ | ~~7 154~~ | ~~7 197~~ | 7 251 | ~~7 294~~ | ~~7 420~~ | |
| | Connections - Unmetered | | ~~738~~ | ~~747~~ | ~~751~~ | 757 | ~~762~~ | ~~775~~ | |
| | Length of mains (km) | | ~~156~~ | ~~158~~ | ~~159~~ | ~~160~~ | ~~161~~ | ~~164~~ | |
| | System input volume | kl/annum | 1 160 641 | 1 401 625 | 1 633 332 | | | | |
| | Billed metered consumption | kl/annum | 704 439 | 813 625 | 1 257 330 | | | | |
| | Billed unmetered consumption | kl/annum | 383 832 | 383 832 | 293 112 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 088 271 | 1 197 457 | 1 550 442 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 72 370 | 204 168 | 82 890 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 72 370 | 204 168 | 82 890 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 6.2% | 14.6% | 5.1% | No data | No data | No data | No data |
| | % Water Losses | | 6.2% | 14.6% | 5.1% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 87 | 104 | 120 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 11 | 13 | 15 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 82 | 89 | 114 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 10 | 11 | 15 | No data | No data | No data | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | 1.72% | |
| | % Water demand growth | | | 20.76% | 16.53% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



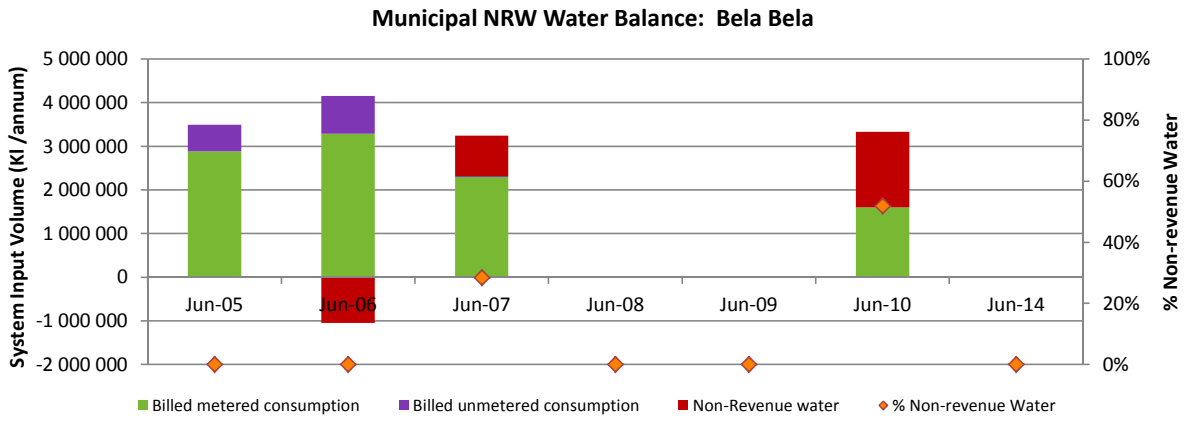

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM365 | | | | | | | Yes |
| District Municipality | | Waterberg | | | | | | | Category |
| Municipality | | Modimolle | | | | | | | B3 |
| Settlements | | NYLSTROOM | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 80 940 | 81 964 | 82 456 | 83 075 | 83 573 | 85 010 | |
| | Households | | 20 473 | 20 732 | 20 856 | 21 014 | 21 140 | 21 503 | |
| | Connections - metered | | ~~15 376~~ | ~~15 571~~ | ~~15 664~~ | 15 782 | ~~15 877~~ | ~~16 150~~ | |
| | Connections - Unmetered | | ~~2 328~~ | ~~2 358~~ | ~~2 372~~ | 2 390 | ~~2 404~~ | ~~2 446~~ | |
| | Length of mains (km) | | ~~354~~ | ~~359~~ | ~~361~~ | ~~363~~ | ~~366~~ | ~~372~~ | |
| | System input volume | kl/annum | 2 755 000 | 2 755 000 | 2 755 000 | | ~~3 190 224~~ | 3 000 000 | |
| | Billed metered consumption | kl/annum | 2 265 440 | 2 265 440 | 2 265 440 | | | 2 700 000 | |
| | Billed unmetered consumption | kl/annum | 484 560 | 484 560 | 484 560 | | | 690 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 750 000 | 2 750 000 | 2 750 000 | 0 | 0 | 3 390 000 | 0 |
| | Non-Revenue water | kl/annum | 5 000 | 5 000 | 5 000 | 0 | 3 190 224 | -390 000 | 0 |
| | Water Losses | kl/annum | 5 000 | 5 000 | 5 000 | 0 | 3 190 224 | -390 000 | 0 |
| | % Non-revenue water | | 0.2% | 0.2% | 0.2% | No data | No data | Check data | No data |
| | % Water Losses | | 0.2% | 0.2% | 0.2% | No data | 100.0% | Check data | No data |
| Key performance indicators | Input : Litres / capita / day | | 93 | 92 | 92 | No data | 105 | 97 | No data |
| | Input: m³ / household / month | | 11 | 11 | 11 | No data | 13 | 12 | No data |
| | Billed : Litres / capita / day | | 93 | 92 | 91 | No data | No data | 109 | No data |
| | Billed : m³ / household / month | | 11 | 11 | 11 | No data | No data | 13 | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | 1.72% | |
| | % Water demand growth | | | 0.00% | 0.00% | | #DIV/0! | -5.96% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |



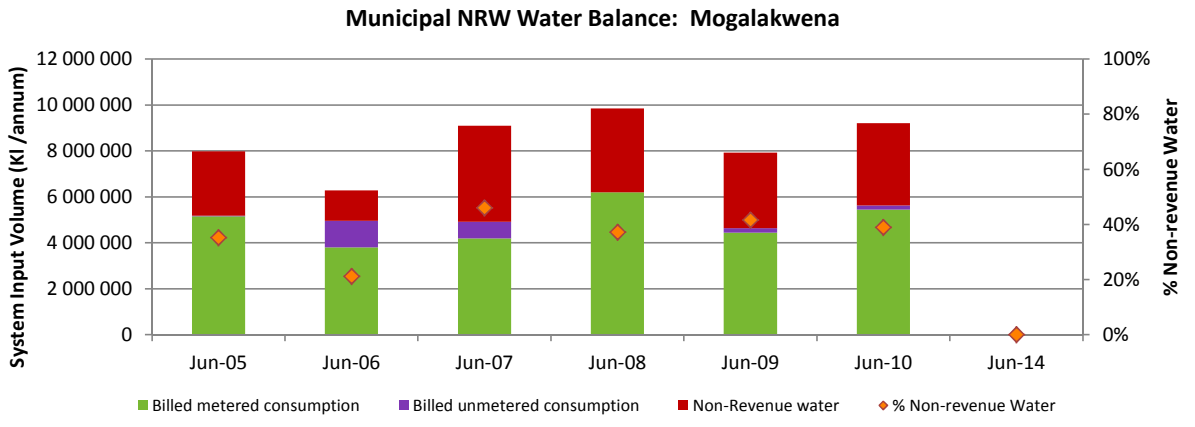

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM366 | | | | | | Yes |
| District Municipality | | | Waterberg | | | | | | Category |
| Municipality | | | Bela Bela | | | | | | B3 |
| Settlements | | | WARMBAD | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 54 884 | 55 579 | 55 913 | 56 333 | 56 671 | 51 547 | |
| | Households | | 13 642 | 13 814 | 13 897 | 14 002 | 14 086 | 12 812 | |
| | Connections - metered | | ~~13 718~~ | ~~13 892~~ | ~~13 975~~ | 14 080 | ~~14 164~~ | ~~12 884~~ | |
| | Connections - Unmetered | | ~~6~~ | ~~6~~ | ~~6~~ | 6 | ~~6~~ | ~~5~~ | |
| | Length of mains (km) | | ~~274~~ | ~~278~~ | ~~280~~ | ~~282~~ | ~~283~~ | ~~258~~ | |
| | System input volume | kl/annum | 3 493 600 | 3 103 942 | 3 242 174 | | | 3 330 000 | |
| | Billed metered consumption | kl/annum | 2 882 176 | 3 288 056 | 2 298 149 | | | 1 600 000 | |
| | Billed unmetered consumption | kl/annum | 611 424 | 864 000 | 22 392 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 493 600 | 4 152 056 | 2 320 541 | 0 | 0 | 1 600 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | -1 048 114 | 921 633 | 0 | 0 | 1 730 000 | 0 |
| | Water Losses | kl/annum | 0 | -1 048 114 | 921 633 | 0 | 0 | 1 730 000 | 0 |
| | % Non-revenue water | | Check data | Check data | 28.4% | No data | No data | 52.0% | No data |
| | % Water Losses | | No data | Check data | 28.4% | No data | No data | 52.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 174 | 153 | 159 | No data | No data | 177 | No data |
| | Input: m³ / household / month | | 21 | 19 | 19 | No data | No data | 22 | No data |
| | Billed : Litres / capita / day | | 174 | 205 | 114 | No data | No data | 85 | No data |
| | Billed : m³ / household / month | | 21 | 25 | 14 | No data | No data | 10 | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | -9.04% | |
| | % Water demand growth | | | -11.15% | 4.45% | | | #DIV/0! | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | |



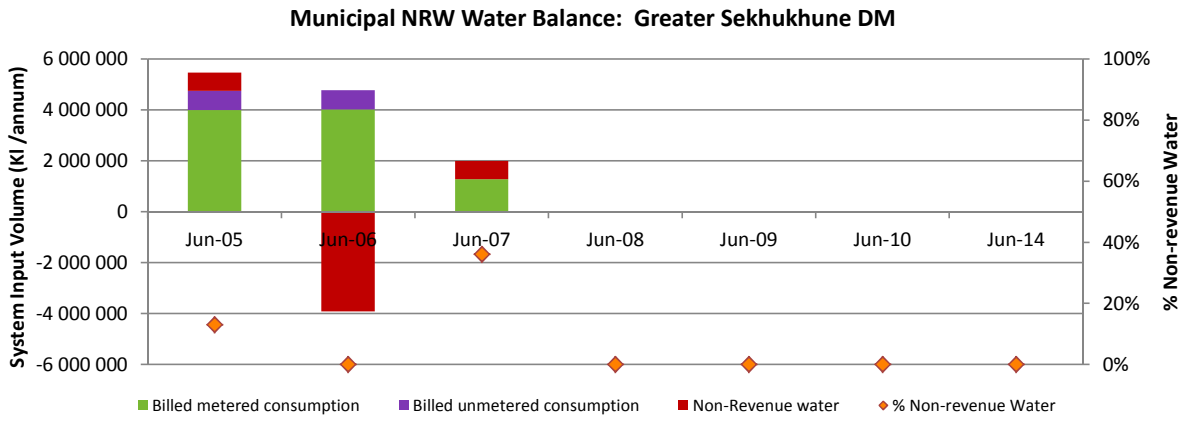

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM367 | | | | | | | Yes |
| District Municipality | | Waterberg | | | | | | | Category |
| Municipality | | Mogalakwena | | | | | | | B2 |
| Settlements | | LEKALAKALA, MAKHWELERENG, POTGIETERSRUS | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 312 216 | 316 169 | 318 065 | 320 454 | 322 378 | 294 655 | |
| | Households | | 74 689 | 75 635 | 76 095 | 76 651 | 77 114 | 70 482 | |
| | Connections - metered | | 14 480 | 14 482 | 14 532 | 15 932 | 16 112 | 16 129 | |
| | Connections - Unmetered | | 1 592 | 1 597 | 1 681 | 1 769 | 1 862 | 1 960 | |
| | Length of mains (km) | | 86 | 105 | 124 | 152 | 152 | 152 | |
| | System input volume | kl/annum | 7 981 024 | 6 278 965 | 9 101 582 | 9 855 000 | 7 924 224 | 9 202 102 | |
| | Billed metered consumption | kl/annum | 5 158 433 | 3 803 770 | 4 190 204 | 6 195 102 | 4 447 422 | 5 450 340 | |
| | Billed unmetered consumption | kl/annum | 14 856 | 1 147 135 | 720 000 | 0 | 185 309 | 175 300 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 173 289 | 4 950 905 | 4 910 204 | 6 195 102 | 4 632 731 | 5 625 640 | 0 |
| | Non-Revenue water | kl/annum | 2 807 735 | 1 328 060 | 4 191 378 | 3 659 898 | 3 291 493 | 3 576 462 | 0 |
| | Water Losses | kl/annum | 2 807 735 | 1 328 060 | 4 191 378 | 3 659 898 | 3 291 493 | 3 576 462 | 0 |
| | % Non-revenue water | | 35.2% | 21.2% | 46.1% | 37.1% | 41.5% | 38.9% | No data |
| | % Water Losses | | 35.2% | 21.2% | 46.1% | 37.1% | 41.5% | 38.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 70 | 54 | 78 | 84 | 67 | 86 | No data |
| | Input: m³ / household / month | | 9 | 7 | 10 | 11 | 9 | 11 | No data |
| | Billed : Litres / capita / day | | 45 | 43 | 42 | 53 | 39 | 52 | No data |
| | Billed : m³ / household / month | | 6 | 5 | 5 | 7 | 5 | 7 | No data |
| | % Population growth | | | 1.27% | 0.60% | 0.75% | 0.60% | -8.60% | |
| | % Water demand growth | | | -21.33% | 44.95% | 8.28% | -19.59% | 16.13% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



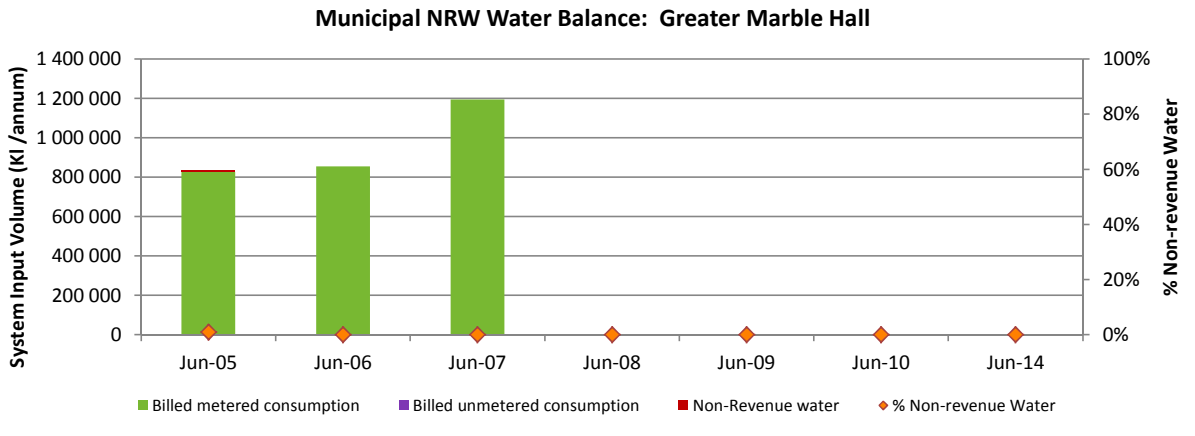

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | DC47 | | | | | | | Yes |
| District Municipality | | Greater Sekhukhune | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 017 222 | 1 017 161 | 1 023 267 | 1 030 949 | 1 037 134 | 957 723 | 0 |
| | Households | | 215 527 | 215 514 | 216 787 | 218 449 | 219 738 | 202 932 | 0 |
| | Connections - metered | | 94 667 | 94 661 | 95 229 | 95 944 | 96 520 | 89 949 | 0 |
| | Connections - Unmetered | | 88 172 | 88 167 | 88 685 | 89 371 | 89 895 | 82 424 | 0 |
| | Length of mains (km) | | 3 657 | 3 657 | 3 678 | 3 706 | 3 728 | 3 447 | 0 |
| | System input volume | kl/annum | 5 463 699 | 855 168 | 1 997 195 | 0 | 0 | 0 | 0 |
| | Billed metered consumption | kl/annum | 3 992 116 | 4 019 698 | 1 277 594 | 0 | 0 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 758 232 | 758 232 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 4 750 348 | 4 777 930 | 1 277 594 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 713 351 | -3 922 762 | 719 601 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 713 351 | -3 922 762 | 719 601 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 13.1% | Check data | 36.0% | No data | No data | No data | No data |
| | % Water Losses | | 13.1% | Check data | 36.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 15 | 2 | 5 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 2 | 0 | 1 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 13 | 13 | 3 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 2 | 2 | 0 | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -7.66% | |
| | % Water demand growth | | | -84.35% | 133.54% | | | | |
| Source of information | | | | | | | | | |



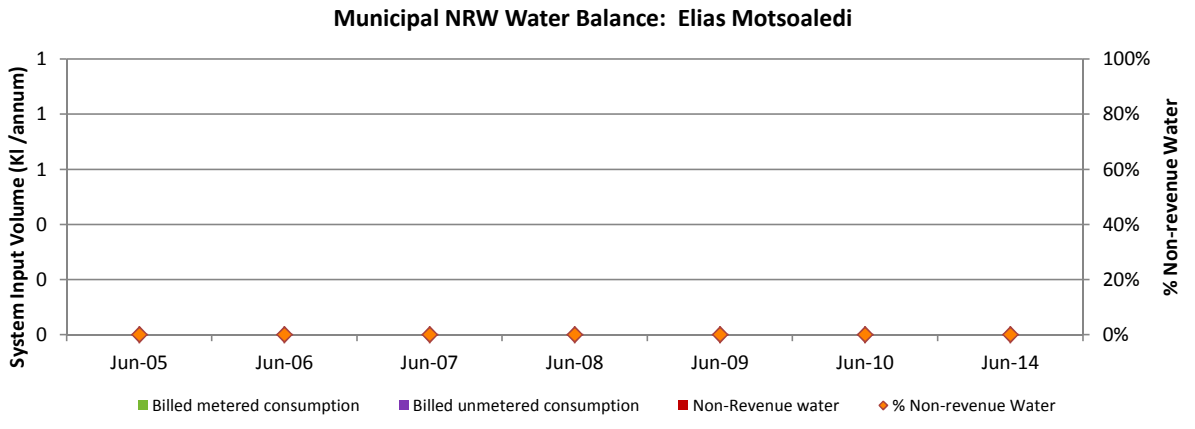

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM471 | | | | | | | No |
| District Municipality | | Greater Sekhukhune | | | | | | | Category |
| Municipality | | Greater Marble Hall | | | | | | | B4 |
| Settlements | | Marble Hall | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 126 865 | 126 857 | 127 619 | 128 578 | 129 353 | 121 647 | |
| | Households | | 26 582 | 26 580 | 26 741 | 26 937 | 27 101 | 25 483 | |
| | Connections - metered | | ~~21 737~~ | ~~21 736~~ | ~~21 867~~ | 22 031 | ~~22 164~~ | ~~20 843~~ | |
| | Connections - Unmetered | | ~~4 821~~ | ~~4 820~~ | ~~4 849~~ | 4 885 | ~~4 915~~ | ~~4 621~~ | |
| | Length of mains (km) | | ~~531~~ | ~~531~~ | ~~534~~ | ~~538~~ | ~~542~~ | ~~509~~ | |
| | System input volume | kl/annum | 835 445 | 855 168 | 1 193 874 | | | | |
| | Billed metered consumption | kl/annum | 827 586 | 855 168 | 1 193 874 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 827 586 | 855 168 | 1 193 874 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 7 859 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 7 859 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 0.9% | Check data | Check data | No data | No data | No data | No data |
| | % Water Losses | | 0.9% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 18 | 18 | 26 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 3 | 3 | 4 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 18 | 18 | 26 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 3 | 3 | 4 | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -5.96% | |
| | % Water demand growth | | | 2.36% | 39.61% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



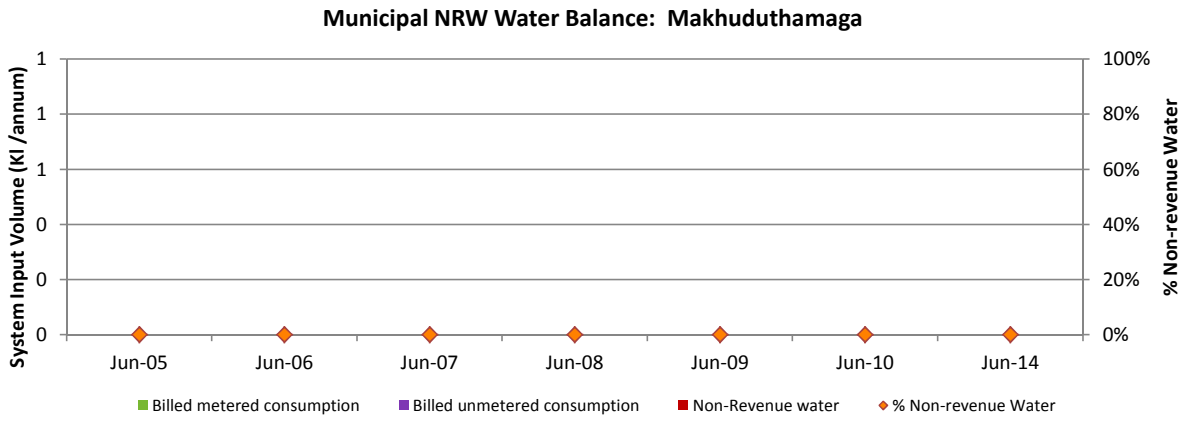

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM472 | | | | | | No |
| District Municipality | | | Greater Sekhukhune | | | | | | Category |
| Municipality | | | Elias Motsoaledi | | | | | | B4 |
| Settlements | | | GAMALAKHE, GCILIMA, PORT SHEPSTONE, | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 229 098 | 229 080 | 230 454 | 232 182 | 233 573 | 223 013 | |
| | Households | | 49 341 | 49 337 | 49 631 | 50 004 | 50 303 | 48 022 | |
| | Connections - metered | | ~~32 173~~ | ~~32 170~~ | ~~32 363~~ | 32 606 | ~~32 801~~ | ~~31 318~~ | |
| | Connections - Unmetered | | ~~11 446~~ | ~~11 445~~ | ~~11 513~~ | 11 600 | ~~11 669~~ | ~~11 140~~ | |
| | Length of mains (km) | | ~~872~~ | ~~872~~ | ~~878~~ | ~~884~~ | ~~889~~ | ~~849~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -4.52% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



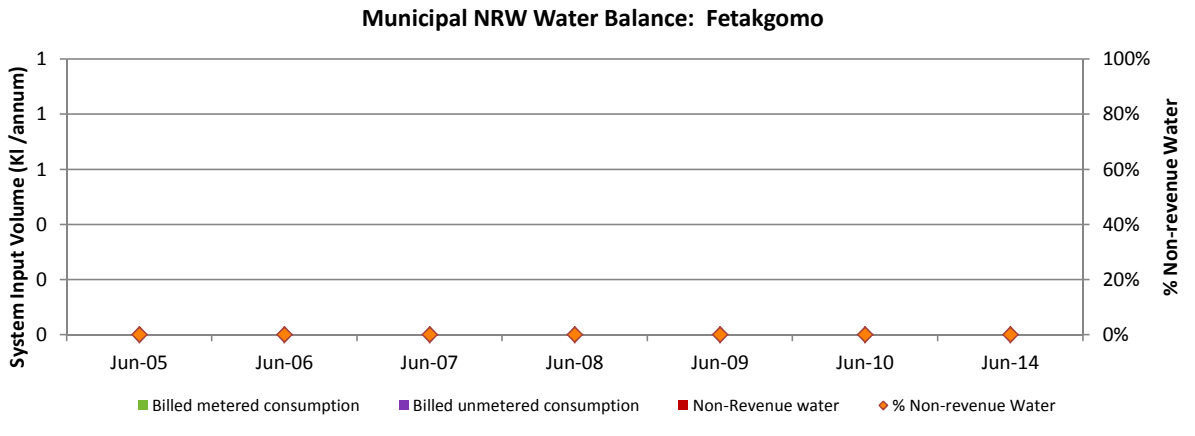

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Limpopo | | | | | | | | WSA |
| Municipal Code | LIM473 | | | | | | | | No |
| District Municipality | Greater Sekhukhune | | | | | | | | Category |
| Municipality | Makhuduthamaga | | | | | | | | B4 |
| Settlements | JANE FURSE, PHOKWANE, NGWARITSI | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 278 547 | 278 533 | 280 204 | 282 305 | 283 997 | 258 179 | |
| | Households | | 59 076 | 59 073 | 59 418 | 59 879 | 60 229 | 54 757 | |
| | Connections - metered | | ~~13 975~~ | ~~13 975~~ | ~~14 059~~ | 14 164 | ~~14 249~~ | ~~12 954~~ | |
| | Connections - Unmetered | | ~~30 659~~ | ~~30 658~~ | ~~30 837~~ | 31 076 | ~~31 258~~ | ~~28 418~~ | |
| | Length of mains (km) | | ~~893~~ | ~~893~~ | ~~898~~ | ~~905~~ | ~~910~~ | ~~827~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -9.09% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



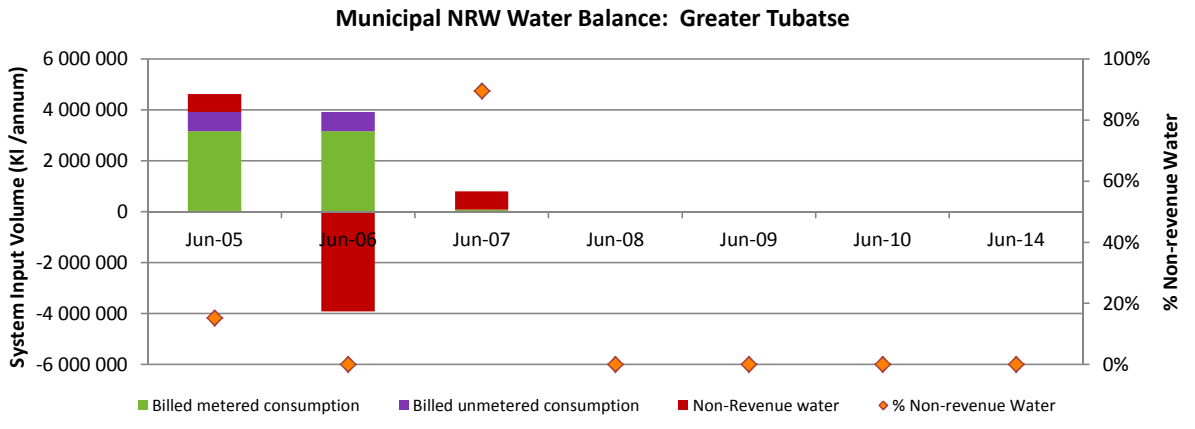

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Limpopo | | | | | | | WSA |
| Municipal Code | | LIM474 | | | | | | | No |
| District Municipality | | Greater Sekhukhune | | | | | | | Category |
| Municipality | | Fetakgomo | | | | | | | B4 |
| Settlements | | Fetakgomo | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 97 401 | 97 395 | 97 979 | 98 714 | 99 303 | 90 270 | |
| | Households | | 20 890 | 20 888 | 21 007 | 21 174 | 21 295 | 19 361 | |
| | Connections - metered | | ~~7 513~~ | ~~7 512~~ | ~~7 557~~ | 7 614 | ~~7 659~~ | ~~6 963~~ | |
| | Connections - Unmetered | | ~~13 503~~ | ~~13 502~~ | ~~13 579~~ | 13 687 | ~~13 765~~ | ~~12 515~~ | |
| | Length of mains (km) | | ~~420~~ | ~~420~~ | ~~423~~ | ~~426~~ | ~~428~~ | ~~390~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -9.10% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Limpopo | | | | | | WSA |
| Municipal Code | | | LIM475 | | | | | | No |
| District Municipality | | | Greater Sekhukhune | | | | | | Category |
| Municipality | | | Greater Tubatse | | | | | | B4 |
| Settlements | | | Burgersfort/Ohrigstad/Eastern Tubatse | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 285 311 | 285 296 | 287 011 | 289 170 | 290 908 | 264 614 | |
| | Households | | 59 638 | 59 636 | 59 990 | 60 455 | 60 810 | 55 309 | |
| | Connections - metered | | ~~19 268~~ | ~~19 267~~ | ~~19 383~~ | 19 529 | ~~19 646~~ | ~~17 871~~ | |
| | Connections - Unmetered | | ~~27 743~~ | ~~27 742~~ | ~~27 907~~ | 28 123 | ~~28 288~~ | ~~25 729~~ | |
| | Length of mains (km) | | ~~940~~ | ~~940~~ | ~~946~~ | ~~953~~ | ~~959~~ | ~~872~~ | |
| | System input volume | kl/annum | 4 628 254 | 0 | 803 321 | | | | |
| | Billed metered consumption | kl/annum | 3 164 530 | 3 164 530 | 83 720 | | | | |
| | Billed unmetered consumption | kl/annum | 758 232 | 758 232 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 922 762 | 3 922 762 | 83 720 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 705 492 | -3 922 762 | 719 601 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 705 492 | -3 922 762 | 719 601 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 15.2% | No data | 89.6% | No data | No data | No data | No data |
| | % Water Losses | | 15.2% | No data | 89.6% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 44 | No data | 8 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 6 | No data | 1 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 38 | 38 | 1 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 5 | 5 | 0 | No data | No data | No data | No data |
| | % Population growth | | | -0.01% | 0.60% | 0.75% | 0.60% | -9.04% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




Comments

# National Non-Revenue Water Assessment

## Mpumalanga Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Introductory notes

### Terminology

| Acronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Measurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (preferred term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not preferred term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

**Unaccounted for Water (UAW / UFW)**

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

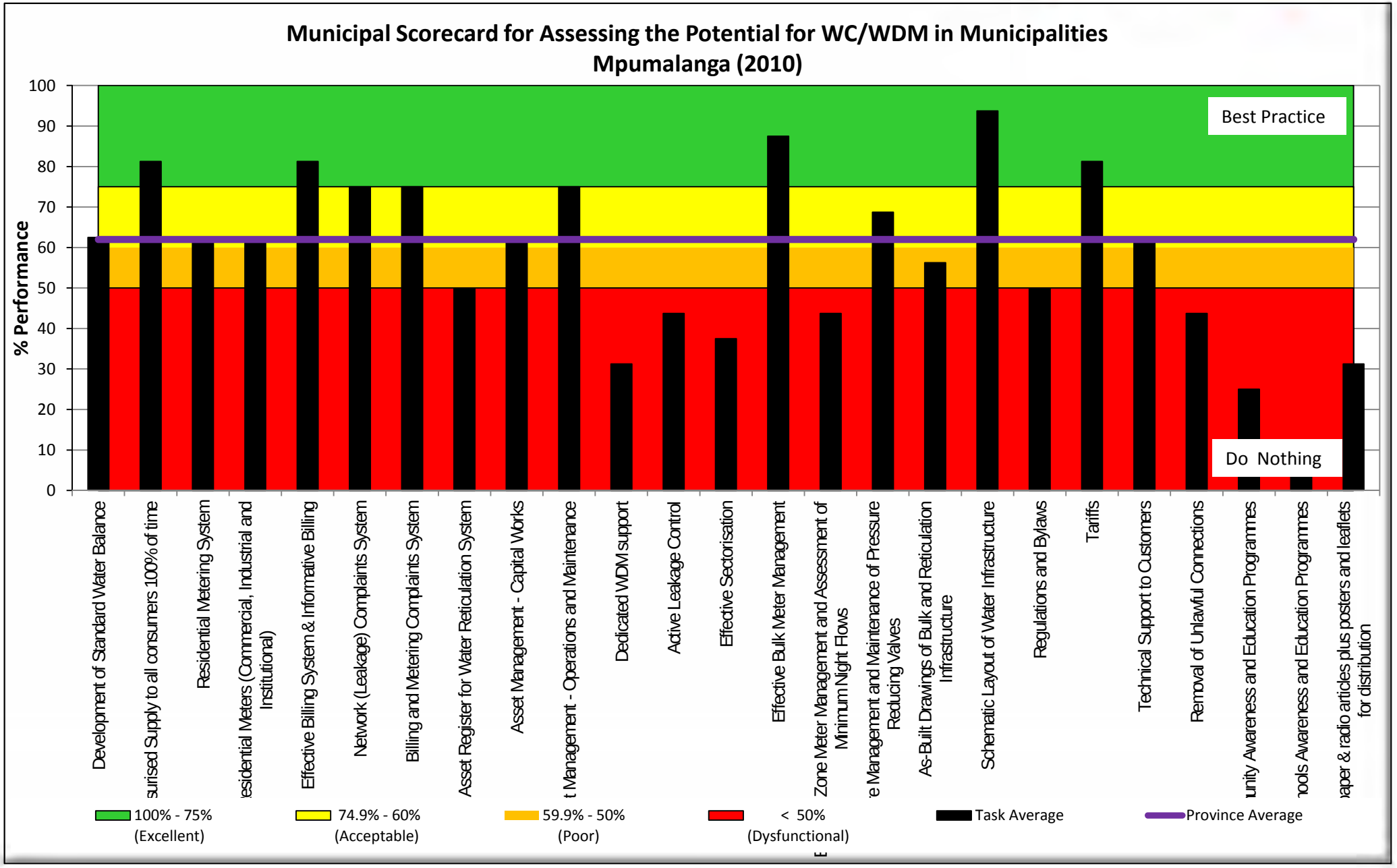
**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

**NON REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

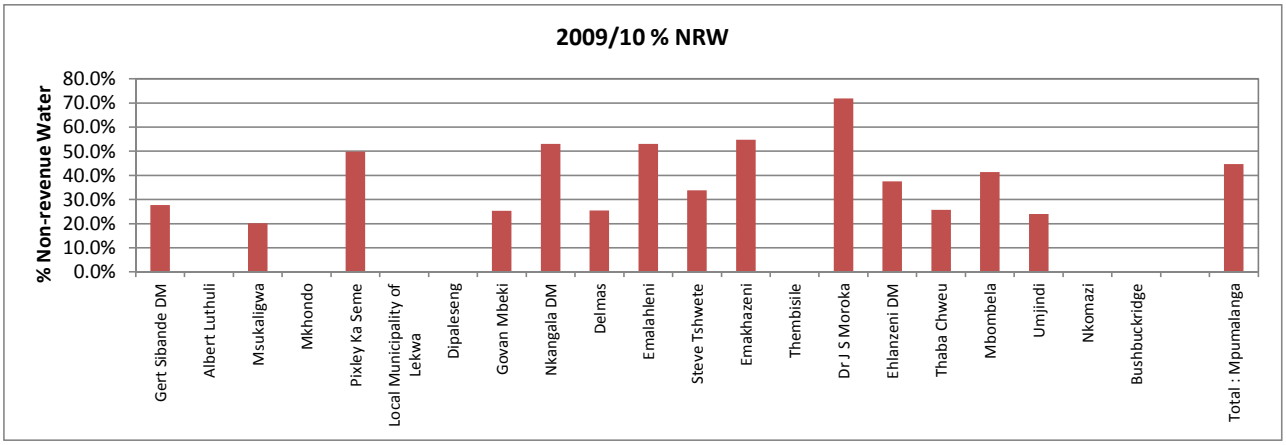
| Province | Mpumalanga |
|---|---|

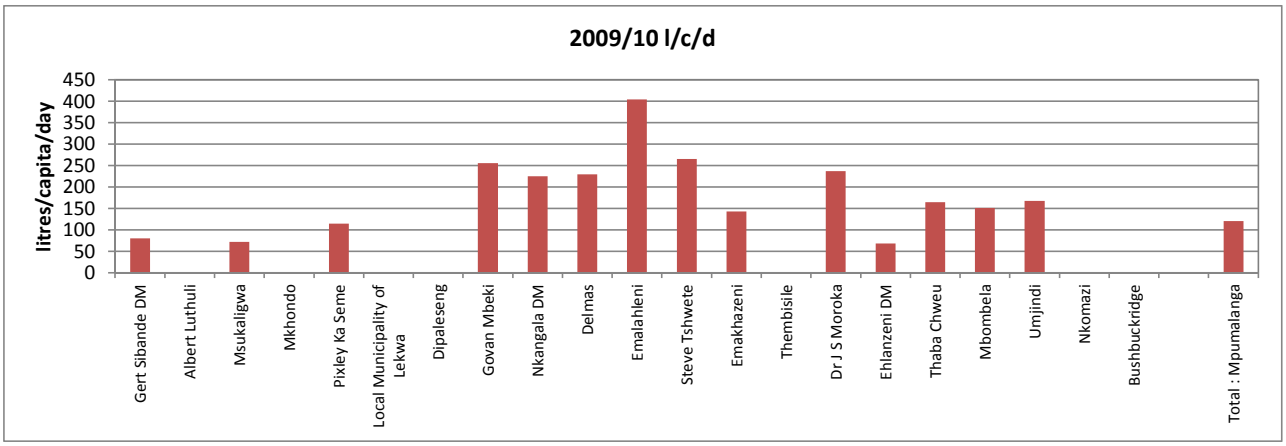
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | DC30 | Gert Sibande | Gert Sibande DM | C1 | No |
| 2 | MP301 | Gert Sibande | Albert Luthuli | B4 | Yes |
| 3 | MP302 | Gert Sibande | Msukaligwa | B2 | Yes |
| 4 | MP303 | Gert Sibande | Mkhondo | B3 | Yes |
| 5 | MP304 | Gert Sibande | Pixley Ka Seme | | Yes |
| 6 | MP305 | Gert Sibande | Local Municipality of Lekwa | B3 | Yes |
| 7 | MP306 | Gert Sibande | Dipaleseng | B3 | Yes |
| 8 | MP307 | Gert Sibande | Govan Mbeki | B1 | Yes |
| 9 | DC31 | Nkangala | Nkangala DM | C1 | No |
| 10 | MP311 | Nkangala | Delmas | B3 | Yes |
| 11 | MP312 | Nkangala | Emalahleni | B1 | Yes |
| 12 | MP313 | Nkangala | Steve Tshwete | B1 | Yes |
| 13 | MP314 | Nkangala | Emakhazeni | B2 | Yes |
| 14 | MP315 | Nkangala | Thembisile | B4 | Yes |
| 15 | MP316 | Nkangala | Dr J S Moroka | B4 | Yes |
| 16 | DC32 | Ehlanzeni | Ehlanzeni DM | C1 | No |
| 17 | MP321 | Ehlanzeni | Thaba Chweu | B3 | Yes |
| 18 | MP322 | Ehlanzeni | Mbombela | B1 | Yes |
| 19 | MP323 | Ehlanzeni | Umjindi | B3 | Yes |
| 20 | MP324 | Ehlanzeni | Nkomazi | B4 | Yes |
| 21 | MP325 | Ehlanzeni | Bushbuckridge | B4 | Yes |

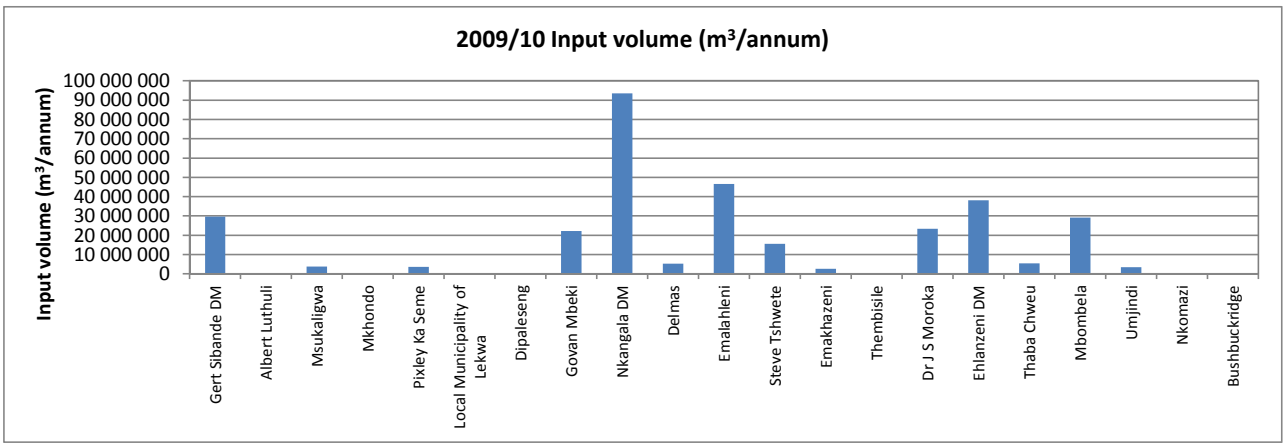
# National NRW Assessment

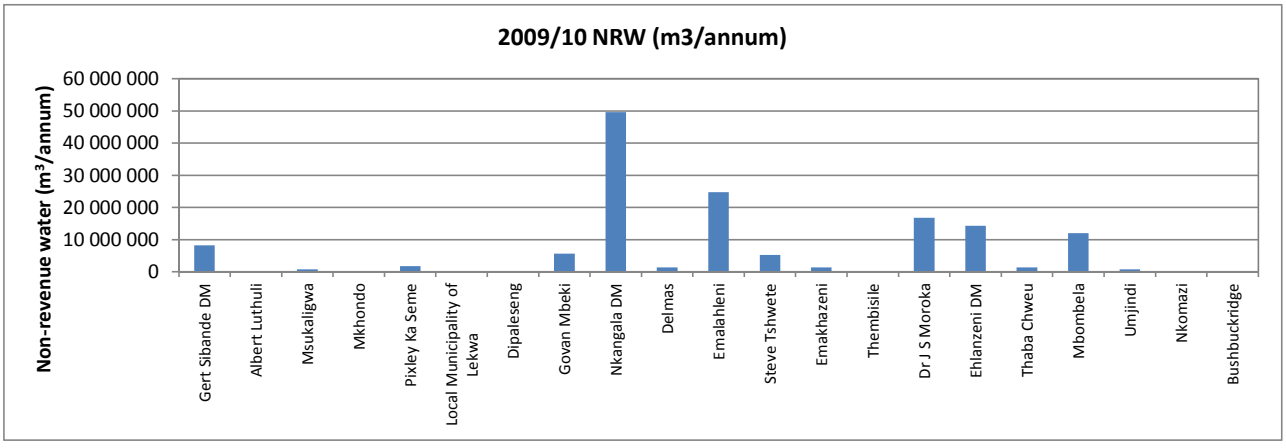


**Key Performance Indicators**

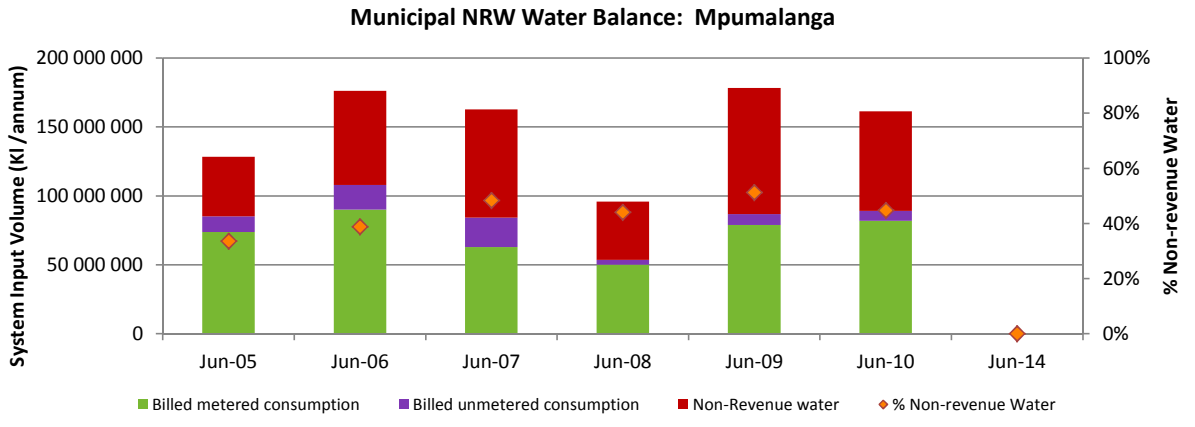


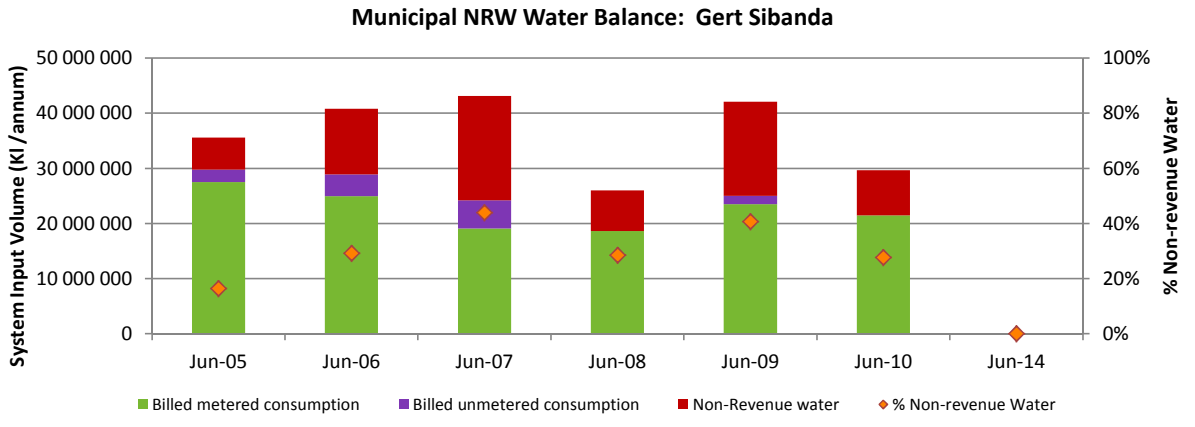



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 3 584 604 | 3 611 892 | 3 633 563 | 3 683 233 | 3 705 343 | 3 664 724 | 0 |
| | Households | | 878 366 | 885 046 | 890 357 | 902 515 | 907 933 | 898 804 | 0 |
| | Connections - metered | | 571 936 | 578 094 | 583 366 | 593 387 | 597 651 | 584 358 | 0 |
| | Connections - Unmetered | | 171 322 | 172 321 | 182 681 | 186 041 | 179 912 | 177 723 | 0 |
| | Length of mains (km) | | 14 450 | 14 560 | 14 654 | 14 915 | 14 024 | 13 598 | 0 |
| | System input volume | kl/annum | 128 312 883 | 176 322 487 | 162 834 880 | 95 769 754 | 178 275 658 | 161 376 100 | 0 |
| | Billed metered consumption | kl/annum | 73 807 249 | 90 042 311 | 62 816 781 | 50 140 384 | 78 785 551 | 81 800 695 | 0 |
| | Billed unmetered consumption | kl/annum | 11 408 075 | 17 861 321 | 21 369 363 | 3 495 556 | 8 051 644 | 7 414 357 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 85 215 324 | 107 903 632 | 84 186 144 | 53 635 940 | 86 837 195 | 89 215 052 | 0 |
| | Non-Revenue water | kl/annum | 43 097 559 | 68 418 855 | 78 648 736 | 42 133 814 | 91 438 463 | 72 161 048 | 0 |
| | Water Losses | kl/annum | 43 097 559 | 68 418 855 | 78 648 736 | 42 133 814 | 91 438 463 | 72 161 048 | 0 |
| | % Non-revenue water | | 33.6% | 38.8% | 48.3% | 44.0% | 51.3% | 44.7% | No data |
| | % Water Losses | | 33.6% | 38.8% | 48.3% | 44.0% | 51.3% | 44.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 98 | 134 | 123 | 71 | 132 | 121 | No data |
| | Input: m³ / household / month | | 12 | 17 | 15 | 9 | 16 | 15 | No data |
| | Billed : Litres / capita / day | | 65 | 82 | 63 | 40 | 64 | 67 | No data |
| | Billed : m³ / household / month | | 8 | 10 | 8 | 5 | 8 | 8 | No data |
| | % Population growth | | | 0.76% | 0.60% | 1.37% | 0.60% | -1.10% | |
| | % Water demand growth | | | 37.42% | -7.65% | -41.19% | 86.15% | -9.48% | |
| Source of information | | | | | | | | | |



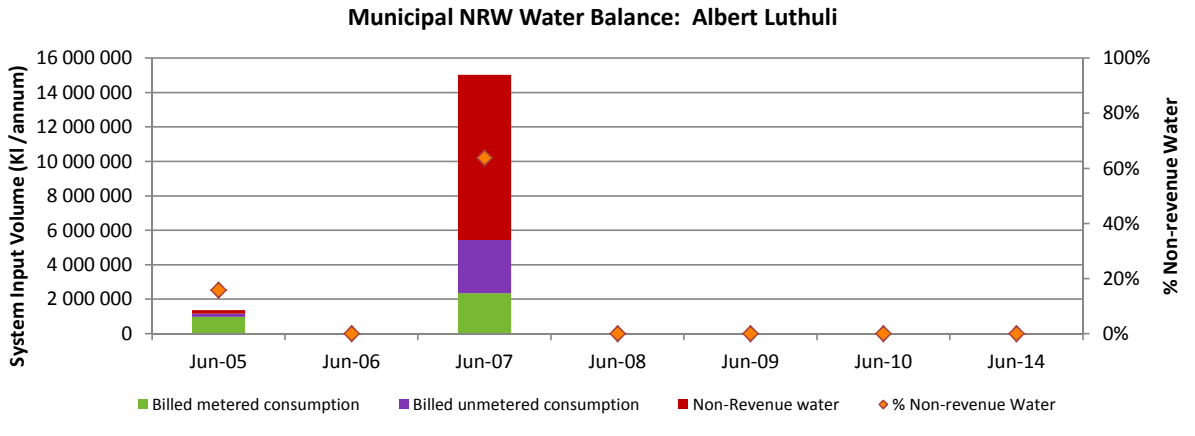

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | DC30 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 974 563 | 979 750 | 985 632 | 999 107 | 1 005 103 | 1 006 160 | 0 |
| | Households | | 240 203 | 241 480 | 242 928 | 246 258 | 247 736 | 247 760 | 0 |
| | Connections - metered | | 182 165 | 183 135 | 184 234 | 186 753 | 187 874 | 175 717 | 0 |
| | Connections - Unmetered | | 41 586 | 41 807 | 42 058 | 42 634 | 42 890 | 39 255 | 0 |
| | Length of mains (km) | | 4 475 | 4 499 | 4 526 | 4 588 | 4 615 | 4 314 | 0 |
| | System input volume | kl/annum | 35 577 784 | 40 810 853 | 43 117 464 | 25 993 987 | 42 110 191 | 29 676 453 | 0 |
| | Billed metered consumption | kl/annum | 27 530 444 | 24 941 826 | 19 092 542 | 18 592 173 | 23 509 954 | 21 460 297 | 0 |
| | Billed unmetered consumption | kl/annum | 2 213 705 | 3 959 827 | 5 088 816 | 0 | 1 493 000 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 29 744 149 | 28 901 653 | 24 181 358 | 18 592 173 | 25 002 954 | 21 460 297 | 0 |
| | Non-Revenue water | kl/annum | 5 833 635 | 11 909 200 | 18 936 106 | 7 401 814 | 17 107 237 | 8 216 156 | 0 |
| | Water Losses | kl/annum | 5 833 635 | 11 909 200 | 18 936 106 | 7 401 814 | 17 107 237 | 8 216 156 | 0 |
| | % Non-revenue water | | 16.4% | 29.2% | 43.9% | 28.5% | 40.6% | 27.7% | No data |
| | % Water Losses | | 16.4% | 29.2% | 43.9% | 28.5% | 40.6% | 27.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 100 | 114 | 120 | 71 | 115 | 81 | No data |
| | Input: m³ / household / month | | 12 | 14 | 15 | 9 | 14 | 10 | No data |
| | Billed : Litres / capita / day | | 84 | 81 | 67 | 51 | 68 | 58 | No data |
| | Billed : m³ / household / month | | 10 | 10 | 8 | 6 | 8 | 7 | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | 0.11% | |
| | % Water demand growth | | | 14.71% | 5.65% | -39.71% | 62.00% | -29.53% | |
| Source of information | | | | | | | | | |



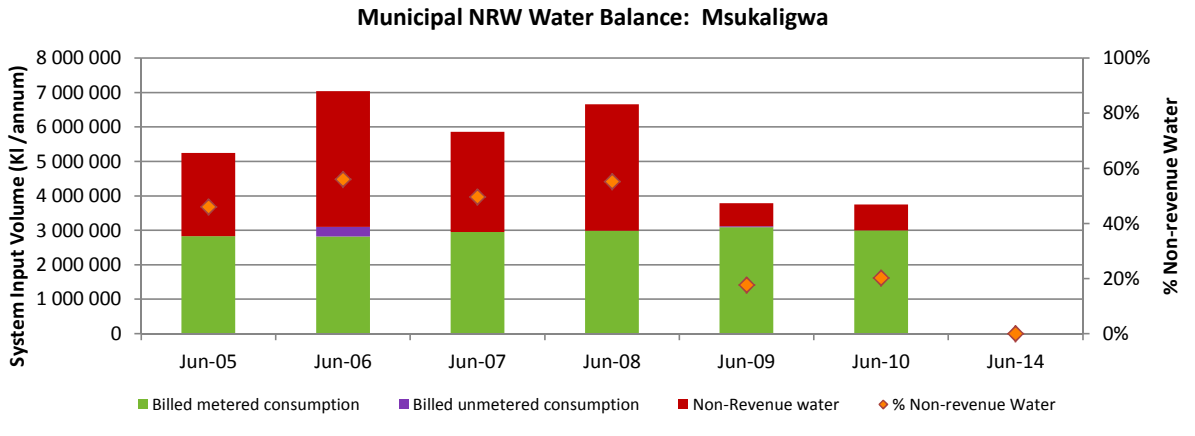

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP301 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Albert Luthuli | | | | | | | | B4 |
| Settlements | DIEPDAL, ELUKWATINI, FERNIE,GLENMORE, NHLAZATHSE | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 199 595 | 200 658 | 201 861 | 204 621 | 205 851 | 212 137 | |
| | Households | | 44 237 | 44 471 | 44 740 | 45 348 | 45 622 | 47 012 | |
| | Connections - metered | | ~~28 025~~ | ~~28 175~~ | ~~28 343~~ | 28 731 | ~~28 904~~ | ~~29 786~~ | |
| | Connections - Unmetered | | ~~10 987~~ | ~~11 045~~ | ~~11 112~~ | 11 263 | ~~11 331~~ | ~~11 676~~ | |
| | Length of mains (km) | | ~~780~~ | ~~784~~ | ~~789~~ | ~~800~~ | ~~805~~ | ~~829~~ | |
| | System input volume | kl/annum | 1 374 311 | | 15 033 139 | | | | |
| | Billed metered consumption | kl/annum | 973 507 | | 2 345 328 | | | | |
| | Billed unmetered consumption | kl/annum | 183 096 | | 3 092 832 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 156 603 | 0 | 5 438 160 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 217 708 | 0 | 9 594 979 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 217 708 | 0 | 9 594 979 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 15.8% | No data | 63.8% | No data | No data | No data | No data |
| | % Water Losses | | 15.8% | No data | 63.8% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 19 | No data | 204 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 3 | No data | 28 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 16 | No data | 74 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 2 | No data | 10 | No data | No data | No data | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | 3.05% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | PMP302 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Msukaligwa | | | | | | | | B2 |
| Settlements | ERMELO, KWAZANELE, WESSELTON | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 136 273 | 136 998 | 137 822 | 139 707 | 140 546 | 142 673 | |
| | Households | | 34 020 | 34 201 | 34 404 | 34 876 | 35 085 | 35 618 | |
| | Connections - metered | | ~~30 637~~ | ~~30 800~~ | ~~30 985~~ | 31 409 | ~~31 598~~ | 19 963 | |
| | Connections - Unmetered | | ~~3 586~~ | ~~3 605~~ | ~~3 626~~ | 3 676 | ~~3 698~~ | 0 | |
| | Length of mains (km) | | ~~684~~ | ~~688~~ | ~~692~~ | ~~702~~ | ~~706~~ | 413 | |
| | System input volume | kl/annum | 5 248 934 | 7 039 822 | 5 855 804 | ~~6 655 888~~ | 3 783 487 | 3 751 034 | |
| | Billed metered consumption | kl/annum | 2 834 345 | 2 823 758 | 2 951 122 | ~~2 986 679~~ | 3 086 015 | 2 993 141 | |
| | Billed unmetered consumption | kl/annum | 0 | 273 600 | 0 | | 29 000 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 834 345 | 3 097 358 | 2 951 122 | 2 986 679 | 3 115 015 | 2 993 141 | 0 |
| | Non-Revenue water | kl/annum | 2 414 589 | 3 942 464 | 2 904 682 | 3 669 209 | 668 472 | 757 893 | 0 |
| | Water Losses | kl/annum | 2 414 589 | 3 942 464 | 2 904 682 | 3 669 209 | 668 472 | 757 893 | 0 |
| | % Non-revenue water | | 46.0% | 56.0% | 49.6% | 55.1% | 17.7% | 20.2% | No data |
| | % Water Losses | | 46.0% | 56.0% | 49.6% | 55.1% | 17.7% | 20.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 106 | 141 | 116 | 131 | 74 | 72 | No data |
| | Input: m³ / household / month | | 13 | 17 | 14 | 16 | 9 | 9 | No data |
| | Billed : Litres / capita / day | | 57 | 62 | 59 | 59 | 61 | 57 | No data |
| | Billed : m³ / household / month | | 7 | 8 | 7 | 7 | 7 | 7 | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | 1.51% | |
| | % Water demand growth | | | 34.12% | -16.82% | 13.66% | -43.16% | -0.86% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

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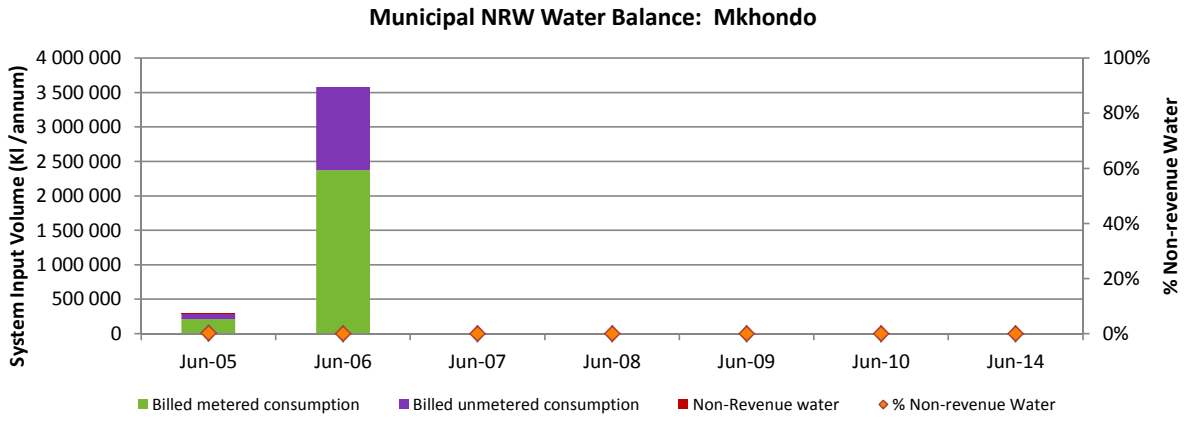
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP303 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Mkhondo | | | | | | | | B3 |
| Settlements | DRIEFONTEIN, ETHANDAKUKHANYA, PIET RETIEF | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 161 620 | 162 481 | 163 456 | 165 689 | 166 683 | 163 921 | |
| | Households | | 33 085 | 33 261 | 33 460 | 33 921 | 34 124 | 33 561 | |
| | Connections - metered | | ~~17 865~~ | ~~17 960~~ | ~~18 068~~ | 18 315 | ~~18 425~~ | ~~18 120~~ | |
| | Connections - Unmetered | | ~~5 457~~ | ~~5 486~~ | ~~5 519~~ | 5 595 | ~~5 628~~ | ~~5 536~~ | |
| | Length of mains (km) | | ~~466~~ | ~~469~~ | ~~472~~ | ~~478~~ | ~~481~~ | ~~473~~ | |
| | System input volume | kl/annum | 289 214 | 3 578 720 | | | | | |
| | Billed metered consumption | kl/annum | 214 000 | 2 372 000 | | | | | |
| | Billed unmetered consumption | kl/annum | 74 502 | 1 206 720 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 288 502 | 3 578 720 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 712 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 712 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 0.2% | Check data | No data | No data | No data | No data | No data |
| | % Water Losses | | 0.2% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 5 | 60 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 1 | 9 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 5 | 60 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 1 | 9 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | -1.66% | |
| | % Water demand growth | | | 1137.40% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

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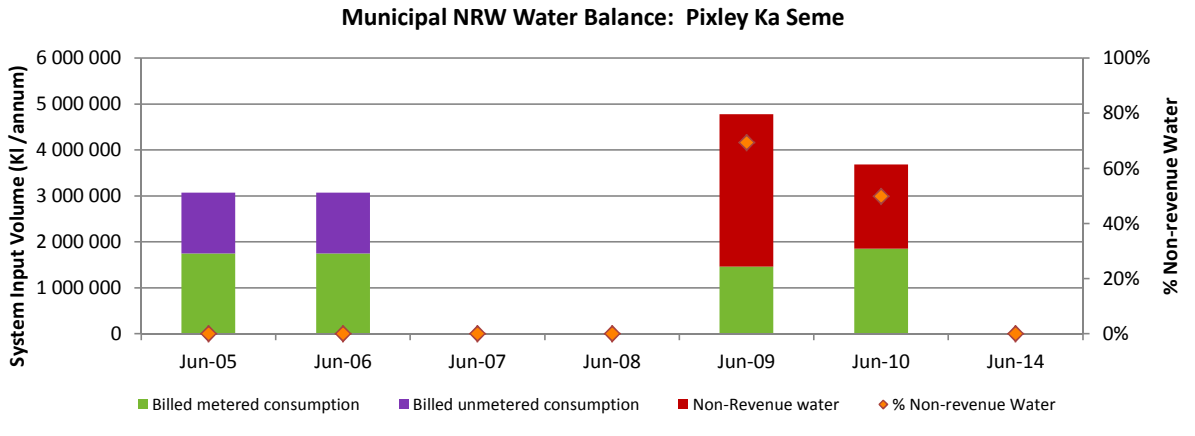
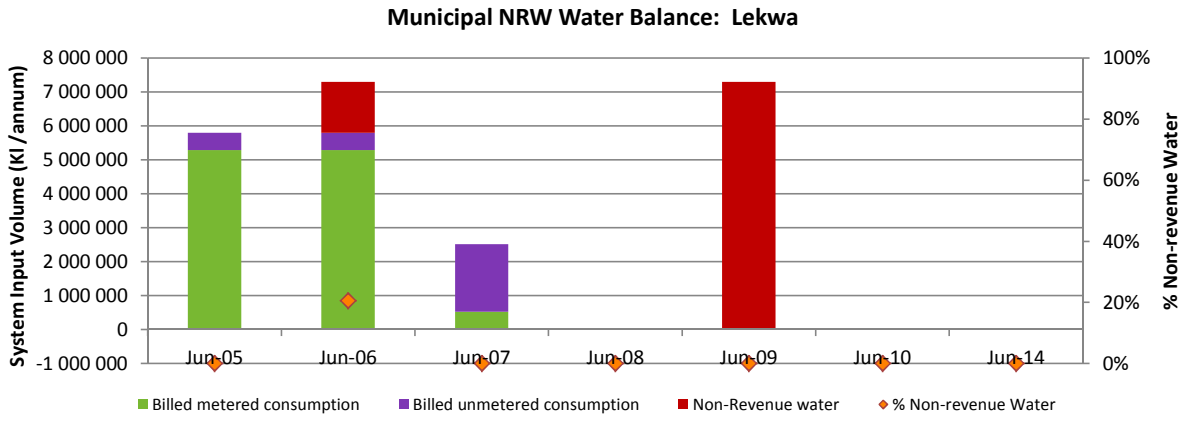
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP304 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Pixley Ka Seme | | | | | | | | |
| Settlements | DAGGAKRAAL, VUKUZAKHE, VOLKSRUST | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 87 666 | 88 133 | 88 663 | 89 876 | 90 416 | 87 810 | |
| | Households | | 20 522 | 20 632 | 20 756 | 21 040 | 21 167 | 20 558 | |
| | Connections - metered | | ~~15 618~~ | ~~15 701~~ | ~~15 796~~ | 16 012 | ~~16 108~~ | ~~15 644~~ | |
| | Connections - Unmetered | | ~~2 832~~ | ~~2 847~~ | ~~2 864~~ | 2 903 | ~~2 921~~ | ~~2 836~~ | |
| | Length of mains (km) | | ~~369~~ | ~~371~~ | ~~373~~ | ~~378~~ | ~~381~~ | ~~370~~ | |
| | System input volume | kl/annum | 3 067 700 | 3 067 700 | | | 4 780 000 | 3 685 000 | |
| | Billed metered consumption | kl/annum | 1 745 996 | 1 745 996 | | | 1 464 000 | 1 850 000 | |
| | Billed unmetered consumption | kl/annum | 1 321 704 | 1 321 704 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 067 700 | 3 067 700 | 0 | 0 | 1 464 000 | 1 850 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 3 316 000 | 1 835 000 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 3 316 000 | 1 835 000 | 0 |
| | % Non-revenue water | | Check data | Check data | No data | No data | 69.4% | 49.8% | No data |
| | % Water Losses | | No data | No data | No data | No data | 69.4% | 49.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 96 | 95 | No data | No data | 145 | 115 | No data |
| | Input: m³ / household / month | | 12 | 12 | No data | No data | 19 | 15 | No data |
| | Billed : Litres / capita / day | | 96 | 95 | No data | No data | 44 | 58 | No data |
| | Billed : m³ / household / month | | 12 | 12 | No data | No data | 6 | 7 | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | -2.88% | |
| | % Water demand growth | | | 0.00% | | | #DIV/0! | -22.91% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |



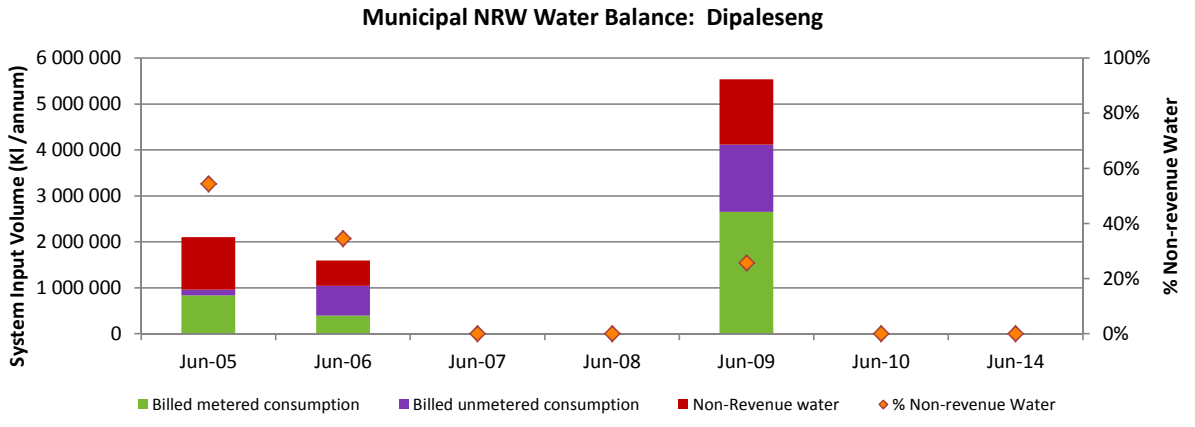

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Province | | Mpumalanga | | | | | | WSA |
| | Municipal Code | | MP305 | | | | | | Yes |
| | District Municipality | | Gert Sibande | | | | | | Category |
| | Municipality | | Lekwa | | | | | | B3 |
| | Settlements | | SAKHILE, STANDERTON | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 112 012 | 112 608 | 113 285 | 114 834 | 115 522 | 118 364 | |
| | Households | | 28 700 | 28 852 | 29 026 | 29 424 | 29 601 | 30 330 | |
| | Connections - metered | | ~~22 597~~ | ~~22 717~~ | ~~22 854~~ | 23 166 | ~~23 305~~ | ~~23 878~~ | |
| | Connections - Unmetered | | ~~6 101~~ | ~~6 133~~ | ~~6 170~~ | 6 255 | ~~6 293~~ | ~~6 448~~ | |
| | Length of mains (km) | | ~~574~~ | ~~577~~ | ~~580~~ | ~~588~~ | ~~592~~ | ~~607~~ | |
| | System input volume | kl/annum | 5 797 739 | 7 300 000 | 2 518 152 | | 7 300 000 | | |
| | Billed metered consumption | kl/annum | 5 287 956 | 5 287 956 | 522 168 | | | | |
| | Billed unmetered consumption | kl/annum | 509 803 | 509 803 | 1 995 984 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 797 759 | 5 797 759 | 2 518 152 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | -20 | 1 502 241 | 0 | 0 | 7 300 000 | 0 | 0 |
| | Water Losses | kl/annum | -20 | 1 502 241 | 0 | 0 | 7 300 000 | 0 | 0 |
| | % Non-revenue water | | Check data | 20.6% | Check data | No data | No data | No data | No data |
| | % Water Losses | | Check data | 20.6% | No data | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 142 | 178 | 61 | No data | 173 | No data | No data |
| | Input: m³ / household / month | | 17 | 21 | 7 | No data | 21 | No data | No data |
| | Billed : Litres / capita / day | | 142 | 141 | 61 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 17 | 17 | 7 | No data | No data | No data | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | 2.46% | |
| | % Water demand growth | | | 25.91% | -65.50% | | #DIV/0! | | |
| | Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP306 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Dipaleseng | | | | | | | | B3 |
| Settlements | SIYATHEMBA, MDUTJANA | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 40 688 | 40 905 | 41 150 | 41 712 | 41 962 | 43 298 | |
| | Households | | 10 472 | 10 527 | 10 590 | 10 735 | 10 800 | 11 144 | |
| | Connections - metered | | ~~9 300~~ | ~~9 350~~ | ~~9 406~~ | 9 534 | ~~9 591~~ | ~~9 897~~ | |
| | Connections - Unmetered | | ~~1 160~~ | ~~1 166~~ | ~~1 173~~ | 1 189 | ~~1 196~~ | ~~1 234~~ | |
| | Length of mains (km) | | ~~209~~ | ~~210~~ | ~~212~~ | ~~214~~ | ~~216~~ | ~~223~~ | |
| | System input volume | kl/annum | 2 100 180 | 1 594 800 | | | 5 540 000 | | |
| | Billed metered consumption | kl/annum | 834 150 | 397 000 | | | 2 653 000 | | |
| | Billed unmetered consumption | kl/annum | 124 600 | 648 000 | | | 1 464 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 958 750 | 1 045 000 | 0 | 0 | 4 117 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 141 430 | 549 800 | 0 | 0 | 1 423 000 | 0 | 0 |
| | Water Losses | kl/annum | 1 141 430 | 549 800 | 0 | 0 | 1 423 000 | 0 | 0 |
| | % Non-revenue water | | 54.3% | 34.5% | No data | No data | 25.7% | No data | No data |
| | % Water Losses | | 54.3% | 34.5% | No data | No data | 25.7% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 141 | 107 | No data | No data | 362 | No data | No data |
| | Input: m³ / household / month | | 17 | 13 | No data | No data | 43 | No data | No data |
| | Billed : Litres / capita / day | | 65 | 70 | No data | No data | 269 | No data | No data |
| | Billed : m³ / household / month | | 8 | 8 | No data | No data | 32 | No data | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | 3.18% | |
| | % Water demand growth | | | -24.06% | | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

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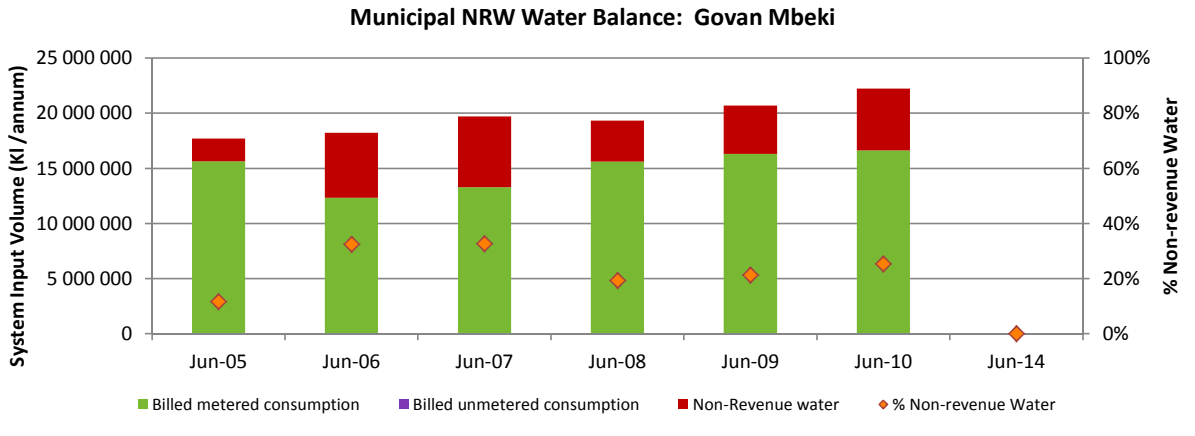
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP307 | | | | | | | | Yes |
| District Municipality | Gert Sibande | | | | | | | | Category |
| Municipality | Govan Mbeki | | | | | | | | B1 |
| Settlements | BETHAL NU, EMBALENHLE, LEANDRA, SECUNDA | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 236 709 | 237 967 | 239 395 | 242 668 | 244 123 | 237 957 | |
| | Households | | 69 167 | 69 536 | 69 952 | 70 914 | 71 337 | 69 537 | |
| | Connections - metered | | ~~58 123~~ | ~~58 432~~ | ~~58 782~~ | 59 586 | ~~59 943~~ | ~~58 429~~ | |
| | Connections - Unmetered | | ~~11 463~~ | ~~11 525~~ | ~~11 594~~ | 11 753 | ~~11 823~~ | ~~11 525~~ | |
| | Length of mains (km) | | ~~1 392~~ | ~~1 399~~ | ~~1 408~~ | ~~1 427~~ | ~~1 435~~ | ~~1 399~~ | |
| | System input volume | kl/annum | 17 699 706 | 18 229 811 | 19 710 369 | 19 338 099 | 20 706 704 | 22 240 419 | |
| | Billed metered consumption | kl/annum | 15 640 490 | 12 315 116 | 13 273 924 | 15 605 494 | 16 306 939 | 16 617 156 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 15 640 490 | 12 315 116 | 13 273 924 | 15 605 494 | 16 306 939 | 16 617 156 | 0 |
| | Non-Revenue water | kl/annum | 2 059 216 | 5 914 695 | 6 436 445 | 3 732 605 | 4 399 765 | 5 623 263 | 0 |
| | Water Losses | kl/annum | 2 059 216 | 5 914 695 | 6 436 445 | 3 732 605 | 4 399 765 | 5 623 263 | 0 |
| | % Non-revenue water | | 11.6% | 32.4% | 32.7% | 19.3% | 21.2% | 25.3% | No data |
| | % Water Losses | | 11.6% | 32.4% | 32.7% | 19.3% | 21.2% | 25.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 205 | 210 | 226 | 218 | 232 | 256 | No data |
| | Input: m³ / household / month | | 21 | 22 | 23 | 23 | 24 | 27 | No data |
| | Billed : Litres / capita / day | | 181 | 142 | 152 | 176 | 183 | 191 | No data |
| | Billed : m³ / household / month | | 19 | 15 | 16 | 18 | 19 | 20 | No data |
| | % Population growth | | | 0.53% | 0.60% | 1.37% | 0.60% | -2.53% | |
| | % Water demand growth | | | 2.99% | 8.12% | -1.89% | 7.08% | 7.41% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

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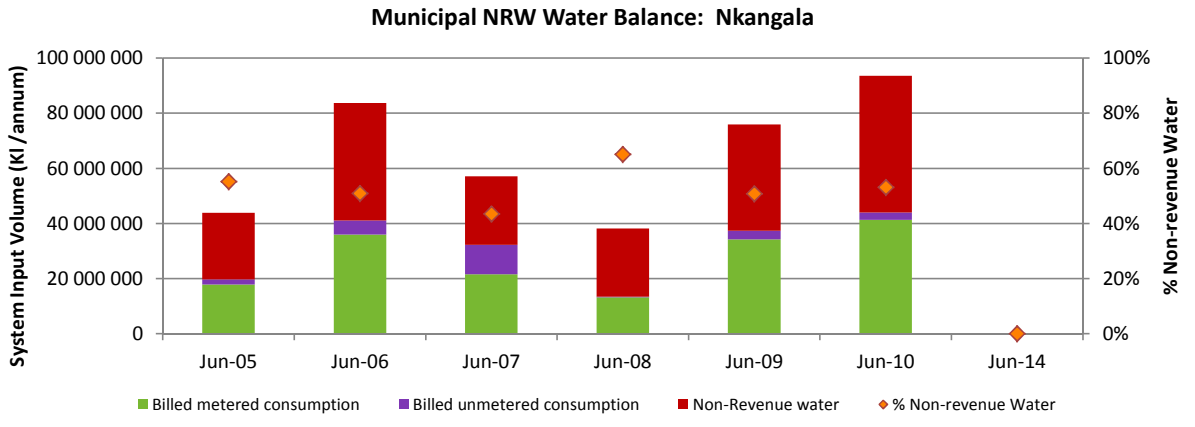
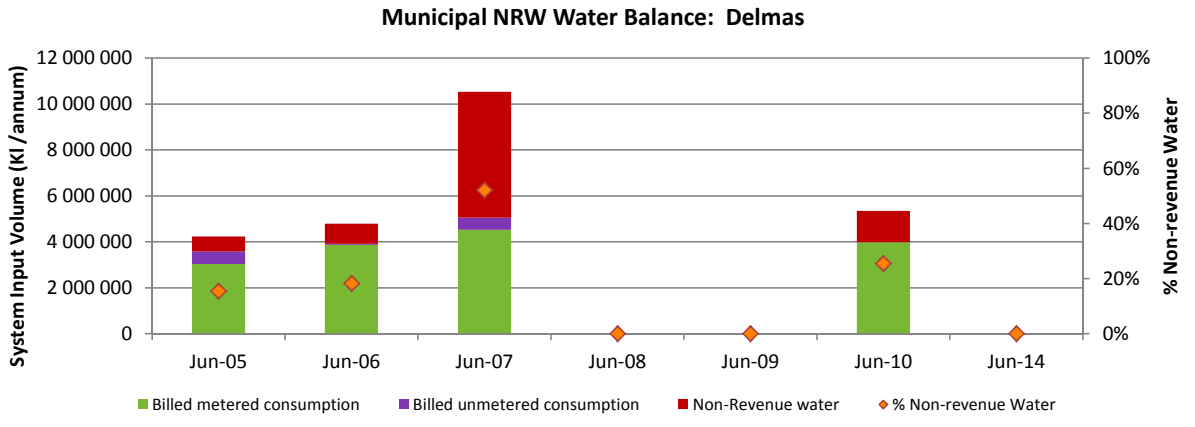
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | DC31 | | | | | | | | Yes |
| District Municipality | Nkangala | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 072 694 | 1 080 539 | 1 087 019 | 1 101 874 | 1 108 491 | 1 137 416 | 0 |
| | Households | | 272 056 | 274 051 | 275 690 | 279 455 | 281 133 | 288 304 | 0 |
| | Connections - metered | | 227 911 | 229 577 | 230 954 | 234 110 | 235 516 | 241 455 | 0 |
| | Connections - Unmetered | | 33 250 | 33 494 | 33 694 | 34 154 | 34 359 | 35 226 | 0 |
| | Length of mains (km) | | 5 223 | 5 261 | 5 293 | 5 365 | 4 608 | 4 584 | 0 |
| | System input volume | kl/annum | 43 820 379 | 83 740 614 | 57 090 312 | 38 208 285 | 75 871 645 | 93 565 714 | 0 |
| | Billed metered consumption | kl/annum | 17 800 780 | 35 914 560 | 21 549 620 | 13 151 598 | 34 181 379 | 41 314 653 | 0 |
| | Billed unmetered consumption | kl/annum | 1 856 342 | 5 200 765 | 10 746 425 | 220 605 | 3 185 444 | 2 621 360 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 19 657 122 | 41 115 325 | 32 296 045 | 13 372 203 | 37 366 823 | 43 936 013 | 0 |
| | Non-Revenue water | kl/annum | 24 163 257 | 42 625 289 | 24 794 267 | 24 836 082 | 38 504 822 | 49 629 701 | 0 |
| | Water Losses | kl/annum | 24 163 257 | 42 625 289 | 24 794 267 | 24 836 082 | 38 504 822 | 49 629 701 | 0 |
| | % Non-revenue water | | 55.1% | 50.9% | 43.4% | 65.0% | 50.7% | 53.0% | No data |
| | % Water Losses | | 55.1% | 50.9% | 43.4% | 65.0% | 50.7% | 53.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 112 | 212 | 144 | 95 | 188 | 225 | No data |
| | Input: m³ / household / month | | 13 | 25 | 17 | 11 | 22 | 27 | No data |
| | Billed : Litres / capita / day | | 50 | 104 | 81 | 33 | 92 | 106 | No data |
| | Billed : m³ / household / month | | 6 | 13 | 10 | 4 | 11 | 13 | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | 2.61% | |
| | % Water demand growth | | | 91.10% | -31.82% | -33.07% | 98.57% | 23.32% | |
| Source of information | | | | | | | | | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP311 | | | | | | | | Yes |
| District Municipality | Nkangala | | | | | | | | Category |
| Municipality | Victor Khanye | | | | | | | | B3 |
| Settlements | BOTLENG, DELPARK, ELOFF, SUNDRA, DELMAS | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 59 995 | 60 434 | 60 795 | 61 625 | 61 996 | 63 805 | |
| | Households | | 15 012 | 15 123 | 15 215 | 15 419 | 15 513 | 15 966 | |
| | Connections - metered | | 12 941 | 13 036 | 13 114 | 13 293 | 13 373 | 13 763 | |
| | Connections - Unmetered | | 1 915 | 1 929 | 1 941 | 1 967 | 1 979 | 2 037 | |
| | Length of mains (km) | | 297 | 299 | 301 | 305 | 307 | 316 | |
| | System input volume | kl/annum | 4 229 573 | 4 784 728 | 10 529 298 | | | 5 343 283 | |
| | Billed metered consumption | kl/annum | 3 037 215 | 3 870 111 | 4 518 522 | | | 3 983 346 | |
| | Billed unmetered consumption | kl/annum | 539 045 | 44 057 | 529 605 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 576 260 | 3 914 168 | 5 048 127 | 0 | 0 | 3 983 346 | 0 |
| | Non-Revenue water | kl/annum | 653 313 | 870 560 | 5 481 171 | 0 | 0 | 1 359 937 | 0 |
| | Water Losses | kl/annum | 653 313 | 870 560 | 5 481 171 | 0 | 0 | 1 359 937 | 0 |
| | % Non-revenue water | | 15.4% | 18.2% | 52.1% | No data | No data | 25.5% | No data |
| | % Water Losses | | 15.4% | 18.2% | 52.1% | No data | No data | 25.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 193 | 217 | 475 | No data | No data | 229 | No data |
| | Input: m³ / household / month | | 23 | 26 | 58 | No data | No data | 28 | No data |
| | Billed : Litres / capita / day | | 163 | 177 | 227 | No data | No data | 171 | No data |
| | Billed : m³ / household / month | | 20 | 22 | 28 | No data | No data | 21 | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | 2.92% | |
| | % Water demand growth | | | 13.13% | 120.06% | | | #DIV/0! | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

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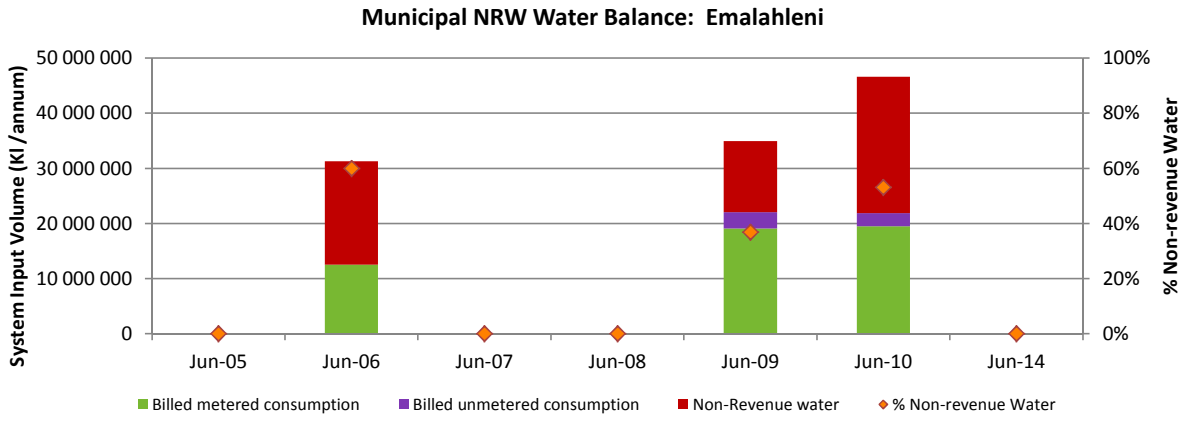
|---|---|---|---|---|---|---|---|---|---|
| Province | | Mpumalanga | | | | | | | WSA |
| Municipal Code | | MP312 | | | | | | | Yes |
| District Municipality | | Nkangala | | | | | | | Category |
| Municipality | | Emalahleni | | | | | | | B1 |
| Settlements | | KWAGUGA, LYNVILLE, WITBANK | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 300 991 | 303 190 | 305 007 | 309 169 | 311 025 | 315 931 | |
| | Households | | 85 643 | 86 267 | 86 783 | 87 972 | 88 498 | 89 895 | |
| | Connections - metered | | ~~75 058~~ | ~~75 606~~ | ~~76 059~~ | 77 097 | ~~77 560~~ | ~~78 783~~ | |
| | Connections - Unmetered | | ~~10 829~~ | ~~10 907~~ | ~~10 973~~ | 11 123 | ~~11 190~~ | ~~11 366~~ | |
| | Length of mains (km) | | ~~1 718~~ | ~~1 730~~ | ~~1 741~~ | ~~1 764~~ | ~~1 775~~ | ~~1 803~~ | |
| | System input volume | kl/annum | | 31 308 034 | | | 34 925 000 | 46 620 000 | |
| | Billed metered consumption | kl/annum | | 12 544 070 | | | 19 067 000 | 19 510 000 | |
| | Billed unmetered consumption | kl/annum | | 0 | | | 3 004 000 | 2 370 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 12 544 070 | 0 | 0 | 22 071 000 | 21 880 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 18 763 964 | 0 | 0 | 12 854 000 | 24 740 000 | 0 |
| | Water Losses | kl/annum | 0 | 18 763 964 | 0 | 0 | 12 854 000 | 24 740 000 | 0 |
| | % Non-revenue water | | No data | 59.9% | No data | No data | 36.8% | 53.1% | No data |
| | % Water Losses | | No data | 59.9% | No data | No data | 36.8% | 53.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 283 | No data | No data | 308 | 404 | No data |
| | Input: m³ / household / month | | No data | 30 | No data | No data | 33 | 43 | No data |
| | Billed : Litres / capita / day | | No data | 113 | No data | No data | 194 | 190 | No data |
| | Billed : m³ / household / month | | No data | 12 | No data | No data | 21 | 20 | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.36% | 0.60% | 1.58% | |
| | % Water demand growth | | | #DIV/0! | | | #DIV/0! | 33.49% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |




Comments

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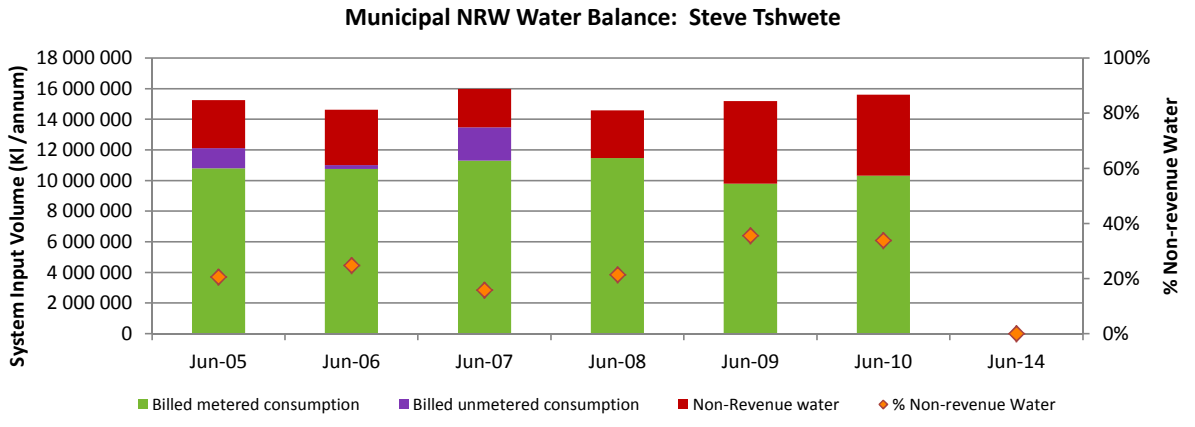
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP313 | | | | | | | | Yes |
| District Municipality | Nkangala | | | | | | | | Category |
| Municipality | Steve Tshwete | | | | | | | | B1 |
| Settlements | KWAZAMOKHULE, MIDDLEBURG, MHLUZI | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 152 359 | 153 472 | 154 393 | 156 503 | 157 443 | 161 199 | |
| | Households | | 40 575 | 40 872 | 41 116 | 41 677 | 41 927 | 42 927 | |
| | Connections - metered | | ~~34 466~~ | ~~34 717~~ | ~~34 926~~ | 35 403 | ~~35 616~~ | ~~36 465~~ | |
| | Connections - Unmetered | | ~~5 441~~ | ~~5 481~~ | ~~5 514~~ | 5 589 | ~~5 623~~ | ~~5 757~~ | |
| | Length of mains (km) | | ~~798~~ | ~~804~~ | ~~809~~ | ~~820~~ | ~~825~~ | 717 | |
| | System input volume | kl/annum | 15 258 446 | 14 627 492 | 15 989 056 | 14 577 468 | 15 198 044 | 15 602 431 | |
| | Billed metered consumption | kl/annum | 10 796 205 | 10 755 840 | 11 299 605 | 11 460 590 | 9 790 515 | 10 325 501 | |
| | Billed unmetered consumption | kl/annum | 1 317 297 | 245 887 | 2 168 950 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 12 113 502 | 11 001 727 | 13 468 555 | 11 460 590 | 9 790 515 | 10 325 501 | 0 |
| | Non-Revenue water | kl/annum | 3 144 944 | 3 625 765 | 2 520 501 | 3 116 878 | 5 407 529 | 5 276 930 | 0 |
| | Water Losses | kl/annum | 3 144 944 | 3 625 765 | 2 520 501 | 3 116 878 | 5 407 529 | 5 276 930 | 0 |
| | % Non-revenue water | | 20.6% | 24.8% | 15.8% | 21.4% | 35.6% | 33.8% | No data |
| | % Water Losses | | 20.6% | 24.8% | 15.8% | 21.4% | 35.6% | 33.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 274 | 261 | 284 | 255 | 264 | 265 | No data |
| | Input: m³ / household / month | | 31 | 30 | 32 | 29 | 30 | 30 | No data |
| | Billed : Litres / capita / day | | 218 | 196 | 239 | 201 | 170 | 175 | No data |
| | Billed : m³ / household / month | | 25 | 22 | 27 | 23 | 19 | 20 | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | 2.39% | |
| | % Water demand growth | | | -4.14% | 9.31% | -8.83% | 4.26% | 2.66% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

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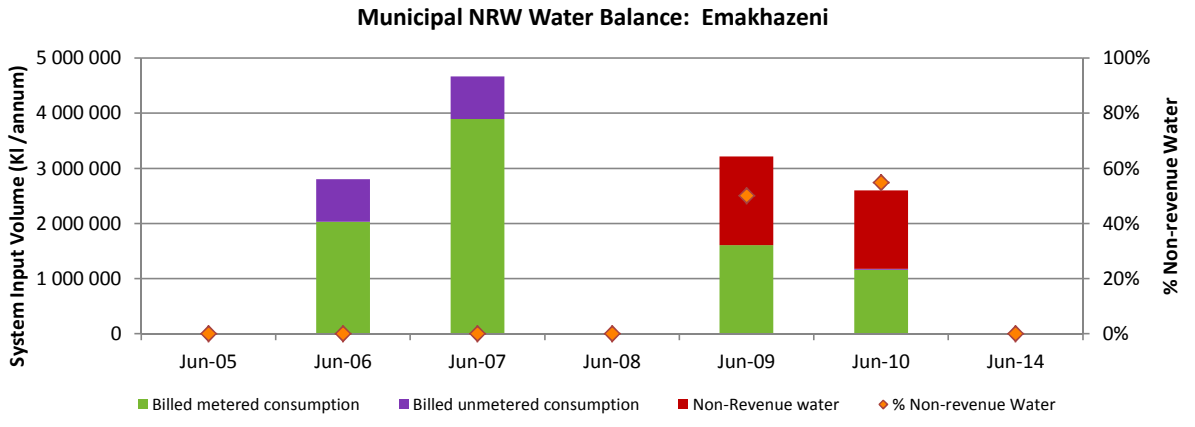
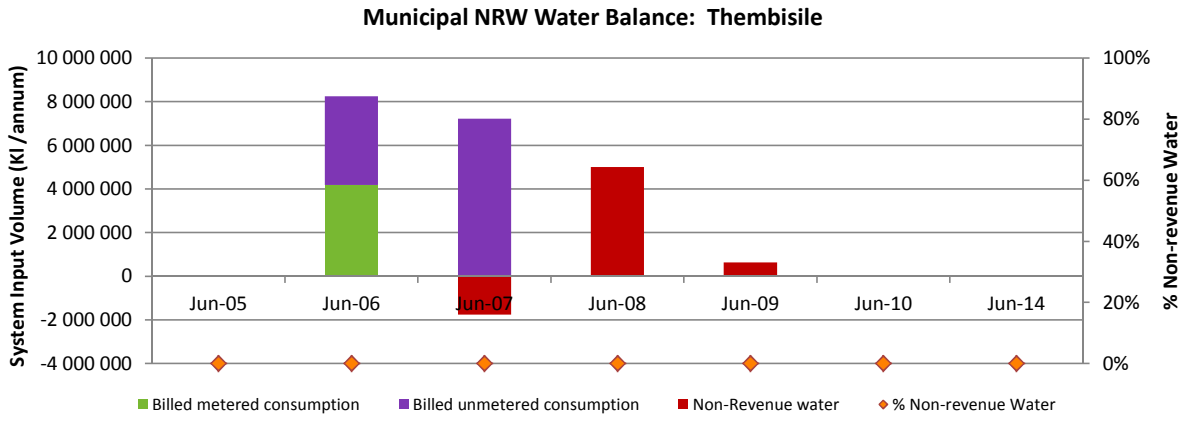
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP314 | | | | | | | | Yes |
| District Municipality | Nkangala | | | | | | | | Category |
| Municipality | Emakhazeni | | | | | | | | B2 |
| Settlements | DIKGALE, POLOKWANE, PERSKEBULT | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 46 770 | 47 114 | 47 396 | 48 043 | 48 331 | 49 753 | |
| | Households | | 11 092 | 11 172 | 11 240 | 11 391 | 11 459 | 11 796 | |
| | Connections - metered | | ~~9 971~~ | ~~10 044~~ | ~~10 104~~ | 10 242 | ~~10 303~~ | ~~10 607~~ | |
| | Connections - Unmetered | | ~~1 113~~ | ~~1 121~~ | ~~1 128~~ | 1 143 | ~~1 150~~ | ~~1 184~~ | |
| | Length of mains (km) | | ~~222~~ | ~~223~~ | ~~225~~ | ~~228~~ | ~~229~~ | ~~236~~ | |
| | System input volume | kl/annum | | 2 801 667 | 4 668 963 | | 3 212 601 | 2 600 000 | |
| | Billed metered consumption | kl/annum | | 2 029 827 | 3 897 093 | | 1 604 200 | 1 160 000 | |
| | Billed unmetered consumption | kl/annum | | 771 840 | 771 870 | | | 15 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 2 801 667 | 4 668 963 | 0 | 1 604 200 | 1 175 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 1 608 401 | 1 425 000 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 1 608 401 | 1 425 000 | 0 |
| | % Non-revenue water | | No data | Check data | Check data | No data | 50.1% | 54.8% | No data |
| | % Water Losses | | No data | No data | No data | No data | 50.1% | 54.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 163 | 270 | No data | 182 | 143 | No data |
| | Input: m³ / household / month | | No data | 21 | 35 | No data | 23 | 18 | No data |
| | Billed : Litres / capita / day | | No data | 163 | 270 | No data | 91 | 65 | No data |
| | Billed : m³ / household / month | | No data | 21 | 35 | No data | 12 | 8 | No data |
| | % Population growth | | | 0.74% | 0.60% | 1.37% | 0.60% | 2.94% | |
| | % Water demand growth | | | #DIV/0! | 66.65% | | #DIV/0! | -19.07% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS RPMS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP315 | | | | | | | | Yes |
| District Municipality | Nkangala | | | | | | | | Category |
| Municipality | Thembisile | | | | | | | | B4 |
| Settlements | BOEKENHOUTHOEK, KWAMHLANGA, KWAGGAFONTEIN, MOLOTO, TWEEFONTEIN | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 258 902 | 260 796 | 262 364 | 265 956 | 267 554 | 276 160 | |
| | Households | | 61 121 | 61 571 | 61 939 | 62 786 | 63 165 | 65 198 | |
| | Connections - metered | | ~~54 573~~ | ~~54 972~~ | ~~55 303~~ | 56 060 | ~~56 397~~ | ~~58 211~~ | |
| | Connections - Unmetered | | ~~5 751~~ | ~~5 794~~ | ~~5 828~~ | 5 908 | ~~5 944~~ | ~~6 135~~ | |
| | Length of mains (km) | | ~~1 206~~ | ~~1 215~~ | ~~1 223~~ | ~~1 239~~ | ~~1 247~~ | ~~1 287~~ | |
| | System input volume | kl/annum | 0 | 8 251 333 | 5 462 995 | 5 000 000 | ~~636 000~~ | | |
| | Billed metered consumption | kl/annum | 0 | 4 190 688 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 4 060 645 | 7 224 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 8 251 333 | 7 224 000 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | -1 761 005 | 5 000 000 | 636 000 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | -1 761 005 | 5 000 000 | 636 000 | 0 | 0 |
| | % Non-revenue water | | No data | Check data | Check data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | Check data | 100.0% | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 87 | 57 | 52 | 7 | No data | No data |
| | Input: m³ / household / month | | No data | 11 | 7 | 7 | 1 | No data | No data |
| | Billed : Litres / capita / day | | No data | 87 | 75 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 11 | 10 | No data | No data | No data | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | 3.22% | |
| | % Water demand growth | | | #DIV/0! | -33.79% | -8.48% | -87.28% | | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

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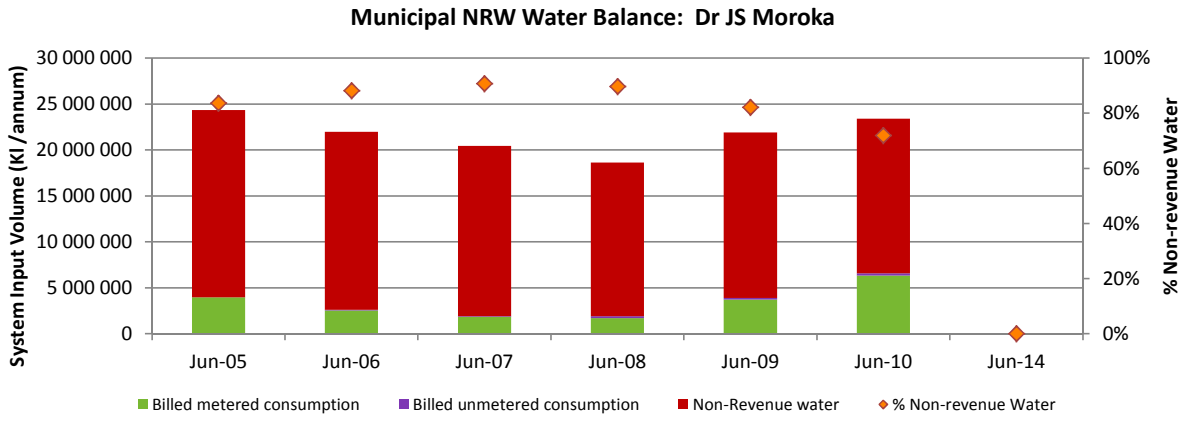
|---|---|---|---|---|---|---|---|---|---|
| Province | | Mpumalanga | | | | | | | WSA |
| Municipal Code | | MP316 | | | | | | | Yes |
| District Municipality | | Nkangala | | | | | | | Category |
| Municipality | | Dr JS Moroka | | | | | | | B4 |
| Settlements | | KAMEELRIVIER, SIYABUSWA, VAALBANK | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 253 677 | 255 533 | 257 064 | 260 578 | 262 142 | 270 568 | |
| | Households | | 58 613 | 59 046 | 59 397 | 60 210 | 60 571 | 62 522 | |
| | Connections - metered | | ~~40 902~~ | ~~41 202~~ | ~~41 448~~ | 42 015 | ~~42 267~~ | ~~43 626~~ | |
| | Connections - Unmetered | | ~~8 201~~ | ~~8 261~~ | ~~8 310~~ | 8 424 | ~~8 475~~ | ~~8 747~~ | |
| | Length of mains (km) | | ~~982~~ | ~~989~~ | ~~995~~ | ~~1 009~~ | 225 | 225 | |
| | System input volume | kl/annum | 24 332 360 | 21 967 360 | 20 440 000 | 18 630 817 | 21 900 000 | 23 400 000 | |
| | Billed metered consumption | kl/annum | 3 967 360 | 2 524 024 | 1 834 400 | 1 691 008 | 3 719 664 | 6 335 806 | |
| | Billed unmetered consumption | kl/annum | 0 | 78 336 | 52 000 | 220 605 | 181 444 | 236 360 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 967 360 | 2 602 360 | 1 886 400 | 1 911 613 | 3 901 108 | 6 572 166 | 0 |
| | Non-Revenue water | kl/annum | 20 365 000 | 19 365 000 | 18 553 600 | 16 719 204 | 17 998 892 | 16 827 834 | 0 |
| | Water Losses | kl/annum | 20 365 000 | 19 365 000 | 18 553 600 | 16 719 204 | 17 998 892 | 16 827 834 | 0 |
| | % Non-revenue water | | 83.7% | 88.2% | 90.8% | 89.7% | 82.2% | 71.9% | No data |
| | % Water Losses | | 83.7% | 88.2% | 90.8% | 89.7% | 82.2% | 71.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 263 | 236 | 218 | 196 | 229 | 237 | No data |
| | Input: m³ / household / month | | 35 | 31 | 29 | 26 | 30 | 31 | No data |
| | Billed : Litres / capita / day | | 43 | 28 | 20 | 20 | 41 | 67 | No data |
| | Billed : m³ / household / month | | 6 | 4 | 3 | 3 | 5 | 9 | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | 3.21% | |
| | % Water demand growth | | | -9.72% | -6.95% | -8.85% | 17.55% | 6.85% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

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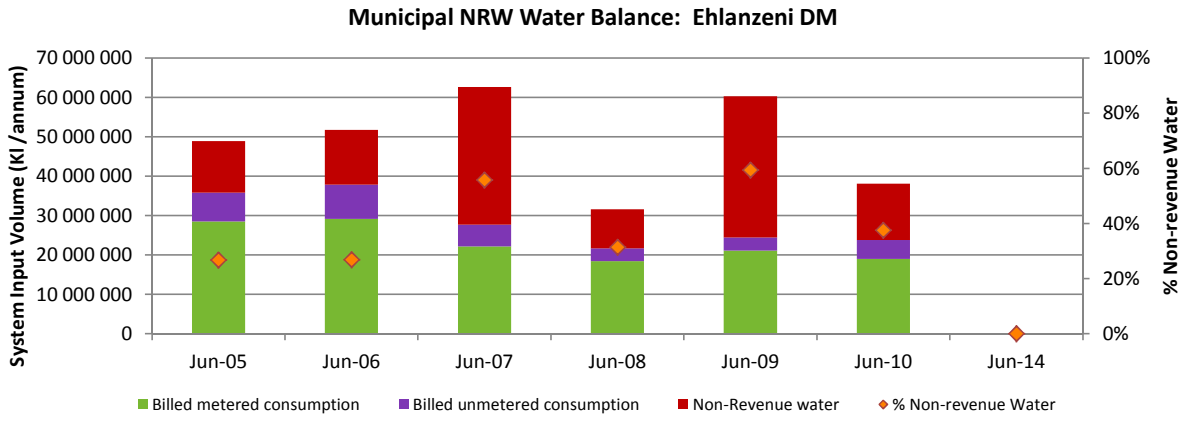
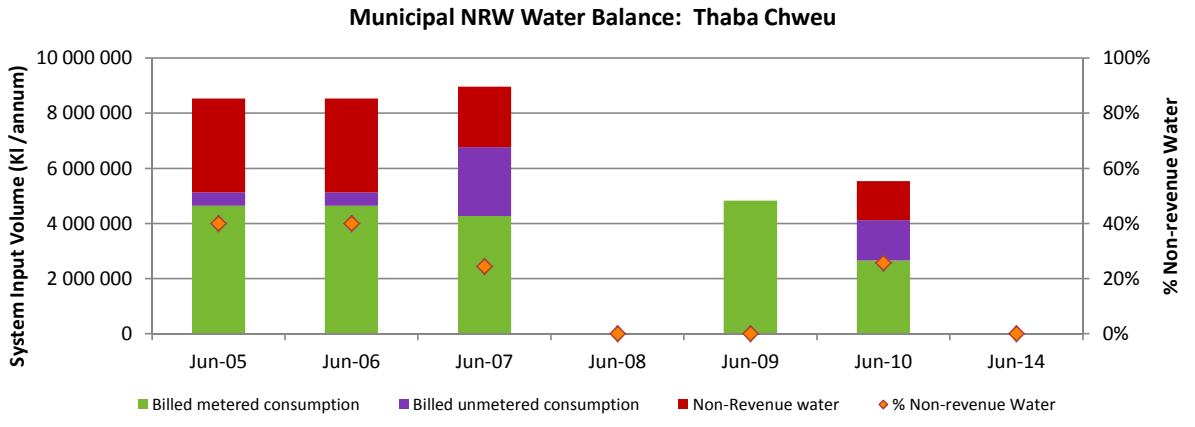
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | DC32 | | | | | | | | Yes |
| District Municipality | Ehlanzeni | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 537 347 | 1 551 603 | 1 560 912 | 1 582 252 | 1 591 749 | 1 521 148 | 0 |
| | Households | | 366 107 | 369 515 | 371 739 | 376 802 | 379 064 | 362 740 | 0 |
| | Connections - metered | | 161 860 | 165 382 | 168 178 | 172 524 | 174 262 | 167 186 | 0 |
| | Connections - Unmetered | | 96 487 | 97 021 | 106 929 | 109 253 | 102 663 | 103 243 | 0 |
| | Length of mains (km) | | 4 752 | 4 799 | 4 835 | 4 962 | 4 801 | 4 701 | 0 |
| | System input volume | kl/annum | 48 914 720 | 51 771 020 | 62 627 104 | 31 567 482 | 60 293 822 | 38 133 933 | 0 |
| | Billed metered consumption | kl/annum | 28 476 025 | 29 185 925 | 22 174 619 | 18 396 613 | 21 094 218 | 19 025 745 | 0 |
| | Billed unmetered consumption | kl/annum | 7 338 028 | 8 700 729 | 5 534 122 | 3 274 951 | 3 373 200 | 4 792 997 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 35 814 053 | 37 886 654 | 27 708 741 | 21 671 564 | 24 467 418 | 23 818 742 | 0 |
| | Non-Revenue water | kl/annum | 13 100 667 | 13 884 366 | 34 918 363 | 9 895 918 | 35 826 404 | 14 315 191 | 0 |
| | Water Losses | kl/annum | 13 100 667 | 13 884 366 | 34 918 363 | 9 895 918 | 35 826 404 | 14 315 191 | 0 |
| | % Non-revenue water | | 26.8% | 26.8% | 55.8% | 31.3% | 59.4% | 37.5% | No data |
| | % Water Losses | | 26.8% | 26.8% | 55.8% | 31.3% | 59.4% | 37.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 87 | 91 | 110 | 55 | 104 | 69 | No data |
| | Input: m³ / household / month | | 11 | 12 | 14 | 7 | 13 | 9 | No data |
| | Billed : Litres / capita / day | | 64 | 67 | 49 | 38 | 42 | 43 | No data |
| | Billed : m³ / household / month | | 8 | 9 | 6 | 5 | 5 | 5 | No data |
| | % Population growth | | | 0.93% | 0.60% | 1.37% | 0.60% | -4.44% | |
| | % Water demand growth | | | 5.84% | 20.97% | -49.59% | 91.00% | -36.75% | |
| Source of information | | | | | | | | | |



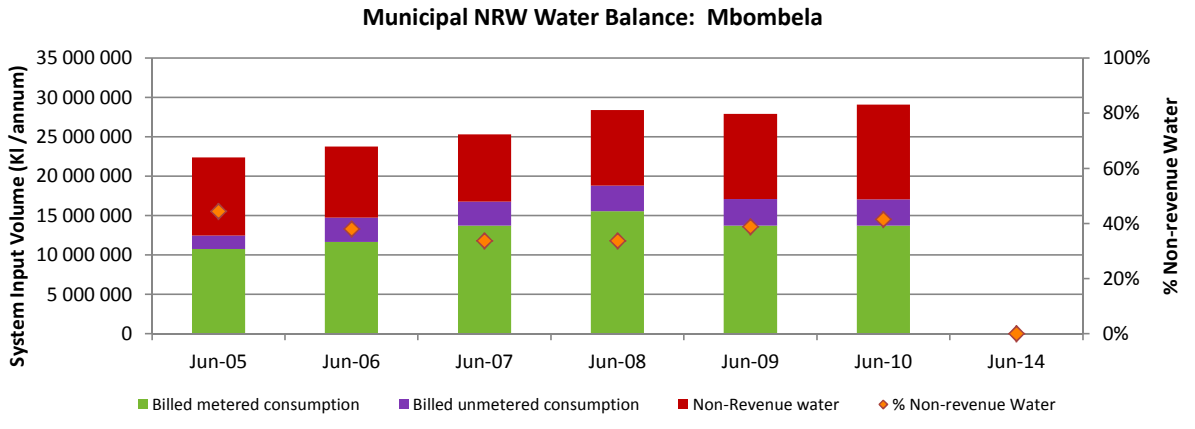

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP321 | | | | | | | | Yes |
| District Municipality | Ehlanzeni | | | | | | | | Category |
| Municipality | Thaba Chweu | | | | | | | | B3 |
| Settlements | HENDRIKSDAL, MASHISHING, MATIBIDI, SABIE | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 90 584 | 91 512 | 92 061 | 93 320 | 93 879 | 91 924 | |
| | Households | | 24 903 | 25 160 | 25 312 | 25 654 | 25 807 | 25 256 | |
| | Connections - metered | | ~~20 809~~ | ~~21 023~~ | ~~21 149~~ | 21 438 | ~~21 566~~ | ~~21 117~~ | |
| | Connections - Unmetered | | ~~4 242~~ | ~~4 286~~ | ~~4 312~~ | 4 370 | ~~4 396~~ | ~~4 302~~ | |
| | Length of mains (km) | | ~~501~~ | ~~506~~ | ~~509~~ | ~~516~~ | ~~519~~ | ~~508~~ | |
| | System input volume | kl/annum | 8 536 165 | 8 536 165 | 8 960 000 | | 4 826 742 | 5 540 000 | |
| | Billed metered consumption | kl/annum | 4 644 181 | 4 644 181 | 4 274 410 | | ~~4 826 742~~ | 2 653 000 | |
| | Billed unmetered consumption | kl/annum | 479 845 | 479 845 | 2 495 590 | | | 1 464 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 124 026 | 5 124 026 | 6 770 000 | 0 | 4 826 742 | 4 117 000 | 0 |
| | Non-Revenue water | kl/annum | 3 412 139 | 3 412 139 | 2 190 000 | 0 | 0 | 1 423 000 | 0 |
| | Water Losses | kl/annum | 3 412 139 | 3 412 139 | 2 190 000 | 0 | 0 | 1 423 000 | 0 |
| | % Non-revenue water | | 40.0% | 40.0% | 24.4% | No data | Check data | 25.7% | No data |
| | % Water Losses | | 40.0% | 40.0% | 24.4% | No data | No data | 25.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 258 | 256 | 267 | No data | 141 | 165 | No data |
| | Input: m³ / household / month | | 29 | 28 | 29 | No data | 16 | 18 | No data |
| | Billed : Litres / capita / day | | 155 | 153 | 201 | No data | 141 | 123 | No data |
| | Billed : m³ / household / month | | 17 | 17 | 22 | No data | 16 | 14 | No data |
| | % Population growth | | | 1.02% | 0.60% | 1.37% | 0.60% | -2.08% | |
| | % Water demand growth | | | 0.00% | 4.97% | | #DIV/0! | 14.78% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |



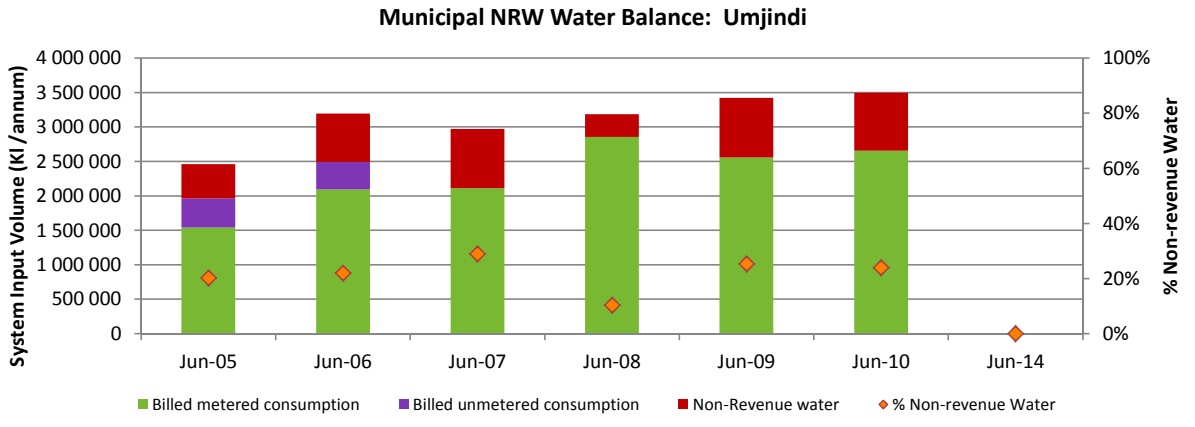

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP322 | | | | | | | | Yes |
| District Municipality | Ehlanzeni | | | | | | | | Category |
| Municipality | Mbombela (Silulumanzi Concession Area Only) | | | | | | | | B1 |
| Settlements | DAANTJIE, KANYAMAZANE, LUNDI, ZWELITSHA, MSOGWABA, NELSPRUIT | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 512 418 | 517 661 | 520 766 | 527 884 | 531 053 | 527 056 | |
| | Households | | 126 690 | 127 987 | 128 754 | 130 511 | 131 291 | 130 306 | |
| | Connections - metered | | 28 992 | 31 300 | 33 291 | 35 793 | 39 440 | 39 775 | |
| | Connections - Unmetered | | 28 758 | 28 700 | 38 196 | 39 585 | 35 123 | 40 101 | |
| | Length of mains (km) | | 740 | 751 | 762 | 834 | 989 | 1 005 | |
| | System input volume | kl/annum | 22 381 777 | 23 757 308 | 25 307 348 | 28 382 422 | 27 894 313 | 29 099 341 | |
| | Billed metered consumption | kl/annum | 10 761 891 | 11 663 659 | 13 732 258 | 15 540 400 | 13 710 700 | 13 715 396 | |
| | Billed unmetered consumption | kl/annum | 1 684 983 | 3 069 830 | 3 038 532 | 3 274 951 | 3 373 200 | 3 328 997 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 12 446 874 | 14 733 489 | 16 770 790 | 18 815 351 | 17 083 900 | 17 044 393 | 0 |
| | Non-Revenue water | kl/annum | 9 934 903 | 9 023 819 | 8 536 558 | 9 567 071 | 10 810 413 | 12 054 948 | 0 |
| | Water Losses | kl/annum | 9 934 903 | 9 023 819 | 8 536 558 | 9 567 071 | 10 810 413 | 12 054 948 | 0 |
| | % Non-revenue water | | 44.4% | 38.0% | 33.7% | 33.7% | 38.8% | 41.4% | No data |
| | % Water Losses | | 44.4% | 38.0% | 33.7% | 33.7% | 38.8% | 41.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 120 | 126 | 133 | 147 | 144 | 151 | No data |
| | Input: m³ / household / month | | 15 | 15 | 16 | 18 | 18 | 19 | No data |
| | Billed : Litres / capita / day | | 67 | 78 | 88 | 98 | 88 | 89 | No data |
| | Billed : m³ / household / month | | 8 | 10 | 11 | 12 | 11 | 11 | No data |
| | % Population growth | | | 1.02% | 0.60% | 1.37% | 0.60% | -0.75% | |
| | % Water demand growth | | | 6.15% | 6.52% | 12.15% | -1.72% | 4.32% | |
| Source of information | | | Sembcorp Silulumanzi | Sembcorp Silulumanzi | Sembcorp Silulumanzi | Sembcorp Silulumanzi | Sembcorp Silulumanzi | Sembcorp Silulumanzi | |



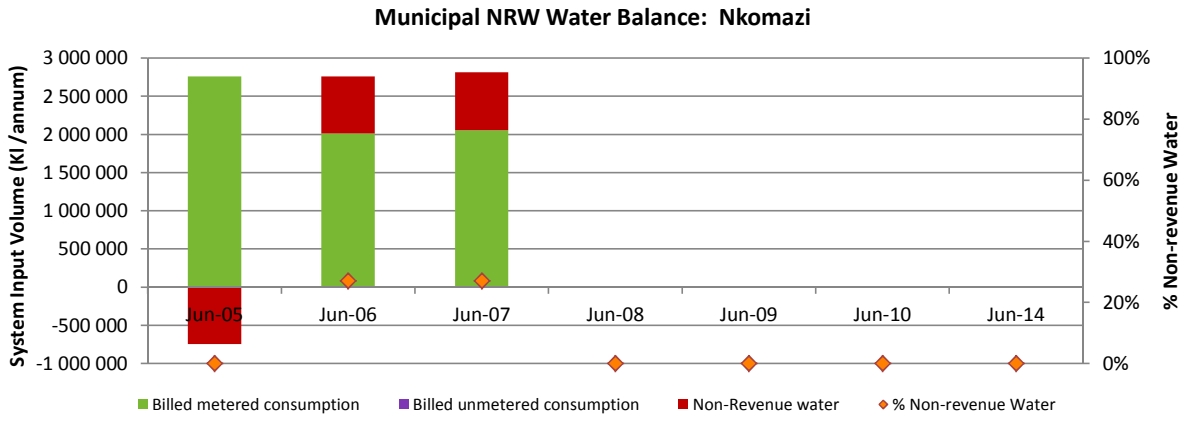

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP323 | | | | | | | | Yes |
| District Municipality | Ehlanzeni | | | | | | | | Category |
| Municipality | Umjindi | | | | | | | | B3 |
| Settlements | BARBERTON, EMJINDINI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 57 862 | 58 455 | 58 806 | 59 609 | 59 968 | 56 963 | |
| | Households | | 16 350 | 16 516 | 16 615 | 16 842 | 16 944 | 16 094 | |
| | Connections - metered | | ~~13 989~~ | ~~14 132~~ | ~~14 217~~ | 14 411 | 11 768 | 11 768 | |
| | Connections - Unmetered | | ~~2 458~~ | ~~2 483~~ | ~~2 498~~ | 2 532 | 0 | 0 | |
| | Length of mains (km) | | ~~329~~ | ~~332~~ | ~~334~~ | ~~339~~ | | 120 | |
| | System input volume | kl/annum | 2 460 000 | 3 194 725 | 2 973 000 | 3 185 060 | 3 423 250 | 3 494 592 | |
| | Billed metered consumption | kl/annum | 1 541 531 | 2 095 707 | 2 113 000 | 2 856 213 | 2 556 776 | 2 657 349 | |
| | Billed unmetered consumption | kl/annum | 421 200 | 399 054 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 962 731 | 2 494 761 | 2 113 000 | 2 856 213 | 2 556 776 | 2 657 349 | 0 |
| | Non-Revenue water | kl/annum | 497 269 | 699 964 | 860 000 | 328 847 | 866 474 | 837 243 | 0 |
| | Water Losses | kl/annum | 497 269 | 699 964 | 860 000 | 328 847 | 866 474 | 837 243 | 0 |
| | % Non-revenue water | | 20.2% | 21.9% | 28.9% | 10.3% | 25.3% | 24.0% | No data |
| | % Water Losses | | 20.2% | 21.9% | 28.9% | 10.3% | 25.3% | 24.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 116 | 150 | 139 | 146 | 156 | 168 | No data |
| | Input: m³ / household / month | | 13 | 16 | 15 | 16 | 17 | 18 | No data |
| | Billed : Litres / capita / day | | 93 | 117 | 98 | 131 | 117 | 128 | No data |
| | Billed : m³ / household / month | | 10 | 13 | 11 | 14 | 13 | 14 | No data |
| | % Population growth | | | 1.02% | 0.60% | 1.37% | 0.60% | -5.01% | |
| | % Water demand growth | | | 29.87% | -6.94% | 7.13% | 7.48% | 2.08% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |



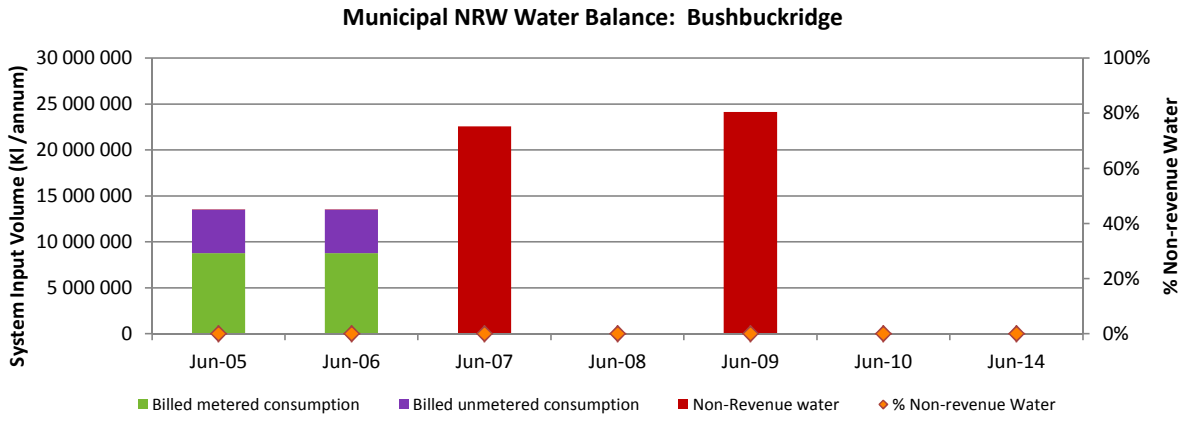

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Mpumalanga | | | | | | | | WSA |
| Municipal Code | MP324 | | | | | | | | Yes |
| District Municipality | Ehlanzeni | | | | | | | | Category |
| Municipality | Nkomazi | | | | | | | | B4 |
| Settlements | JEPPE'S REEF, SKOONPLAAS, STEENBOK, KAMAQHEKEZA, NKOMAZI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 366 275 | 370 023 | 372 244 | 377 333 | 379 599 | 351 786 | |
| | Households | | 82 533 | 83 378 | 83 880 | 85 022 | 85 533 | 79 264 | |
| | Connections - metered | | ~~47 646~~ | ~~48 133~~ | ~~48 422~~ | 49 084 | ~~49 379~~ | ~~45 761~~ | |
| | Connections - Unmetered | | ~~26 665~~ | ~~26 938~~ | ~~27 100~~ | 27 469 | ~~27 634~~ | ~~25 609~~ | |
| | Length of mains (km) | | ~~1 486~~ | ~~1 501~~ | ~~1 510~~ | ~~1 531~~ | ~~1 540~~ | ~~1 427~~ | |
| | System input volume | kl/annum | 2 014 658 | 2 760 702 | 2 815 916 | | | | |
| | Billed metered consumption | kl/annum | 2 760 702 | 2 014 658 | 2 054 951 | | | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 760 702 | 2 014 658 | 2 054 951 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | -746 044 | 746 044 | 760 965 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | -746 044 | 746 044 | 760 965 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | Check data | 27.0% | 27.0% | No data | No data | No data | No data |
| | % Water Losses | | Check data | 27.0% | 27.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 15 | 20 | 21 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 2 | 3 | 3 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 21 | 15 | 15 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 3 | 2 | 2 | No data | No data | No data | No data |
| | % Population growth | | | 1.02% | 0.60% | 1.37% | 0.60% | -7.33% | |
| | % Water demand growth | | | 37.03% | 2.00% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Mpumalanga | | | | | | | WSA |
| Municipal Code | | MP325 | | | | | | | Yes |
| District Municipality | | Ehlanzeni | | | | | | | Category |
| Municipality | | Bushbuckridge | | | | | | | B4 |
| Settlements | | ALEXANDRIA, CASTEEL, MARITE, MAVILJAN, MKHULU | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 510 208 | 513 952 | 517 035 | 524 106 | 527 250 | 493 419 | |
| | Households | | 115 631 | 116 474 | 117 178 | 118 773 | 119 489 | 111 820 | |
| | Connections - metered | | ~~50 424~~ | ~~50 794~~ | ~~51 099~~ | 51 798 | ~~52 109~~ | ~~48 765~~ | |
| | Connections - Unmetered | | ~~34 363~~ | ~~34 614~~ | ~~34 823~~ | 35 297 | ~~35 510~~ | ~~33 231~~ | |
| | Length of mains (km) | | ~~1 696~~ | ~~1 708~~ | ~~1 718~~ | ~~1 742~~ | ~~1 752~~ | ~~1 640~~ | |
| | System input volume | kl/annum | 13 522 120 | 13 522 120 | 22 570 840 | | 24 149 517 | | |
| | Billed metered consumption | kl/annum | 8 767 720 | 8 767 720 | 0 | | | | |
| | Billed unmetered consumption | kl/annum | 4 752 000 | 4 752 000 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 13 519 720 | 13 519 720 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 2 400 | 2 400 | 22 570 840 | 0 | 24 149 517 | 0 | 0 |
| | Water Losses | kl/annum | 2 400 | 2 400 | 22 570 840 | 0 | 24 149 517 | 0 | 0 |
| | % Non-revenue water | | 0.0% | 0.0% | No data | No data | No data | No data | No data |
| | % Water Losses | | 0.0% | 0.0% | 100.0% | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 73 | 72 | 120 | No data | 125 | No data | No data |
| | Input: m³ / household / month | | 10 | 10 | 16 | No data | 17 | No data | No data |
| | Billed : Litres / capita / day | | 73 | 72 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 10 | 10 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.73% | 0.60% | 1.37% | 0.60% | -6.42% | |
| | % Water demand growth | | | 0.00% | 66.92% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

# National Non-Revenue Water Assessment

## North West Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Intoductory notes

### Terminilogy

| Accronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Mesurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (prefered term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not prefered term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**Unaccounted for Water (UAW / UFW)**

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

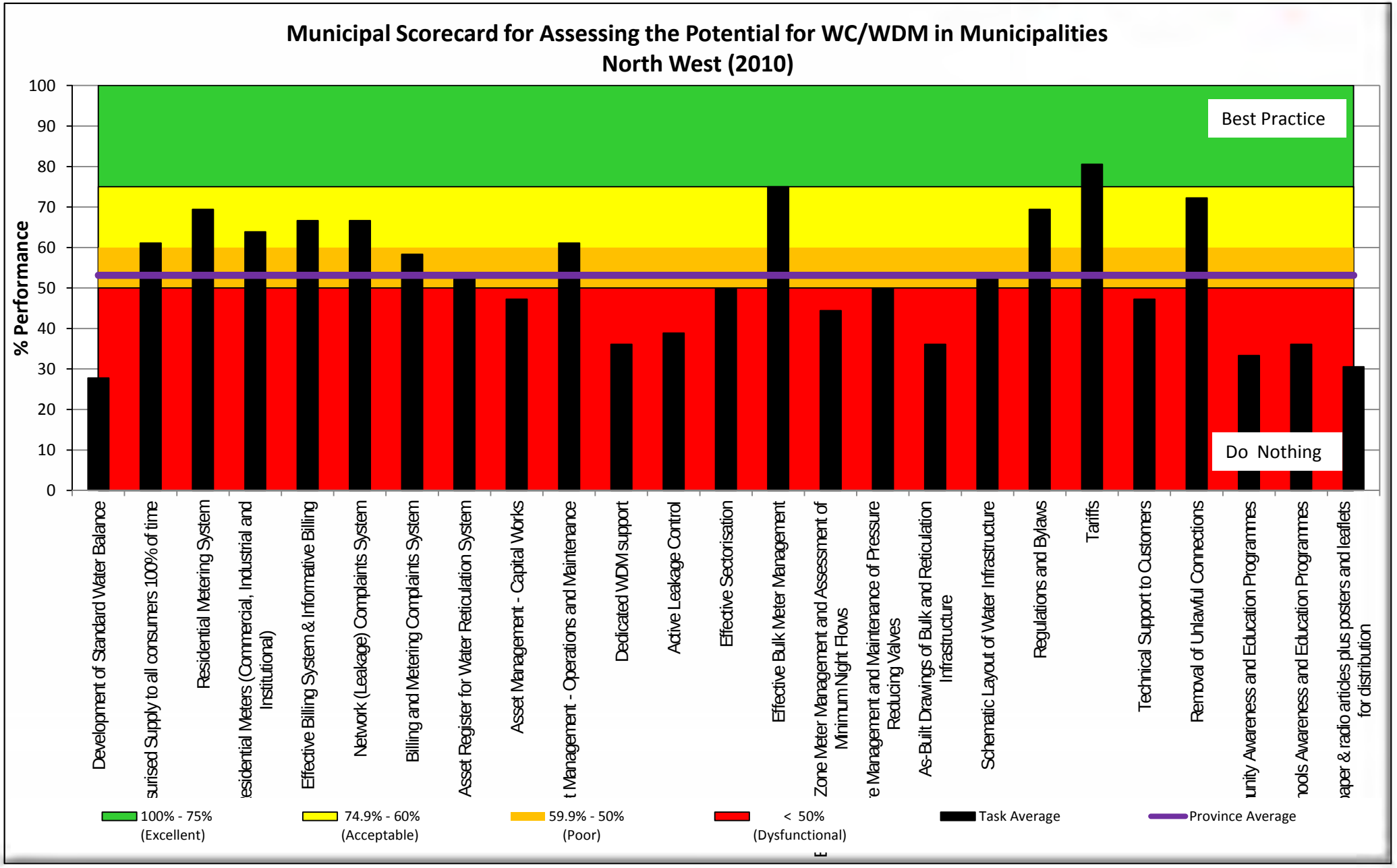
**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

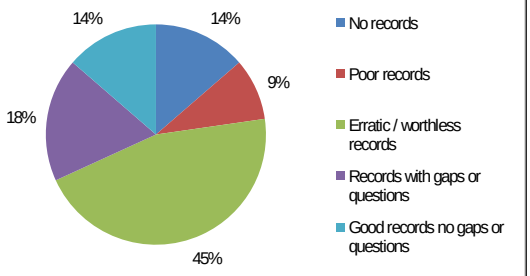
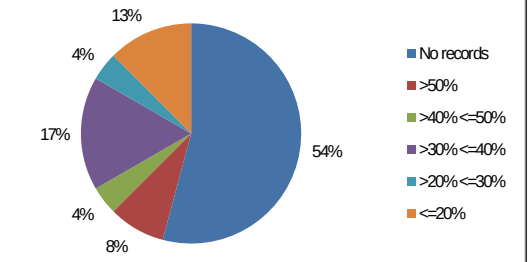
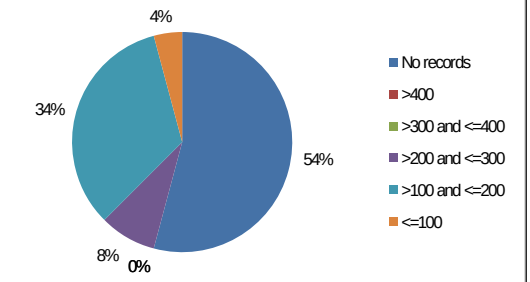
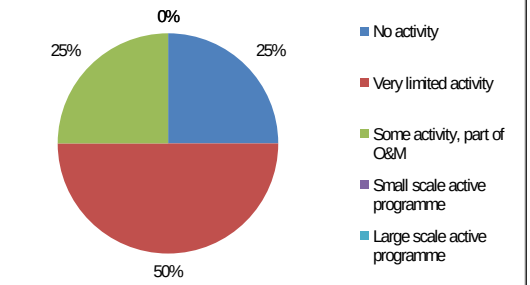
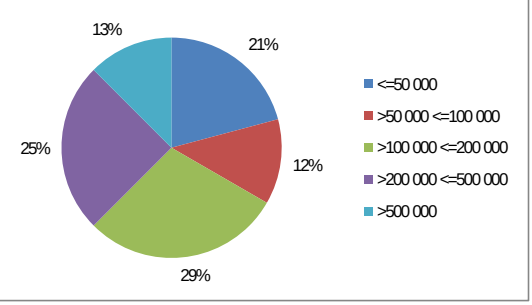
**NON REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

| Province | North West |
|---|---|

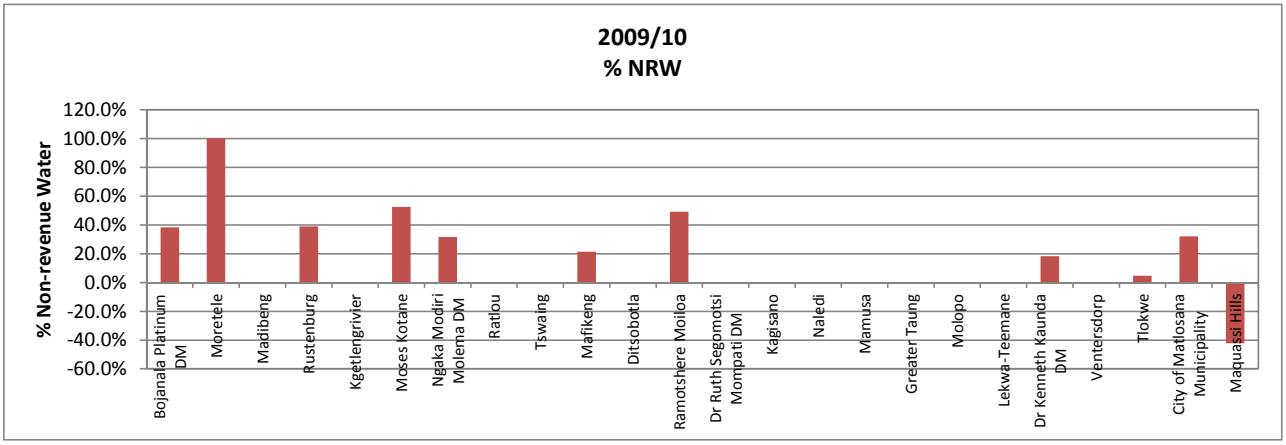
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | DC37 | Bojanala Platinum | Bojanala Platinum DM | C1 | No |
| 2 | NW371 | Bojanala Platinum | Moretele | B4 | Yes |
| 3 | NW372 | Bojanala Platinum | Madibeng | B1 | Yes |
| 4 | NW373 | Bojanala Platinum | Rustenburg | B1 | Yes |
| 5 | NW374 | Bojanala Platinum | Kgetlengrivier | B3 | Yes |
| 6 | NW375 | Bojanala Platinum | Moses Kotane | B4 | Yes |
| 7 | DC38 | Ngaka Modiri Molema | Ngaka Modiri Molema DM | C2 | Yes |
| 8 | NW381 | Ngaka Modiri Molema | Ratlou | B4 | No |
| 9 | NW382 | Ngaka Modiri Molema | Tswaing | B3 | No |
| 10 | NW383 | Ngaka Modiri Molema | Mafikeng | B2 | No |
| 11 | NW384 | Ngaka Modiri Molema | Ditsobotla | B3 | No |
| 12 | NW385 | Ngaka Modiri Molema | Ramotshere Moiloa | B3 | No |
| 13 | DC39 | Dr Ruth Segomotsi Mompati | Dr Ruth Segomotsi Mompati DM | C2 | Yes |
| 14 | NW391 | Dr Ruth Segomotsi Mompati | Kagisano | B4 | No |
| 15 | NW392 | Dr Ruth Segomotsi Mompati | Naledi | B3 | No |
| 16 | NW393 | Dr Ruth Segomotsi Mompati | Mamusa | B3 | No |
| 17 | NW394 | Dr Ruth Segomotsi Mompati | Greater Taung | B4 | No |
| 18 | NW395 | Dr Ruth Segomotsi Mompati | Molopo | B3 | No |
| 19 | NW396 | Dr Ruth Segomotsi Mompati | Lekwa-Teemane | B3 | No |
| 20 | DC40 | Dr Kenneth Kaunda | Dr Kenneth Kaunda DM | C1 | No |
| 21 | NW401 | Dr Kenneth Kaunda | Ventersdorp | B3 | Yes |
| 22 | NW402 | Dr Kenneth Kaunda | Tlokwe | B1 | Yes |
| 23 | NW403 | Dr Kenneth Kaunda | City of Matlosana Municipality | B1 | Yes |
| 24 | NW404 | Dr Kenneth Kaunda | Maquassi Hills | B3 | Yes |

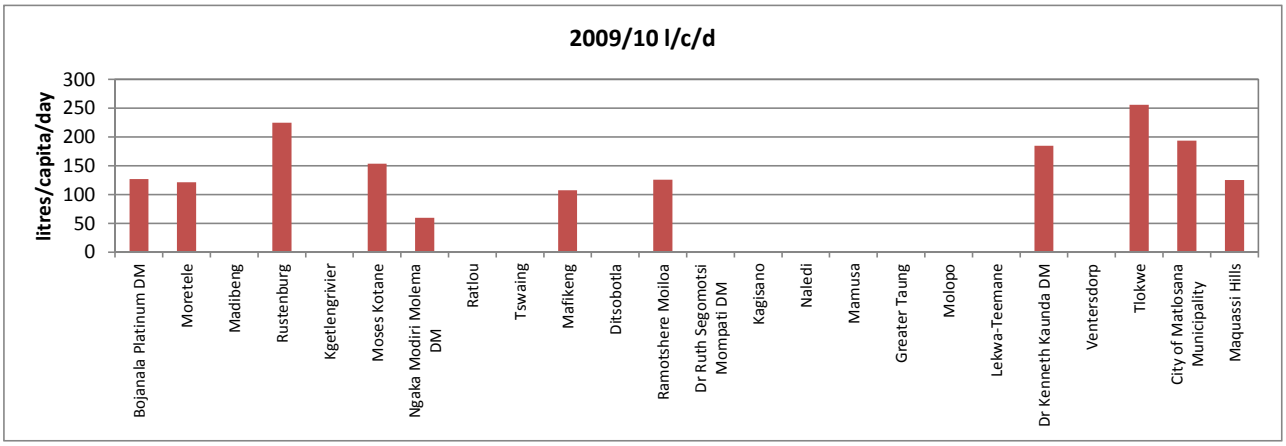
# National NRW Assessment

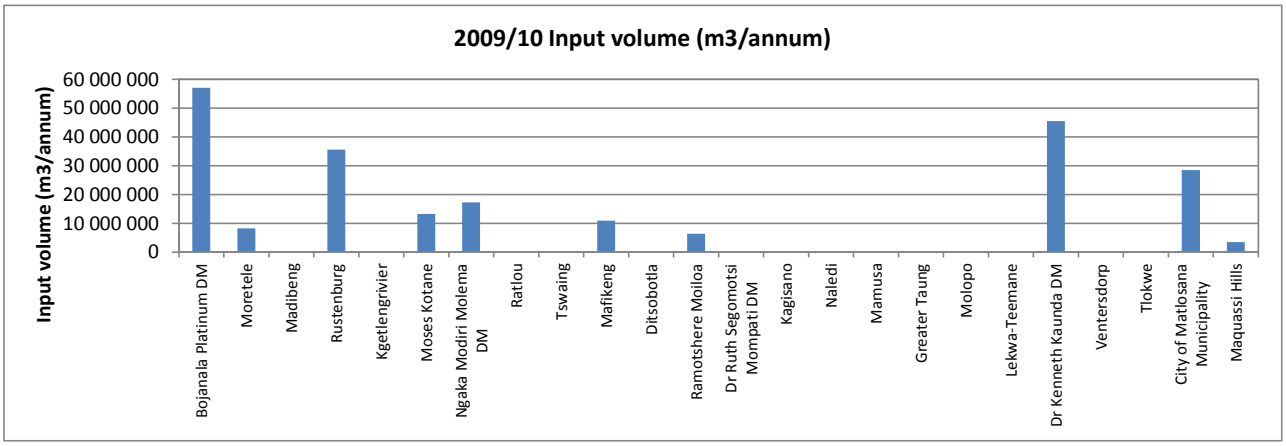


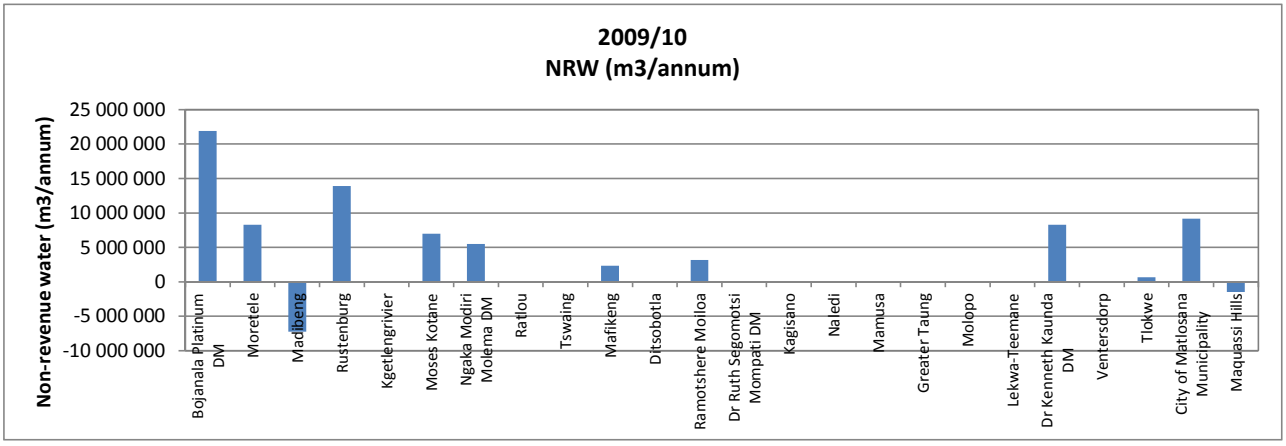
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 22 | | |
| 1 | No records | 3 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 2 | | |
| 3 | Erratic / worthless records | 10 | | |
| 4 | Records with gaps or questions | 4 | | |
| 5 | Good records no gaps or questions | 3 | | |
| | | | | |
| **% NRW** | | 24 | | |
| 0 | No records | 13 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 2 | | |
| 2 | >40% <=50% | 1 | | |
| 3 | >30% <=40% | 4 | | |
| 4 | >20% <=30% | 1 | | |
| 5 | <=20% | 3 | | |
| **litres / capita / day** | | 24 | | |
| 0 | No records | 13 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 0 | | |
| 2 | >300 and <=400 | 0 | | |
| 3 | >200 and <=300 | 2 | | |
| 4 | >100 and <=200 | 8 | | |
| 5 | <=100 | 1 | | |
| **NRW Activity** | | 24 | | |
| 1 | No activity | 6 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 12 | | |
| 3 | Some activity, part of O&M | 6 | | |
| 4 | Small scale active programme | 0 | | |
| 5 | Large scale active programme | 0 | | |
| | | | | |
| **Potential NRW Impact** | | 24 | | |
| 1 | <=50 000 | 5 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 3 | | |
| 3 | >100 000 <=200 000 | 7 | | |
| 4 | >200 000 <=500 000 | 6 | | |
| 5 | >500 000 | 3 | | |
| | | | | |

**Key Performance Indicators**

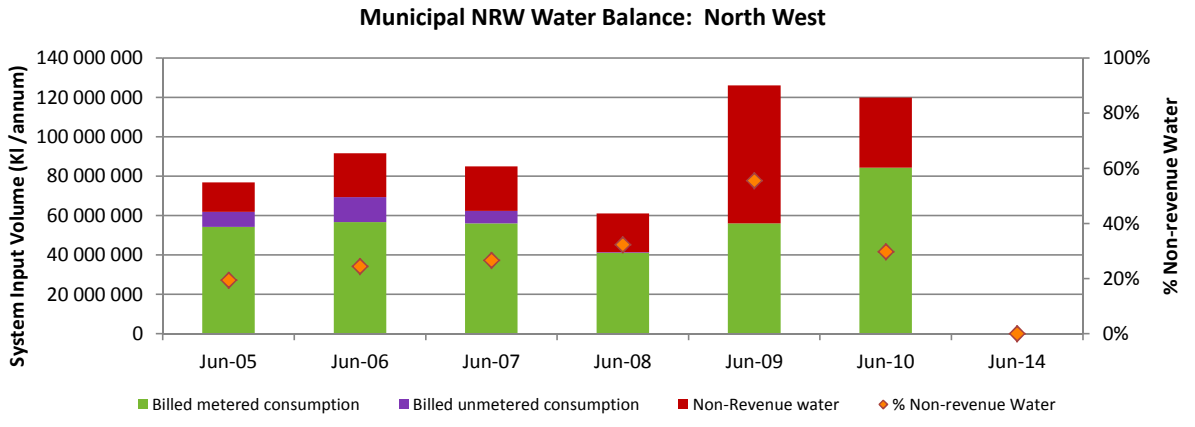


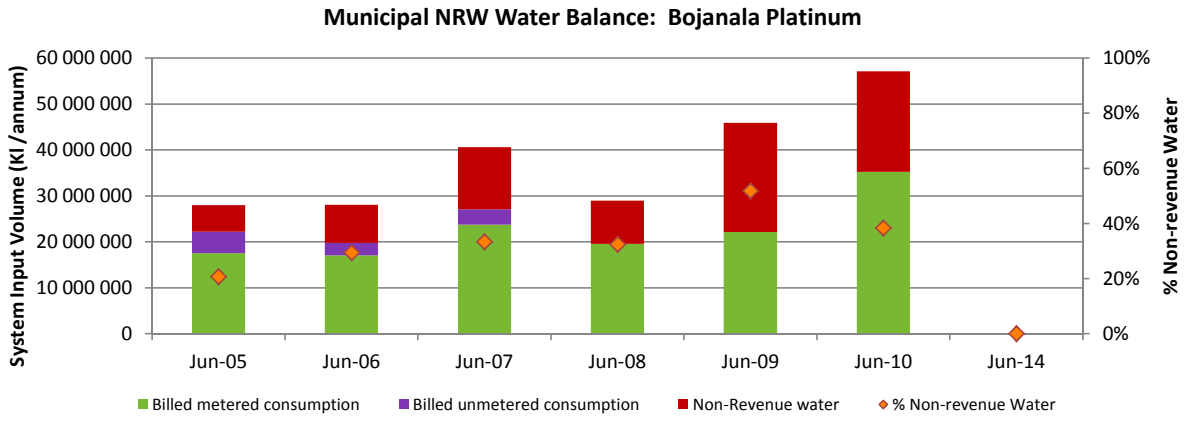



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target Jun-14 |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | |
| Input Data | Population | | 3 155 996 | 3 178 030 | 3 197 091 | 3 210 036 | 3 229 606 | 3 136 275 | 0 |
| | Households | | 845 211 | 851 320 | 856 394 | 859 720 | 865 088 | 841 288 | 0 |
| | Connections - metered | | 517 632 | 521 802 | 524 933 | 527 083 | 530 281 | 522 841 | 0 |
| | Connections - Unmetered | | 182 437 | 183 661 | 184 751 | 185 479 | 186 623 | 178 502 | 0 |
| | Length of mains (km) | | 14 001 | 14 109 | 14 194 | 14 242 | 14 338 | 14 027 | 0 |
| | System input volume | kl/annum | 76 851 824 | 91 664 184 | 85 029 856 | 61 052 627 | 126 059 189 | 119 936 392 | 0 |
| | Billed metered consumption | kl/annum | 54 283 752 | 56 755 964 | 56 083 352 | 41 089 031 | 56 065 270 | 84 268 291 | 0 |
| | Billed unmetered consumption | kl/annum | 7 628 410 | 12 585 376 | 6 304 014 | 272 544 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 61 912 162 | 69 341 340 | 62 387 366 | 41 361 575 | 56 065 270 | 84 268 291 | 0 |
| | Non-Revenue water | kl/annum | 14 939 662 | 22 322 844 | 22 642 490 | 19 691 052 | 69 993 919 | 35 668 101 | 0 |
| | Water Losses | kl/annum | 14 939 662 | 22 322 844 | 22 642 490 | 19 691 052 | 69 993 919 | 35 668 101 | 0 |
| | % Non-revenue water | | 19.4% | 24.4% | 26.6% | 32.3% | 55.5% | 29.7% | No data |
| | % Water Losses | | 19.4% | 24.4% | 26.6% | 32.3% | 55.5% | 29.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 67 | 79 | 73 | 52 | 107 | 105 | No data |
| | Input: m³ / household / month | | 8 | 9 | 8 | 6 | 12 | 12 | No data |
| | Billed : Litres / capita / day | | 54 | 60 | 53 | 35 | 48 | 74 | No data |
| | Billed : m³ / household / month | | 6 | 7 | 6 | 4 | 5 | 8 | No data |
| | % Population growth | | | 0.70% | 0.60% | 0.40% | 0.61% | -2.89% | |
| | % Water demand growth | | | 19.27% | -7.24% | -28.20% | 106.48% | -4.86% | |
| Source of information | | | | | | | | | |



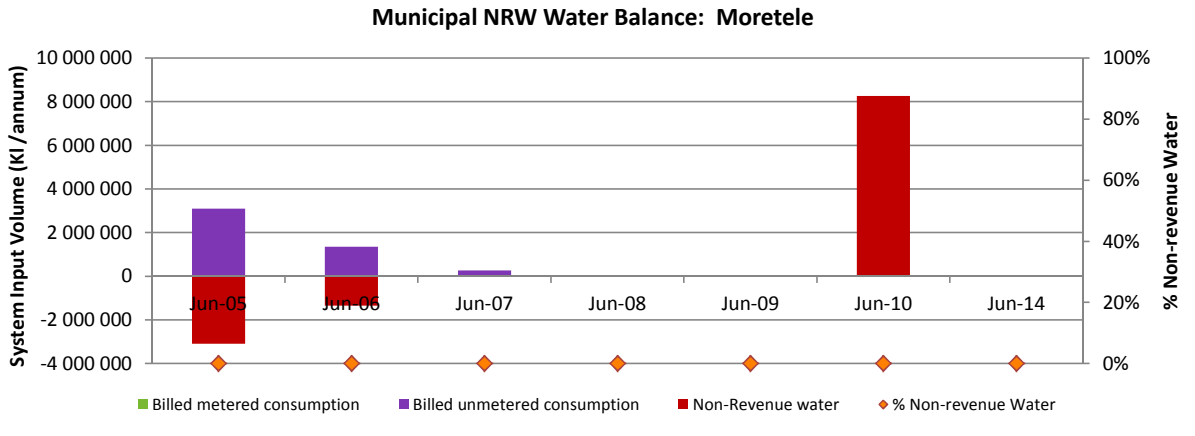

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | DC37 | | | | | | | | No |
| District Municipality | Bojanala Platinum | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 1 257 127 | 1 270 363 | 1 277 992 | 1 282 991 | 1 291 026 | 1 234 265 | 0 |
| | Households | | 360 939 | 364 744 | 366 929 | 368 208 | 370 658 | 355 032 | 0 |
| | Connections - metered | | 242 402 | 244 945 | 246 415 | 247 405 | 248 927 | 240 172 | 0 |
| | Connections - Unmetered | | 79 088 | 79 930 | 80 408 | 80 698 | 81 224 | 77 391 | 0 |
| | Length of mains (km) | | 6 430 | 6 497 | 6 536 | 6 562 | 6 603 | 6 351 | 0 |
| | System input volume | kl/annum | 27 968 822 | 28 030 513 | 40 603 676 | 28 965 414 | 45 895 323 | 57 121 439 | 0 |
| | Billed metered consumption | kl/annum | 17 567 793 | 17 020 089 | 23 738 796 | 19 571 958 | 22 139 591 | 35 237 394 | 0 |
| | Billed unmetered consumption | kl/annum | 4 613 968 | 2 754 100 | 3 316 433 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 22 181 761 | 19 774 189 | 27 055 229 | 19 571 958 | 22 139 591 | 35 237 394 | 0 |
| | Non-Revenue water | kl/annum | 5 787 061 | 8 256 324 | 13 548 447 | 9 393 456 | 23 755 732 | 21 884 045 | 0 |
| | Water Losses | kl/annum | 5 787 061 | 8 256 324 | 13 548 447 | 9 393 456 | 23 755 732 | 21 884 045 | 0 |
| | % Non-revenue water | | 20.7% | 29.5% | 33.4% | 32.4% | 51.8% | 38.3% | No data |
| | % Water Losses | | 20.7% | 29.5% | 33.4% | 32.4% | 51.8% | 38.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 61 | 60 | 87 | 62 | 97 | 127 | No data |
| | Input: m³ / household / month | | 6 | 6 | 9 | 7 | 10 | 13 | No data |
| | Billed : Litres / capita / day | | 48 | 43 | 58 | 42 | 47 | 78 | No data |
| | Billed : m³ / household / month | | 5 | 5 | 6 | 4 | 5 | 8 | No data |
| | % Population growth | | | 1.05% | 0.60% | 0.39% | 0.63% | -4.40% | |
| | % Water demand growth | | | 0.22% | 44.86% | -28.66% | 58.45% | 24.46% | |
| Source of information | | | | | | | | | |



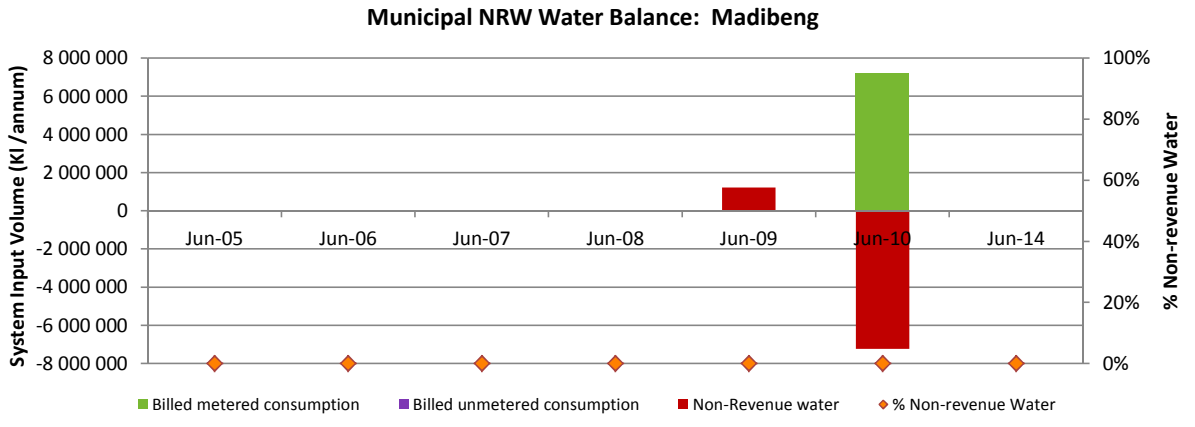

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW371 | | | | | | | | Yes |
| District Municipality | Bojanala Platinum | | | | | | | | Category |
| Municipality | Moretele | | | | | | | | B4 |
| Settlements | BEZUIDENHOUTSKRAAL, MAKAPNSTAD, MATHIBESTAD, MOGOGELO | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 196 393 | 198 555 | 199 749 | 200 586 | 201 793 | 186 341 | |
| | Households | | 50 240 | 50 802 | 51 104 | 51 315 | 51 619 | 47 666 | |
| | Connections - metered | | ~~20 950~~ | ~~21 180~~ | ~~21 308~~ | 21 397 | ~~21 526~~ | ~~19 877~~ | |
| | Connections - Unmetered | | ~~22 225~~ | ~~22 474~~ | ~~22 608~~ | 22 701 | ~~22 835~~ | ~~21 087~~ | |
| | Length of mains (km) | | ~~864~~ | ~~873~~ | ~~878~~ | ~~882~~ | ~~887~~ | ~~819~~ | |
| | System input volume | kl/annum | 0 | 0 | 270 043 | | | 8 260 000 | |
| | Billed metered consumption | kl/annum | 0 | 12 043 | 12 043 | | | | |
| | Billed unmetered consumption | kl/annum | 3 096 576 | 1 333 080 | 258 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 096 576 | 1 345 123 | 270 043 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | -3 096 576 | -1 345 123 | 0 | 0 | 0 | 8 260 000 | 0 |
| | Water Losses | kl/annum | -3 096 576 | -1 345 123 | 0 | 0 | 0 | 8 260 000 | 0 |
| | % Non-revenue water | | No data | No data | Check data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 4 | No data | No data | 121 | No data |
| | Input: m³ / household / month | | No data | No data | 0 | No data | No data | 14 | No data |
| | Billed : Litres / capita / day | | 43 | 19 | 4 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 5 | 2 | 0 | No data | No data | No data | No data |
| | % Population growth | | | 1.10% | 0.60% | 0.42% | 0.60% | -7.66% | |
| | % Water demand growth | | | | #DIV/0! | | | #DIV/0! | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



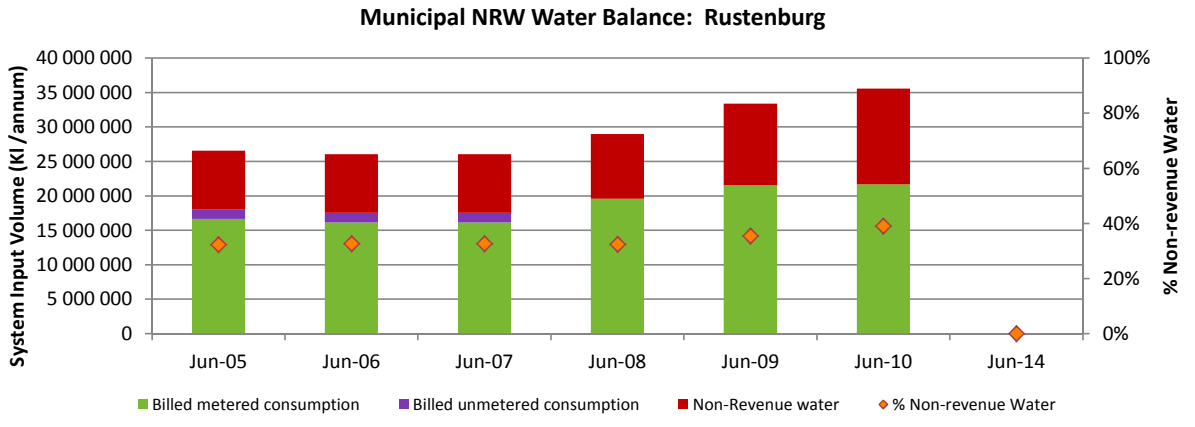

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | North West | | | | | | | WSA |
| Municipal Code | | NW372 | | | | | | | Yes |
| District Municipality | | Bojanala Platinum | | | | | | | Category |
| Municipality | | Madibeng | | | | | | | |
| Settlements | | Brits | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 345 646 | 349 253 | 351 345 | 352 803 | 354 920 | 336 424 | |
| | Households | | 98 943 | 99 974 | 100 574 | 100 983 | 101 589 | 96 288 | |
| | Connections - metered | | ~~77 416~~ | ~~78 224~~ | ~~78 692~~ | 79 019 | ~~79 493~~ | ~~75 351~~ | |
| | Connections - Unmetered | | ~~16 850~~ | ~~17 025~~ | ~~17 127~~ | 17 197 | ~~17 300~~ | ~~16 397~~ | |
| | Length of mains (km) | | ~~1 885~~ | ~~1 905~~ | ~~1 916~~ | ~~1 924~~ | ~~1 936~~ | ~~1 835~~ | |
| | System input volume | kl/annum | | | | | 1 225 200 | | |
| | Billed metered consumption | kl/annum | | | | | | 7 230 000 | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 7 230 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 1 225 200 | -7 230 000 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 1 225 200 | -7 230 000 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | 9 | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | 1 | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | 59 | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | 6 | No data |
| | % Population growth | | | 1.04% | 0.60% | 0.41% | 0.60% | -5.21% | |
| | % Water demand growth | | | | | | #DIV/0! | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |



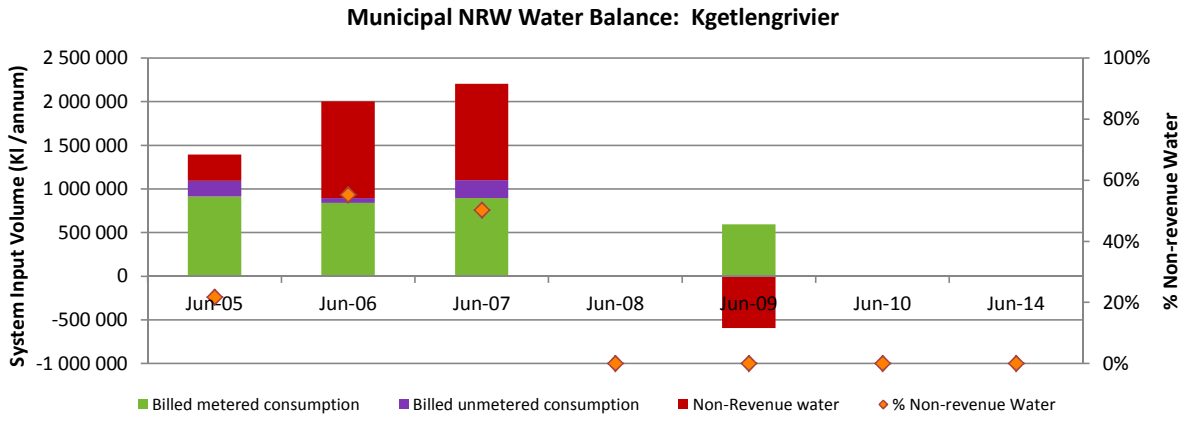

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW373 | | | | | | | | Yes |
| District Municipality | Bojanala Platinum | | | | | | | | Category |
| Municipality | Rustenburg | | | | | | | | B1 |
| Settlements | BETHANIE, RUSTENBURG, BOITEKONG, MARIKANA, THLABANE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 426 535 | 430 988 | 433 578 | 435 386 | 437 999 | 433 701 | |
| | Households | | 132 007 | 133 386 | 134 185 | 134 753 | 135 560 | 134 239 | |
| | Connections - metered | | ~~106 526~~ | ~~107 639~~ | ~~108 285~~ | 108 737 | ~~109 390~~ | ~~108 316~~ | |
| | Connections - Unmetered | | ~~26 224~~ | ~~26 497~~ | ~~26 656~~ | 26 769 | ~~26 929~~ | ~~26 667~~ | |
| | Length of mains (km) | | ~~2 655~~ | ~~2 683~~ | ~~2 699~~ | ~~2 710~~ | ~~2 726~~ | ~~2 700~~ | |
| | System input volume | kl/annum | 26 572 897 | 26 028 358 | 26 028 358 | 28 965 414 | 33 370 837 | 35 581 439 | |
| | Billed metered consumption | kl/annum | 16 653 672 | 16 166 633 | 16 166 633 | 19 571 958 | 21 544 401 | 21 697 394 | |
| | Billed unmetered consumption | kl/annum | 1 338 976 | 1 367 313 | 1 367 313 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 17 992 648 | 17 533 946 | 17 533 946 | 19 571 958 | 21 544 401 | 21 697 394 | 0 |
| | Non-Revenue water | kl/annum | 8 580 249 | 8 494 412 | 8 494 412 | 9 393 456 | 11 826 436 | 13 884 045 | 0 |
| | Water Losses | kl/annum | 8 580 249 | 8 494 412 | 8 494 412 | 9 393 456 | 11 826 436 | 13 884 045 | 0 |
| | % Non-revenue water | | 32.3% | 32.6% | 32.6% | 32.4% | 35.4% | 39.0% | No data |
| | % Water Losses | | 32.3% | 32.6% | 32.6% | 32.4% | 35.4% | 39.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 171 | 165 | 164 | 182 | 209 | 225 | No data |
| | Input: m³ / household / month | | 17 | 16 | 16 | 18 | 21 | 22 | No data |
| | Billed : Litres / capita / day | | 116 | 111 | 111 | 123 | 135 | 137 | No data |
| | Billed : m³ / household / month | | 11 | 11 | 11 | 12 | 13 | 13 | No data |
| | % Population growth | | | 1.04% | 0.60% | 0.42% | 0.60% | -0.98% | |
| | % Water demand growth | | | -2.05% | 0.00% | 11.28% | 15.21% | 6.62% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS Municipality | DWA NIS RPMS | |



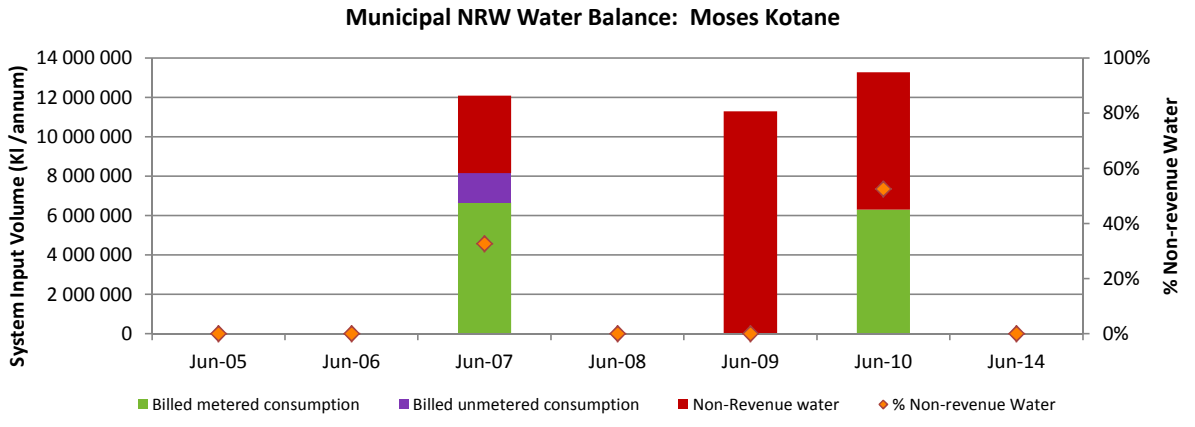

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW374 | | | | | | | | Yes |
| District Municipality | Bojanala Platinum | | | | | | | | Category |
| Municipality | Kgetlengrivier | | | | | | | | B3 |
| Settlements | KOSTER, SWARTRUGGENS | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 38 964 | 39 371 | 39 606 | 39 770 | 40 008 | 41 083 | |
| | Households | | 11 402 | 11 521 | 11 590 | 11 637 | 11 707 | 12 021 | |
| | Connections - metered | | ~~9 935~~ | ~~10 039~~ | ~~10 099~~ | 10 141 | ~~10 202~~ | ~~10 476~~ | |
| | Connections - Unmetered | | ~~1 533~~ | ~~1 549~~ | ~~1 559~~ | 1 565 | ~~1 574~~ | ~~1 617~~ | |
| | Length of mains (km) | | ~~229~~ | ~~232~~ | ~~233~~ | ~~234~~ | ~~236~~ | ~~242~~ | |
| | System input volume | kl/annum | 1 395 925 | 2 002 155 | 2 206 275 | | | | |
| | Billed metered consumption | kl/annum | 914 121 | 841 413 | 895 120 | | 595 190 | | |
| | Billed unmetered consumption | kl/annum | 178 416 | 53 707 | 204 120 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 092 537 | 895 120 | 1 099 240 | 0 | 595 190 | 0 | 0 |
| | Non-Revenue water | kl/annum | 303 388 | 1 107 035 | 1 107 035 | 0 | -595 190 | 0 | 0 |
| | Water Losses | kl/annum | 303 388 | 1 107 035 | 1 107 035 | 0 | -595 190 | 0 | 0 |
| | % Non-revenue water | | 21.7% | 55.3% | 50.2% | No data | No data | No data | No data |
| | % Water Losses | | 21.7% | 55.3% | 50.2% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 98 | 139 | 153 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 10 | 14 | 16 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 77 | 62 | 76 | No data | 41 | No data | No data |
| | Billed : m³ / household / month | | 8 | 6 | 8 | No data | 4 | No data | No data |
| | % Population growth | | | 1.04% | 0.60% | 0.41% | 0.60% | 2.69% | |
| | % Water demand growth | | | 43.43% | 10.20% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



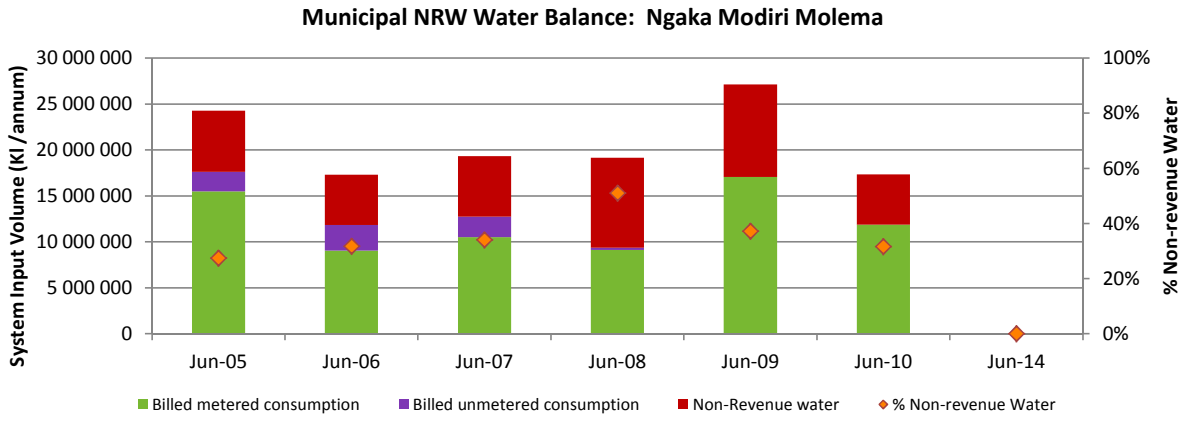

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | North West | | | | | | | WSA |
| Municipal Code | | NW375 | | | | | | | Yes |
| District Municipality | | Bojanala Platinum | | | | | | | Category |
| Municipality | | Moses Kotane | | | | | | | B4 |
| Settlements | | Mogwase | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 249 589 | 252 196 | 253 714 | 254 446 | 256 306 | 236 716 | |
| | Households | | 68 347 | 69 061 | 69 476 | 69 520 | 70 183 | 64 818 | |
| | Connections - metered | | ~~27 574~~ | ~~27 862~~ | ~~28 039~~ | 28 111 | ~~28 316~~ | ~~26 152~~ | |
| | Connections - Unmetered | | ~~12 256~~ | ~~12 384~~ | ~~12 458~~ | 12 466 | ~~12 585~~ | ~~11 623~~ | |
| | Length of mains (km) | | ~~797~~ | ~~805~~ | ~~810~~ | ~~812~~ | ~~818~~ | ~~756~~ | |
| | System input volume | kl/annum | | | 12 099 000 | | 11 299 286 | 13 280 000 | |
| | Billed metered consumption | kl/annum | | | 6 665 000 | | | 6 310 000 | |
| | Billed unmetered consumption | kl/annum | | | 1 487 000 | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 8 152 000 | 0 | 0 | 6 310 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 3 947 000 | 0 | 11 299 286 | 6 970 000 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 3 947 000 | 0 | 11 299 286 | 6 970 000 | 0 |
| | % Non-revenue water | | No data | No data | 32.6% | No data | No data | 52.5% | No data |
| | % Water Losses | | No data | No data | 32.6% | No data | 100.0% | 52.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 131 | No data | 121 | 154 | No data |
| | Input: m³ / household / month | | No data | No data | 15 | No data | 13 | 17 | No data |
| | Billed : Litres / capita / day | | No data | No data | 88 | No data | No data | 73 | No data |
| | Billed : m³ / household / month | | No data | No data | 10 | No data | No data | 8 | No data |
| | % Population growth | | | 1.04% | 0.60% | 0.29% | 0.73% | -7.64% | |
| | % Water demand growth | | | | #DIV/0! | | #DIV/0! | 17.53% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |



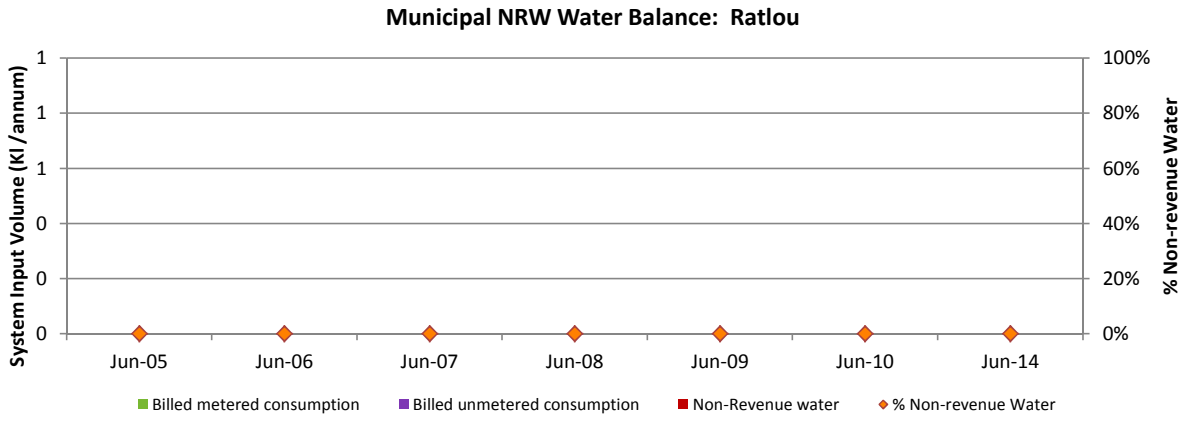

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | DC38 | | | | | | | | Yes |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 813 684 | 815 342 | 820 234 | 823 634 | 828 567 | 793 580 | 0 |
| | Households | | 201 357 | 201 775 | 202 974 | 203 823 | 205 032 | 196 655 | 0 |
| | Connections - metered | | 76 214 | 76 370 | 76 828 | 77 147 | 77 609 | 75 079 | 0 |
| | Connections - Unmetered | | 55 115 | 55 229 | 55 555 | 55 789 | 56 119 | 53 177 | 0 |
| | Length of mains (km) | | 2 627 | 2 632 | 2 648 | 2 659 | 2 675 | 2 565 | 0 |
| | System input volume | kl/annum | 24 273 064 | 17 321 522 | 19 315 199 | 19 137 331 | 27 122 150 | 17 339 376 | 0 |
| | Billed metered consumption | kl/annum | 15 489 860 | 9 054 176 | 10 525 660 | 9 101 911 | 17 044 145 | 11 851 892 | 0 |
| | Billed unmetered consumption | kl/annum | 2 134 084 | 2 777 580 | 2 207 751 | 272 544 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 17 623 944 | 11 831 756 | 12 733 411 | 9 374 456 | 17 044 145 | 11 851 892 | 0 |
| | Non-Revenue water | kl/annum | 6 649 120 | 5 489 766 | 6 581 788 | 9 762 876 | 10 078 005 | 5 487 484 | 0 |
| | Water Losses | kl/annum | 6 649 120 | 5 489 766 | 6 581 788 | 9 762 876 | 10 078 005 | 5 487 484 | 0 |
| | % Non-revenue water | | 27.4% | 31.7% | 34.1% | 51.0% | 37.2% | 31.6% | No data |
| | % Water Losses | | 27.4% | 31.7% | 34.1% | 51.0% | 37.2% | 31.6% | No data |
| Key performance indicators | Input : Litres / capita / day | | 82 | 58 | 65 | 64 | 90 | 60 | No data |
| | Input: m³ / household / month | | 10 | 7 | 8 | 8 | 11 | 7 | No data |
| | Billed : Litres / capita / day | | 59 | 40 | 43 | 31 | 56 | 41 | No data |
| | Billed : m³ / household / month | | 7 | 5 | 5 | 4 | 7 | 5 | No data |
| | % Population growth | | | 0.20% | 0.60% | 0.41% | 0.60% | -4.22% | |
| | % Water demand growth | | | -28.64% | 11.51% | -0.92% | 41.72% | -36.07% | |
| Source of information | | | | | | | | | |



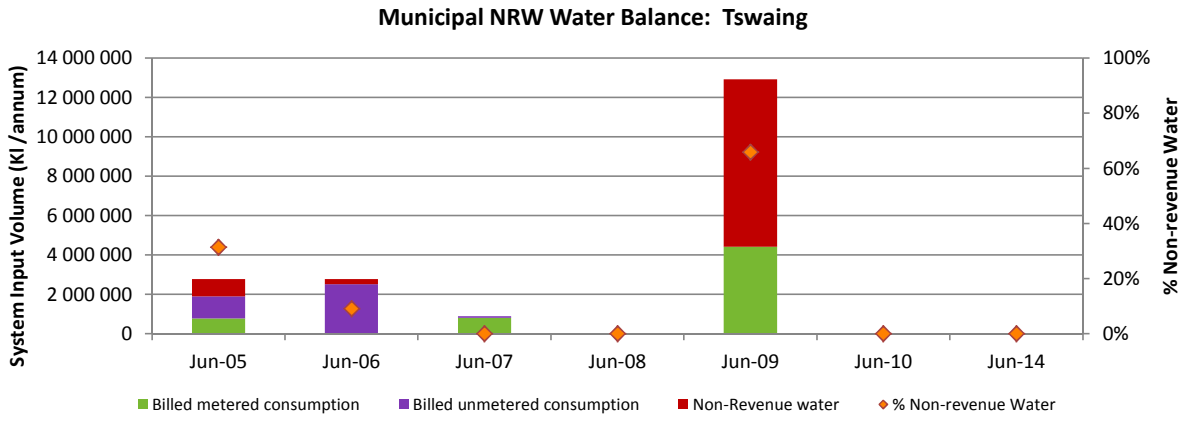

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW381 | | | | | | | | No |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | Ratlou | | | | | | | | B4 |
| Settlements | MOTSITLENE, SETLAGOLE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 111 242 | 111 468 | 112 139 | 112 601 | 113 276 | 104 586 | |
| | Households | | 25 190 | 25 241 | 25 390 | 25 495 | 25 645 | 23 676 | |
| | Connections - metered | | ~~4 200~~ | ~~4 208~~ | ~~4 234~~ | 4 251 | ~~4 276~~ | ~~3 948~~ | |
| | Connections - Unmetered | | ~~17 117~~ | ~~17 151~~ | ~~17 253~~ | ~~17 324~~ | ~~17 426~~ | ~~16 088~~ | |
| | Length of mains (km) | | ~~426~~ | ~~427~~ | ~~430~~ | ~~432~~ | ~~434~~ | ~~401~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.20% | 0.60% | 0.41% | 0.60% | -7.67% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |




Comments

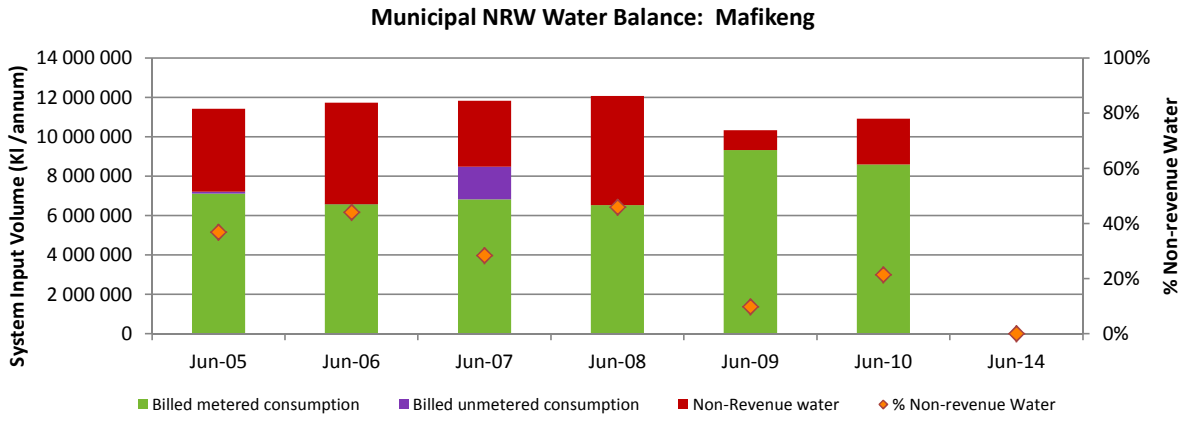
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW382 | | | | | | | | No |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | Tswaing | | | | | | | | B3 |
| Settlements | KHIBITSWANE, MAROTSE, DELAREYVILLE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 121 743 | 121 991 | 122 720 | 123 226 | 123 960 | 115 573 | |
| | Households | | 28 150 | 28 205 | 28 372 | 28 492 | 28 661 | 26 718 | |
| | Connections - metered | | ~~3 194~~ | ~~3 201~~ | ~~3 229~~ | 3 233 | ~~3 252~~ | ~~3 032~~ | |
| | Connections - Unmetered | | ~~4 701~~ | ~~4 710~~ | ~~4 738~~ | 4 758 | ~~4 786~~ | ~~4 462~~ | |
| | Length of mains (km) | | ~~158~~ | ~~158~~ | ~~159~~ | ~~160~~ | ~~161~~ | ~~150~~ | |
| | System input volume | kl/annum | 2 770 680 | 2 770 680 | 886 924 | | 12 928 846 | | |
| | Billed metered consumption | kl/annum | 770 680 | 0 | 802 495 | | 4 415 313 | | |
| | Billed unmetered consumption | kl/annum | 1 130 760 | 2 520 000 | 84 429 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 901 440 | 2 520 000 | 886 924 | 0 | 4 415 313 | 0 | 0 |
| | Non-Revenue water | kl/annum | 869 240 | 250 680 | 0 | 0 | 8 513 533 | 0 | 0 |
| | Water Losses | kl/annum | 869 240 | 250 680 | 0 | 0 | 8 513 533 | 0 | 0 |
| | % Non-revenue water | | 31.4% | 9.0% | Check data | No data | 65.8% | No data | No data |
| | % Water Losses | | 31.4% | 9.0% | No data | No data | 65.8% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 62 | 62 | 20 | No data | 286 | No data | No data |
| | Input: m³ / household / month | | 8 | 8 | 3 | No data | 38 | No data | No data |
| | Billed : Litres / capita / day | | 43 | 57 | 20 | No data | 98 | No data | No data |
| | Billed : m³ / household / month | | 6 | 7 | 3 | No data | 13 | No data | No data |
| | % Population growth | | | 0.20% | 0.60% | 0.41% | 0.60% | -6.77% | |
| | % Water demand growth | | | 0.00% | -67.99% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

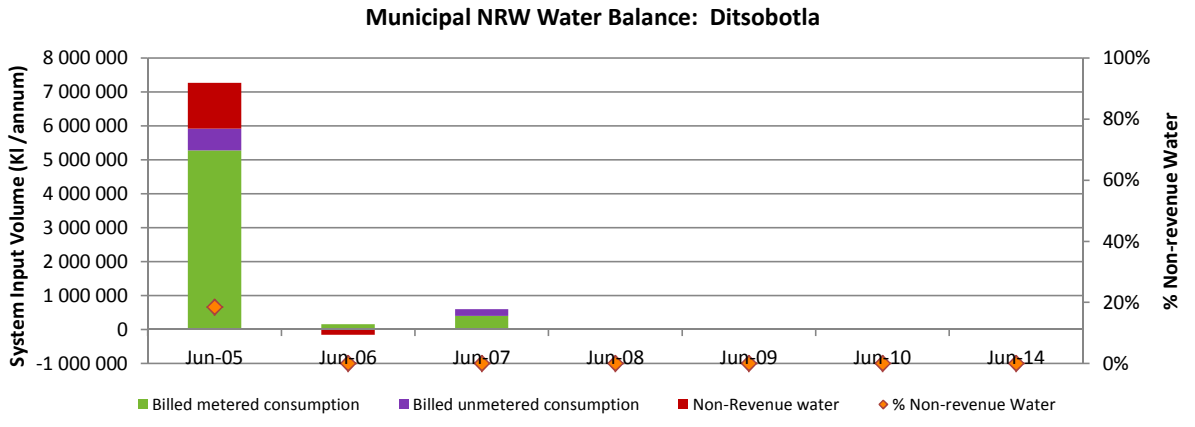
# National NRW Assessment

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW383 | | | | | | | | No |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | Mafikeng | | | | | | | | B2 |
| Settlements | Mafikeng | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 276 735 | 277 302 | 278 966 | 280 125 | 281 807 | 278 351 | |
| | Households | | 72 394 | 72 552 | 72 989 | 73 284 | 73 721 | 72 823 | |
| | Connections - metered | | ~~27 774~~ | ~~27 828~~ | ~~27 995~~ | 28 111 | ~~28 280~~ | ~~27 933~~ | |
| | Connections - Unmetered | | ~~12 315~~ | ~~12 341~~ | ~~12 416~~ | 12 466 | ~~12 540~~ | ~~12 388~~ | |
| | Length of mains (km) | | ~~802~~ | ~~803~~ | ~~808~~ | ~~812~~ | ~~816~~ | ~~806~~ | |
| | System input volume | kl/annum | 11 421 996 | 11 736 842 | 11 834 186 | ~~12 077 096~~ | 10 331 971 | ~~10 928 631~~ | |
| | Billed metered consumption | kl/annum | 7 116 553 | 6 571 222 | 6 817 987 | ~~6 536 279~~ | 9 326 245 | ~~8 588 629~~ | |
| | Billed unmetered consumption | kl/annum | 99 827 | 1 044 | 1 656 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 7 216 380 | 6 572 266 | 8 473 987 | 6 536 279 | 9 326 245 | 8 588 629 | 0 |
| | Non-Revenue water | kl/annum | 4 205 616 | 5 164 576 | 3 360 199 | 5 540 817 | 1 005 726 | 2 340 002 | 0 |
| | Water Losses | kl/annum | 4 205 616 | 5 164 576 | 3 360 199 | 5 540 817 | 1 005 726 | 2 340 002 | 0 |
| | % Non-revenue water | | 36.8% | 44.0% | 28.4% | 45.9% | 9.7% | 21.4% | No data |
| | % Water Losses | | 36.8% | 44.0% | 28.4% | 45.9% | 9.7% | 21.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 113 | 116 | 116 | 118 | 100 | 108 | No data |
| | Input: m³ / household / month | | 13 | 13 | 14 | 14 | 12 | 13 | No data |
| | Billed : Litres / capita / day | | 71 | 65 | 83 | 64 | 91 | 85 | No data |
| | Billed : m³ / household / month | | 8 | 8 | 10 | 7 | 11 | 10 | No data |
| | % Population growth | | | 0.20% | 0.60% | 0.42% | 0.60% | -1.23% | |
| | % Water demand growth | | | 2.76% | 0.83% | 2.05% | -14.45% | 5.77% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



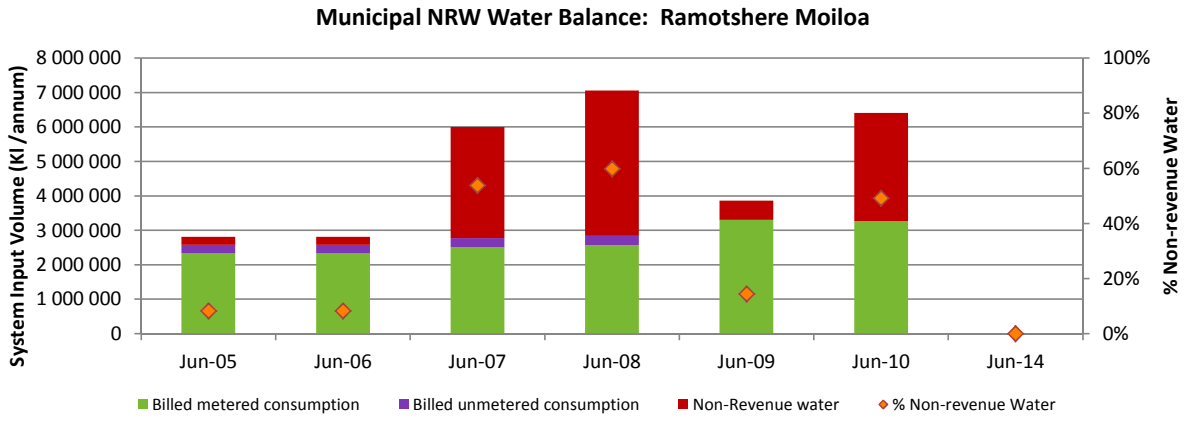

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW384 | | | | | | | | No |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | Ditsobotla | | | | | | | | B3 |
| Settlements | BOIKHUTSO, ITOSENG, KGOMOLA, LICHTENBURG | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 157 422 | 157 745 | 158 693 | 159 353 | 160 308 | 155 471 | |
| | Households | | 39 841 | 39 922 | 40 159 | 40 329 | 40 570 | 39 351 | |
| | Connections - metered | | ~~30 334~~ | ~~30 396~~ | ~~30 579~~ | 30 706 | ~~30 890~~ | ~~29 958~~ | |
| | Connections - Unmetered | | ~~7 148~~ | ~~7 163~~ | ~~7 205~~ | 7 236 | ~~7 279~~ | ~~7 061~~ | |
| | Length of mains (km) | | ~~750~~ | ~~751~~ | ~~756~~ | ~~759~~ | ~~763~~ | ~~740~~ | |
| | System input volume | kl/annum | 7 266 388 | 0 | 598 681 | | | | |
| | Billed metered consumption | kl/annum | 5 277 627 | 157 954 | 399 889 | | | | |
| | Billed unmetered consumption | kl/annum | 646 961 | 0 | 198 792 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 924 588 | 157 954 | 598 681 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 341 800 | -157 954 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 1 341 800 | -157 954 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 18.5% | No data | Check data | No data | No data | No data | No data |
| | % Water Losses | | 18.5% | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 126 | No data | 10 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 15 | No data | 1 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 103 | 3 | 10 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 12 | 0 | 1 | No data | No data | No data | No data |
| | % Population growth | | | 0.21% | 0.60% | 0.42% | 0.60% | -3.02% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



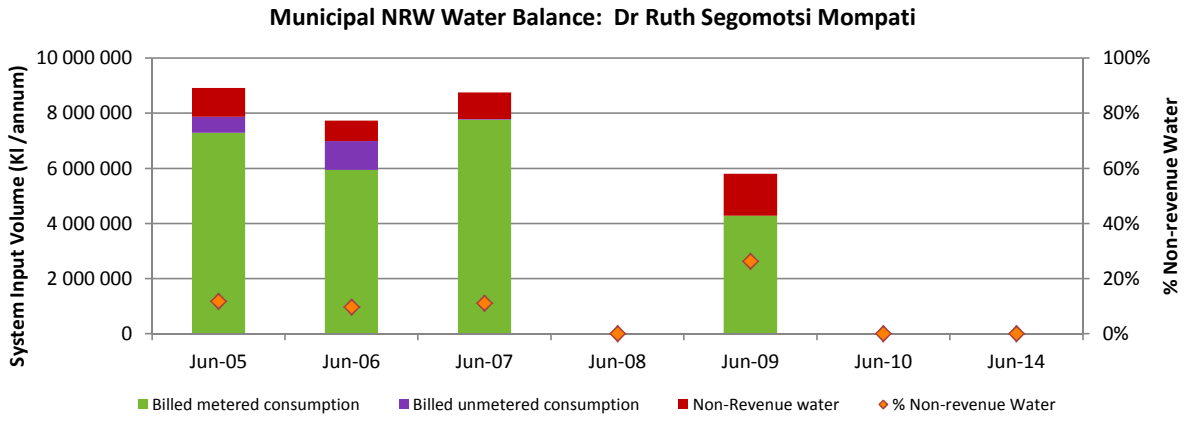

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW385 | | | | | | | | No |
| District Municipality | Ngaka Modiri Molema | | | | | | | | Category |
| Municipality | Ramotshere Moiloa | | | | | | | | B3 |
| Settlements | DINOKANA, ZEERUST | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 146 542 | 146 836 | 147 716 | 148 329 | 149 216 | 139 599 | |
| | Households | | 35 782 | 35 855 | 36 064 | 36 223 | 36 435 | 34 087 | |
| | Connections - metered | | ~~10 715~~ | ~~10 737~~ | ~~10 801~~ | 10 846 | ~~10 911~~ | ~~10 208~~ | |
| | Connections - Unmetered | | ~~13 834~~ | ~~13 863~~ | ~~13 944~~ | 14 005 | ~~14 087~~ | ~~13 179~~ | |
| | Length of mains (km) | | ~~491~~ | ~~492~~ | ~~495~~ | ~~497~~ | ~~500~~ | ~~468~~ | |
| | System input volume | kl/annum | 2 814 000 | 2 814 000 | 5 995 408 | ~~7 060 235~~ | 3 861 333 | ~~6 410 746~~ | |
| | Billed metered consumption | kl/annum | 2 325 000 | 2 325 000 | 2 505 289 | ~~2 565 632~~ | 3 302 587 | ~~3 263 263~~ | |
| | Billed unmetered consumption | kl/annum | 256 536 | 256 536 | 268 530 | ~~272 544~~ | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 581 536 | 2 581 536 | 2 773 819 | 2 838 177 | 3 302 587 | 3 263 263 | 0 |
| | Non-Revenue water | kl/annum | 232 464 | 232 464 | 3 221 589 | 4 222 059 | 558 746 | 3 147 482 | 0 |
| | Water Losses | kl/annum | 232 464 | 232 464 | 3 221 589 | 4 222 059 | 558 746 | 3 147 482 | 0 |
| | % Non-revenue water | | 8.3% | 8.3% | 53.7% | 59.8% | 14.5% | 49.1% | No data |
| | % Water Losses | | 8.3% | 8.3% | 53.7% | 59.8% | 14.5% | 49.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | 53 | 53 | 111 | 130 | 71 | 126 | No data |
| | Input: m³ / household / month | | 7 | 7 | 14 | 16 | 9 | 16 | No data |
| | Billed : Litres / capita / day | | 48 | 48 | 51 | 52 | 61 | 64 | No data |
| | Billed : m³ / household / month | | 6 | 6 | 6 | 7 | 8 | 8 | No data |
| | % Population growth | | | 0.20% | 0.60% | 0.41% | 0.60% | -6.45% | |
| | % Water demand growth | | | 0.00% | 113.06% | 17.76% | -45.31% | 66.02% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



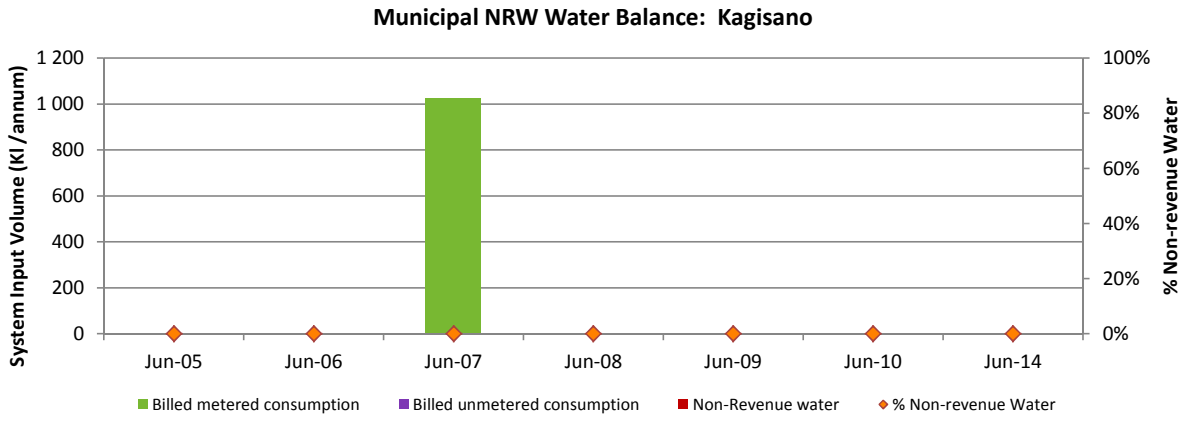

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | DC39 | | | | | | | | Yes |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | | | | | | | | | C2 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 446 948 | 448 563 | 451 244 | 453 094 | 455 796 | 434 390 | 0 |
| | Households | | 111 331 | 111 730 | 112 383 | 112 859 | 113 522 | 108 395 | 0 |
| | Connections - metered | | 49 905 | 50 086 | 50 386 | 50 597 | 50 900 | 49 987 | 0 |
| | Connections - Unmetered | | 29 169 | 29 272 | 29 441 | 29 566 | 29 738 | 27 835 | 0 |
| | Length of mains (km) | | 1 581 | 1 587 | 1 597 | 1 603 | 1 613 | 1 556 | 0 |
| | System input volume | kl/annum | 8 919 443 | 7 732 880 | 8 755 344 | 0 | 5 807 899 | 0 | 0 |
| | Billed metered consumption | kl/annum | 7 295 601 | 5 945 655 | 7 768 729 | 0 | 4 281 664 | 0 | 0 |
| | Billed unmetered consumption | kl/annum | 580 622 | 1 044 936 | 18 598 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 7 876 223 | 6 990 591 | 7 787 327 | 0 | 4 281 664 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 043 220 | 742 289 | 968 017 | 0 | 1 526 235 | 0 | 0 |
| | Water Losses | kl/annum | 1 043 220 | 742 289 | 968 017 | 0 | 1 526 235 | 0 | 0 |
| | % Non-revenue water | | 11.7% | 9.6% | 11.1% | No data | 26.3% | No data | No data |
| | % Water Losses | | 11.7% | 9.6% | 11.1% | No data | 26.3% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 55 | 47 | 53 | No data | 35 | No data | No data |
| | Input: m³ / household / month | | 7 | 6 | 6 | No data | 4 | No data | No data |
| | Billed : Litres / capita / day | | 48 | 43 | 47 | No data | 26 | No data | No data |
| | Billed : m³ / household / month | | 6 | 5 | 6 | No data | 3 | No data | No data |
| | % Population growth | | | 0.36% | 0.60% | 0.41% | 0.60% | -4.70% | |
| | % Water demand growth | | | -13.30% | 13.22% | | #DIV/0! | | |
| Source of information | | | | | | | | | |



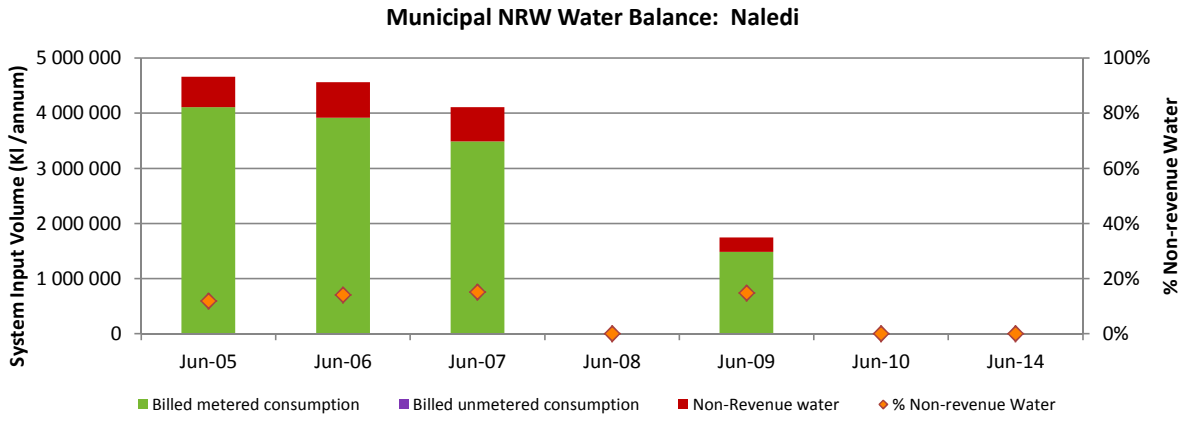

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW391 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Kagisano | | | | | | | | B4 |
| Settlements | GANYESA | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 85 550 | 85 847 | 86 353 | 86 682 | 87 192 | 80 572 | |
| | Households | | 21 416 | 21 489 | 21 605 | 21 695 | 21 812 | 20 168 | |
| | Connections - metered | | ~~2 569~~ | ~~2 578~~ | ~~2 593~~ | 2 603 | ~~2 618~~ | ~~2 420~~ | |
| | Connections - Unmetered | | ~~8 420~~ | ~~8 449~~ | ~~8 495~~ | 8 530 | ~~8 576~~ | ~~7 930~~ | |
| | Length of mains (km) | | ~~220~~ | ~~221~~ | ~~222~~ | ~~223~~ | ~~224~~ | ~~207~~ | |
| | System input volume | kl/annum | | | 1 025 | | | | |
| | Billed metered consumption | kl/annum | | | 1 025 | | | | |
| | Billed unmetered consumption | kl/annum | | | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 1 025 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | Check data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | 0 | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | 0 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | 0 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | 0 | No data | No data | No data | No data |
| | % Population growth | | | 0.35% | 0.59% | 0.38% | 0.59% | -7.59% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



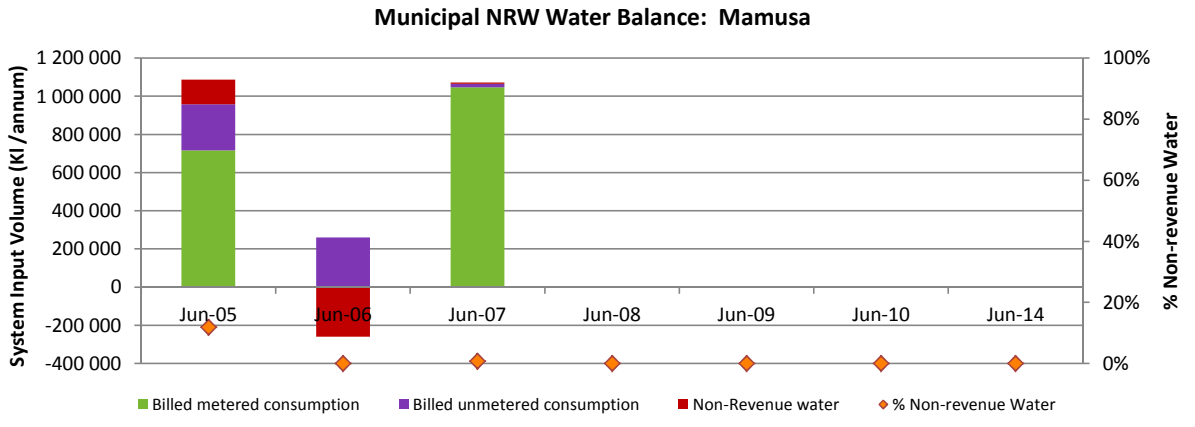

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW392 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Naledi | | | | | | | | B3 |
| Settlements | HUHUDI, VRYBURG | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 61 168 | 61 392 | 61 759 | 62 015 | 62 387 | 64 425 | |
| | Households | | 16 549 | 16 610 | 16 710 | 16 780 | 16 881 | 17 431 | |
| | Connections - metered | | ~~15 717~~ | ~~15 775~~ | ~~15 869~~ | 15 935 | ~~16 031~~ | ~~16 554~~ | |
| | Connections - Unmetered | | ~~510~~ | ~~512~~ | ~~515~~ | 517 | ~~520~~ | ~~537~~ | |
| | Length of mains (km) | | ~~325~~ | ~~326~~ | ~~328~~ | ~~329~~ | ~~331~~ | ~~342~~ | |
| | System input volume | kl/annum | 4 661 938 | 4 562 705 | 4 106 789 | | 1 743 559 | | |
| | Billed metered consumption | kl/annum | 4 107 267 | 3 919 591 | 3 488 267 | | 1 485 575 | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 107 267 | 3 919 591 | 3 488 267 | 0 | 1 485 575 | 0 | 0 |
| | Non-Revenue water | kl/annum | 554 671 | 643 114 | 618 522 | 0 | 257 984 | 0 | 0 |
| | Water Losses | kl/annum | 554 671 | 643 114 | 618 522 | 0 | 257 984 | 0 | 0 |
| | % Non-revenue water | | 11.9% | 14.1% | 15.1% | No data | 14.8% | No data | No data |
| | % Water Losses | | 11.9% | 14.1% | 15.1% | No data | 14.8% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 209 | 204 | 182 | No data | 77 | No data | No data |
| | Input: m³ / household / month | | 23 | 23 | 20 | No data | 9 | No data | No data |
| | Billed : Litres / capita / day | | 184 | 175 | 155 | No data | 65 | No data | No data |
| | Billed : m³ / household / month | | 21 | 20 | 17 | No data | 7 | No data | No data |
| | % Population growth | | | 0.37% | 0.60% | 0.41% | 0.60% | 3.27% | |
| | % Water demand growth | | | -2.13% | -9.99% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



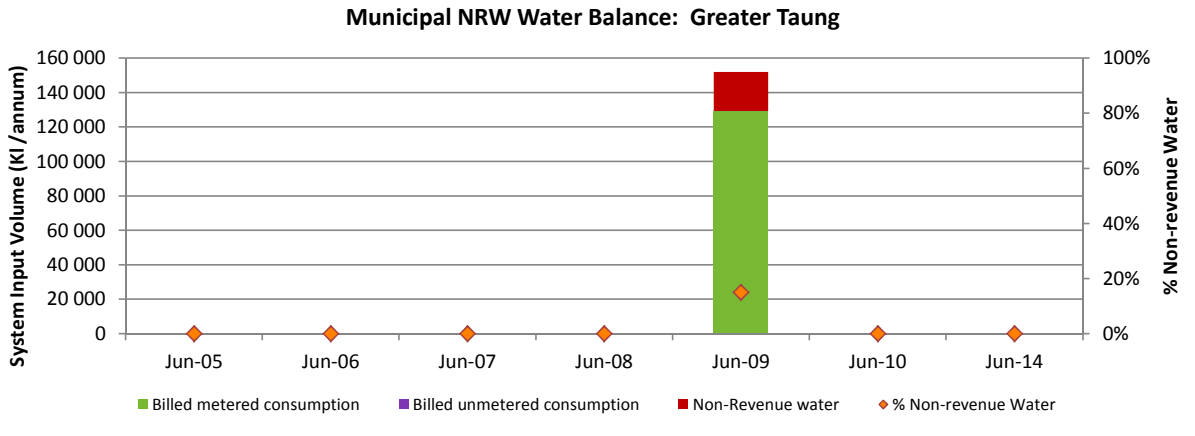

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW393 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Mamusa | | | | | | | | B3 |
| Settlements | MOSEOHATSHE, SCHWEIZER, RENEKE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 50 918 | 51 105 | 51 413 | 51 630 | 51 940 | 48 437 | |
| | Households | | 11 668 | 11 711 | 11 781 | 11 832 | 11 903 | 11 101 | |
| | Connections - metered | | ~~7 920~~ | ~~7 949~~ | ~~7 997~~ | 8 031 | ~~8 079~~ | ~~7 534~~ | |
| | Connections - Unmetered | | ~~330~~ | ~~332~~ | ~~334~~ | 335 | ~~337~~ | ~~314~~ | |
| | Length of mains (km) | | ~~165~~ | ~~166~~ | ~~167~~ | ~~167~~ | ~~168~~ | ~~157~~ | |
| | System input volume | kl/annum | 1 087 332 | 0 | 1 072 781 | | | | |
| | Billed metered consumption | kl/annum | 715 870 | 0 | 1 046 401 | | | | |
| | Billed unmetered consumption | kl/annum | 242 222 | 260 136 | 18 456 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 958 092 | 260 136 | 1 064 857 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 129 240 | -260 136 | 7 924 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 129 240 | -260 136 | 7 924 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 11.9% | No data | 0.7% | No data | No data | No data | No data |
| | % Water Losses | | 11.9% | No data | 0.7% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 59 | No data | 57 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 8 | No data | 8 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 52 | 14 | 57 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 7 | 2 | 8 | No data | No data | No data | No data |
| | % Population growth | | | 0.37% | 0.60% | 0.42% | 0.60% | -6.74% | |
| | % Water demand growth | | | | #DIV/0! | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



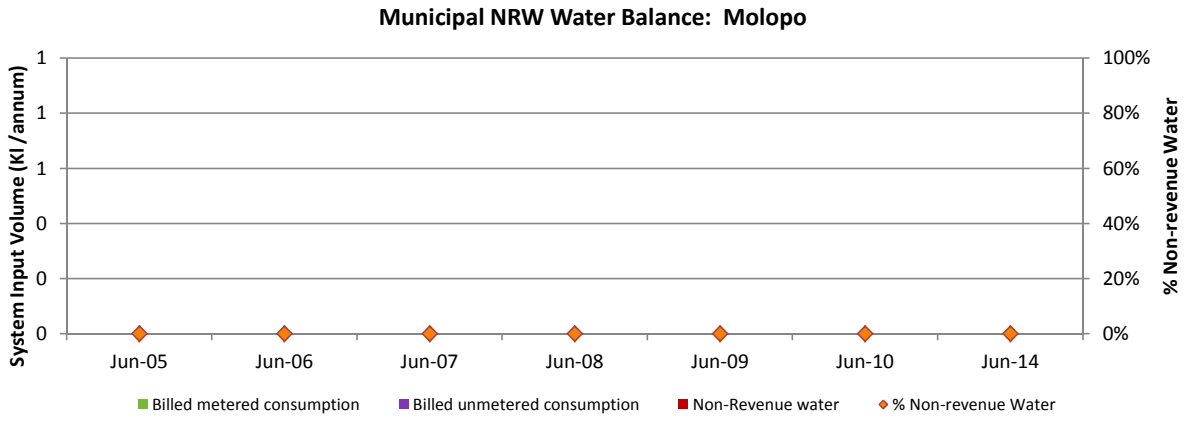

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW394 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Greater Taung | | | | | | | | B4 |
| Settlements | TAUNG VILLAGE, REIVILO | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 191 755 | 192 455 | 193 606 | 194 404 | 195 563 | 181 685 | |
| | Households | | 45 813 | 45 978 | 46 251 | 46 449 | 46 729 | 43 411 | |
| | Connections - metered | | ~~10 524~~ | ~~10 562~~ | ~~10 625~~ | 10 669 | ~~10 733~~ | ~~9 971~~ | |
| | Connections - Unmetered | | ~~17 385~~ | ~~17 447~~ | ~~17 551~~ | 17 626 | ~~17 732~~ | ~~16 473~~ | |
| | Length of mains (km) | | ~~558~~ | ~~560~~ | ~~564~~ | ~~566~~ | ~~569~~ | ~~529~~ | |
| | System input volume | kl/annum | 140 | 142 | 142 | | ~~152 034~~ | | |
| | Billed metered consumption | kl/annum | 0 | 0 | 0 | | ~~129 228~~ | | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 142 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 142 | 0 | 129 228 | 0 | 0 |
| | Non-Revenue water | kl/annum | 140 | 142 | 0 | 0 | 22 806 | 0 | 0 |
| | Water Losses | kl/annum | 140 | 142 | 0 | 0 | 22 806 | 0 | 0 |
| | % Non-revenue water | | No data | No data | Check data | No data | 15.0% | No data | No data |
| | % Water Losses | | 100.0% | 100.0% | No data | No data | 15.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 0 | 0 | 0 | No data | 2 | No data | No data |
| | Input: m³ / household / month | | 0 | 0 | 0 | No data | 0 | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | 0 | No data | 2 | No data | No data |
| | Billed : m³ / household / month | | No data | No data | 0 | No data | 0 | No data | No data |
| | % Population growth | | | 0.37% | 0.60% | 0.41% | 0.60% | -7.10% | |
| | % Water demand growth | | | 1.43% | 0.00% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



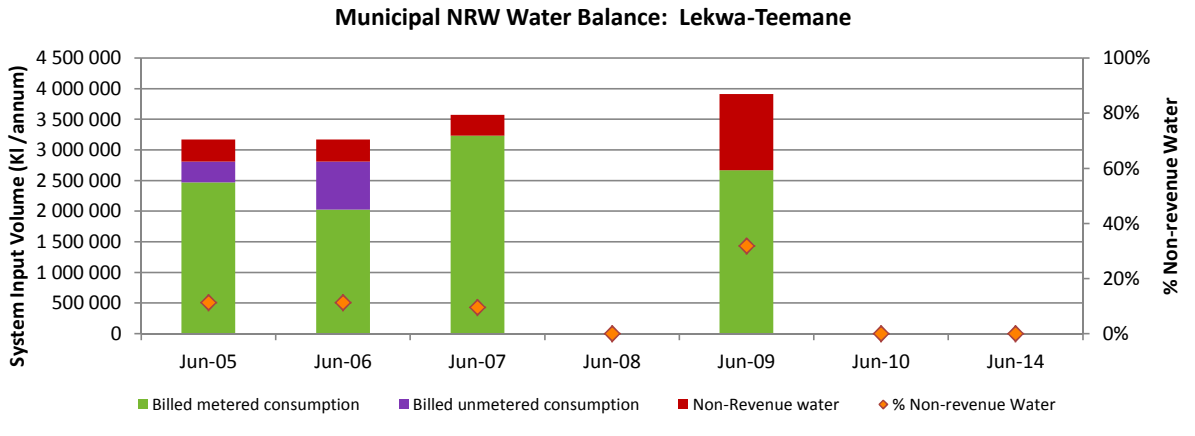

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW395 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Molopo | | | | | | | | B3 |
| Settlements | POMFRET | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 12 317 | 12 358 | 12 434 | 12 492 | 12 568 | 11 603 | |
| | Households | | 4 019 | 4 032 | 4 054 | 4 071 | 4 093 | 3 781 | |
| | Connections - metered | | ~~3 347~~ | ~~3 359~~ | ~~3 379~~ | 3 395 | ~~3 416~~ | ~~3 153~~ | |
| | Connections - Unmetered | | ~~691~~ | ~~693~~ | ~~697~~ | 700 | ~~704~~ | ~~650~~ | |
| | Length of mains (km) | | ~~81~~ | ~~81~~ | ~~82~~ | ~~82~~ | ~~82~~ | ~~76~~ | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.33% | 0.61% | 0.47% | 0.61% | -7.68% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



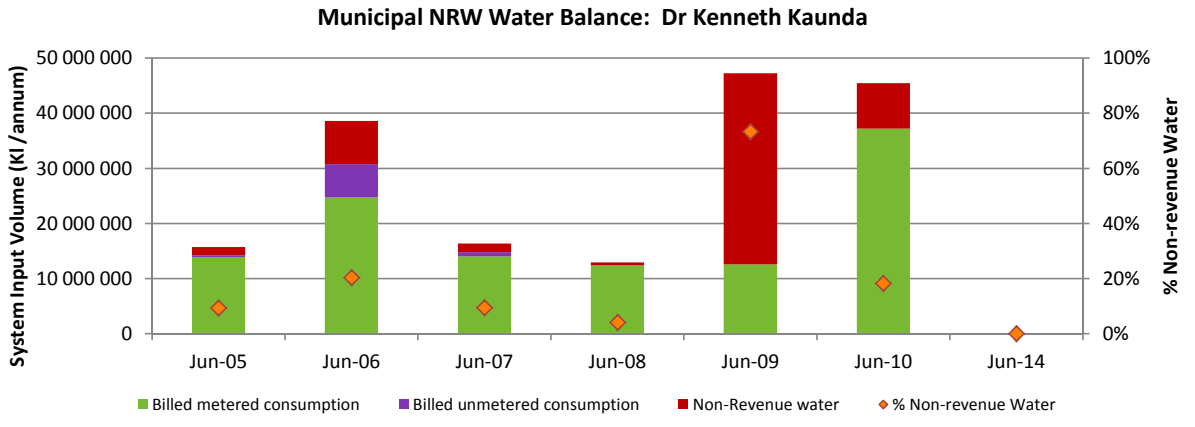

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW396 | | | | | | | | No |
| District Municipality | Dr Ruth Segomotsi Mompati | | | | | | | | Category |
| Municipality | Lekwa-Teemane | | | | | | | | B3 |
| Settlements | BOITUMELONG, CHRISTIANA | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 45 240 | 45 406 | 45 679 | 45 871 | 46 146 | 47 668 | |
| | Households | | 11 866 | 11 910 | 11 982 | 12 032 | 12 104 | 12 503 | |
| | Connections - metered | | ~~9 827~~ | ~~9 863~~ | ~~9 922~~ | 9 964 | ~~10 024~~ | ~~10 354~~ | |
| | Connections - Unmetered | | ~~1 832~~ | ~~1 839~~ | ~~1 850~~ | 1 858 | ~~1 869~~ | ~~1 931~~ | |
| | Length of mains (km) | | ~~233~~ | ~~234~~ | ~~235~~ | ~~236~~ | ~~238~~ | ~~246~~ | |
| | System input volume | kl/annum | 3 170 033 | 3 170 033 | 3 574 607 | | ~~3 912 306~~ | | |
| | Billed metered consumption | kl/annum | 2 472 464 | 2 026 064 | 3 233 036 | | 2 666 861 | | |
| | Billed unmetered consumption | kl/annum | 338 400 | 784 800 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 810 864 | 2 810 864 | 3 233 036 | 0 | 2 666 861 | 0 | 0 |
| | Non-Revenue water | kl/annum | 359 169 | 359 169 | 341 571 | 0 | 1 245 445 | 0 | 0 |
| | Water Losses | kl/annum | 359 169 | 359 169 | 341 571 | 0 | 1 245 445 | 0 | 0 |
| | % Non-revenue water | | 11.3% | 11.3% | 9.6% | No data | 31.8% | No data | No data |
| | % Water Losses | | 11.3% | 11.3% | 9.6% | No data | 31.8% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 192 | 191 | 214 | No data | 232 | No data | No data |
| | Input: m³ / household / month | | 22 | 22 | 25 | No data | 27 | No data | No data |
| | Billed : Litres / capita / day | | 170 | 170 | 194 | No data | 158 | No data | No data |
| | Billed : m³ / household / month | | 20 | 20 | 22 | No data | 18 | No data | No data |
| | % Population growth | | | 0.37% | 0.60% | 0.42% | 0.60% | 3.30% | |
| | % Water demand growth | | | 0.00% | 12.76% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



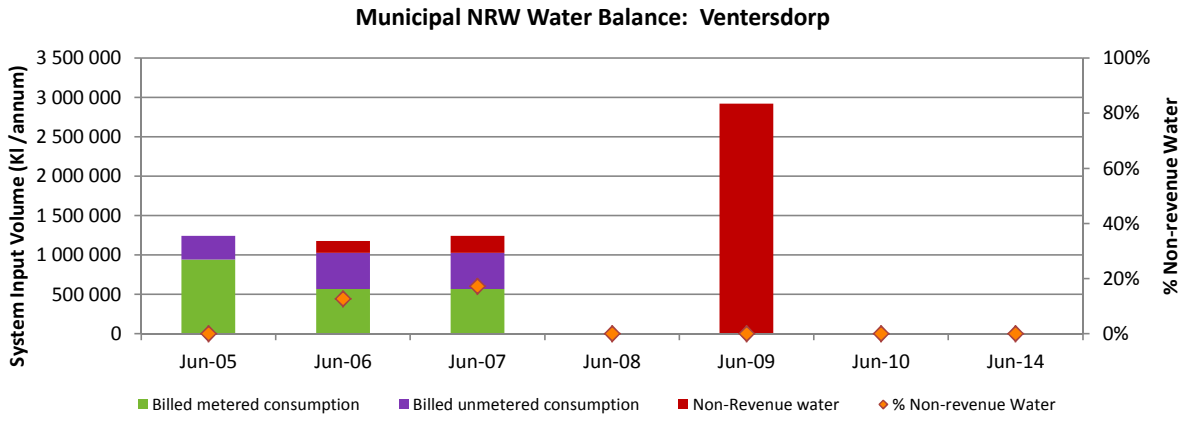

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | DC40 | | | | | | | | No |
| District Municipality | Dr Kenneth Kaunda | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 638 237 | 643 762 | 647 621 | 650 317 | 654 217 | 674 040 | 0 |
| | Households | | 171 584 | 173 071 | 174 108 | 174 830 | 175 876 | 181 206 | 0 |
| | Connections - metered | | 149 111 | 150 402 | 151 304 | 151 934 | 152 845 | 157 603 | 0 |
| | Connections - Unmetered | | 19 066 | 19 231 | 19 346 | 19 426 | 19 542 | 20 100 | 0 |
| | Length of mains (km) | | 3 364 | 3 393 | 3 413 | 3 418 | 3 448 | 3 554 | 0 |
| | System input volume | kl/annum | 15 690 495 | 38 579 269 | 16 355 637 | 12 949 882 | 47 233 817 | 45 475 577 | 0 |
| | Billed metered consumption | kl/annum | 13 930 498 | 24 736 044 | 14 050 167 | 12 415 162 | 12 599 870 | 37 179 005 | 0 |
| | Billed unmetered consumption | kl/annum | 299 736 | 6 008 760 | 761 232 | 0 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 14 230 234 | 30 744 804 | 14 811 399 | 12 415 162 | 12 599 870 | 37 179 005 | 0 |
| | Non-Revenue water | kl/annum | 1 460 261 | 7 834 465 | 1 544 238 | 534 720 | 34 633 947 | 8 296 572 | 0 |
| | Water Losses | kl/annum | 1 460 261 | 7 834 465 | 1 544 238 | 534 720 | 34 633 947 | 8 296 572 | 0 |
| | % Non-revenue water | | 9.3% | 20.3% | 9.4% | 4.1% | 73.3% | 18.2% | No data |
| | % Water Losses | | 9.3% | 20.3% | 9.4% | 4.1% | 73.3% | 18.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 67 | 164 | 69 | 55 | 198 | 185 | No data |
| | Input: m³ / household / month | | 8 | 19 | 8 | 6 | 22 | 21 | No data |
| | Billed : Litres / capita / day | | 61 | 131 | 63 | 52 | 53 | 151 | No data |
| | Billed : m³ / household / month | | 7 | 15 | 7 | 6 | 6 | 17 | No data |
| | % Population growth | | | 0.87% | 0.60% | 0.42% | 0.60% | 3.03% | |
| | % Water demand growth | | | 145.88% | -57.61% | -20.82% | 264.74% | -3.72% | |
| Source of information | | | | | | | | | |



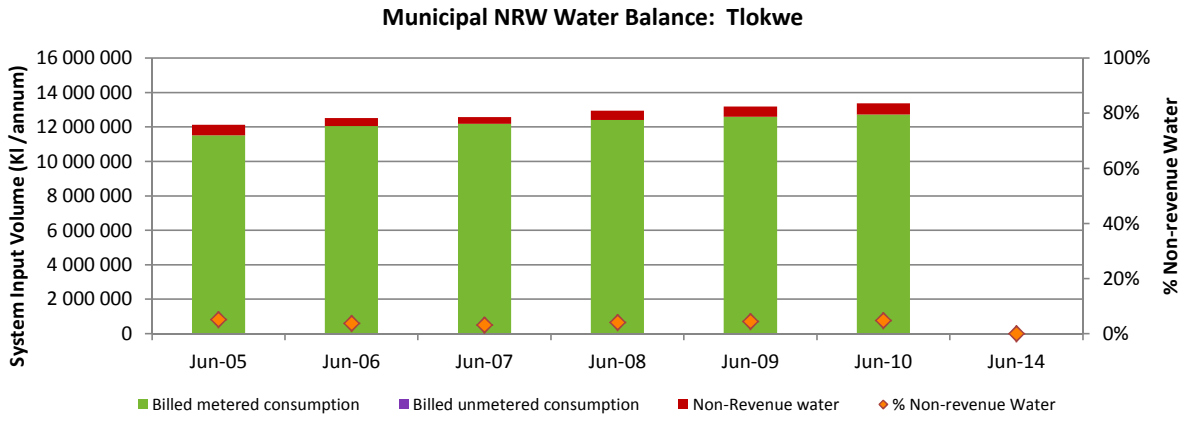

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW401 | | | | | | | | Yes |
| District Municipality | Dr Kenneth Kaunda | | | | | | | | Category |
| Municipality | Ventersdorp | | | | | | | | B3 |
| Settlements | Ventersdorp | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 47 733 | 48 144 | 48 431 | 48 630 | 48 921 | 49 430 | |
| | Households | | 12 922 | 13 032 | 13 110 | 13 162 | 13 240 | 13 378 | |
| | Connections - metered | | ~~6 084~~ | ~~6 136~~ | ~~6 173~~ | 6 198 | ~~6 235~~ | ~~6 300~~ | |
| | Connections - Unmetered | | ~~2 531~~ | ~~2 553~~ | ~~2 568~~ | 2 578 | ~~2 593~~ | ~~2 620~~ | |
| | Length of mains (km) | | ~~172~~ | ~~174~~ | ~~175~~ | ~~176~~ | ~~177~~ | ~~178~~ | |
| | System input volume | kl/annum | 1 241 142 | 1 175 921 | 1 240 672 | | 2 920 000 | | |
| | Billed metered consumption | kl/annum | 941 406 | 565 935 | 566 435 | | | | |
| | Billed unmetered consumption | kl/annum | 299 736 | 461 232 | 461 232 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 241 142 | 1 027 167 | 1 027 667 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 148 754 | 213 005 | 0 | 2 920 000 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 148 754 | 213 005 | 0 | 2 920 000 | 0 | 0 |
| | % Non-revenue water | | Check data | 12.6% | 17.2% | No data | No data | No data | No data |
| | % Water Losses | | No data | 12.6% | 17.2% | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 71 | 67 | 70 | No data | 164 | No data | No data |
| | Input: m³ / household / month | | 8 | 8 | 8 | No data | 18 | No data | No data |
| | Billed : Litres / capita / day | | 71 | 58 | 58 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 8 | 7 | 7 | No data | No data | No data | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.41% | 0.60% | 1.04% | |
| | % Water demand growth | | | -5.25% | 5.51% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



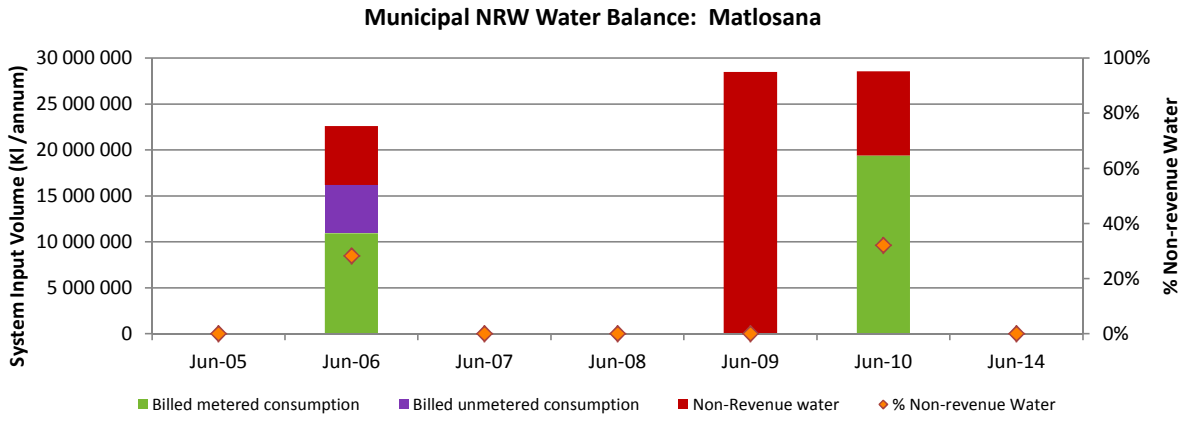

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | North West | | | | | | | | WSA |
| Municipal Code | NW402 | | | | | | | | Yes |
| District Municipality | Dr Kenneth Kaunda | | | | | | | | Category |
| Municipality | Tlokwe | | | | | | | | B1 |
| Settlements | BOSKOP, CACHET, HARTEBEESPOORT, NEW MACHAVIE, POTCHEFSTROOM | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 135 470 | 136 647 | 137 468 | 138 042 | 138 871 | 143 201 | |
| | Households | | 35 506 | 35 814 | 36 030 | 36 180 | 36 398 | 37 530 | |
| | Connections - metered | | ~~31 818~~ | ~~32 094~~ | ~~32 287~~ | 32 422 | ~~32 617~~ | ~~33 634~~ | |
| | Connections - Unmetered | | ~~3 902~~ | ~~3 936~~ | ~~3 960~~ | 3 976 | ~~4 000~~ | ~~4 124~~ | |
| | Length of mains (km) | | ~~714~~ | ~~721~~ | ~~725~~ | ~~728~~ | ~~732~~ | ~~755~~ | |
| | System input volume | kl/annum | 12 125 544 | 12 521 747 | 12 574 032 | 12 949 882 | 13 182 074 | 13 365 577 | |
| | Billed metered consumption | kl/annum | 11 510 801 | 12 049 489 | 12 185 722 | 12 415 162 | 12 599 870 | 12 729 005 | |
| | Billed unmetered consumption | kl/annum | | | | | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 11 510 801 | 12 049 489 | 12 185 722 | 12 415 162 | 12 599 870 | 12 729 005 | 0 |
| | Non-Revenue water | kl/annum | 614 743 | 472 258 | 388 310 | 534 720 | 582 204 | 636 572 | 0 |
| | Water Losses | kl/annum | 614 743 | 472 258 | 388 310 | 534 720 | 582 204 | 636 572 | 0 |
| | % Non-revenue water | | 5.1% | 3.8% | 3.1% | 4.1% | 4.4% | 4.8% | No data |
| | % Water Losses | | 5.1% | 3.8% | 3.1% | 4.1% | 4.4% | 4.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 245 | 251 | 251 | 257 | 260 | 256 | No data |
| | Input: m³ / household / month | | 28 | 29 | 29 | 30 | 30 | 30 | No data |
| | Billed : Litres / capita / day | | 233 | 242 | 243 | 246 | 249 | 244 | No data |
| | Billed : m³ / household / month | | 27 | 28 | 28 | 29 | 29 | 28 | No data |
| | % Population growth | | | 0.87% | 0.60% | 0.42% | 0.60% | 3.12% | |
| | % Water demand growth | | | 3.27% | 0.42% | 2.99% | 1.79% | 1.39% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |



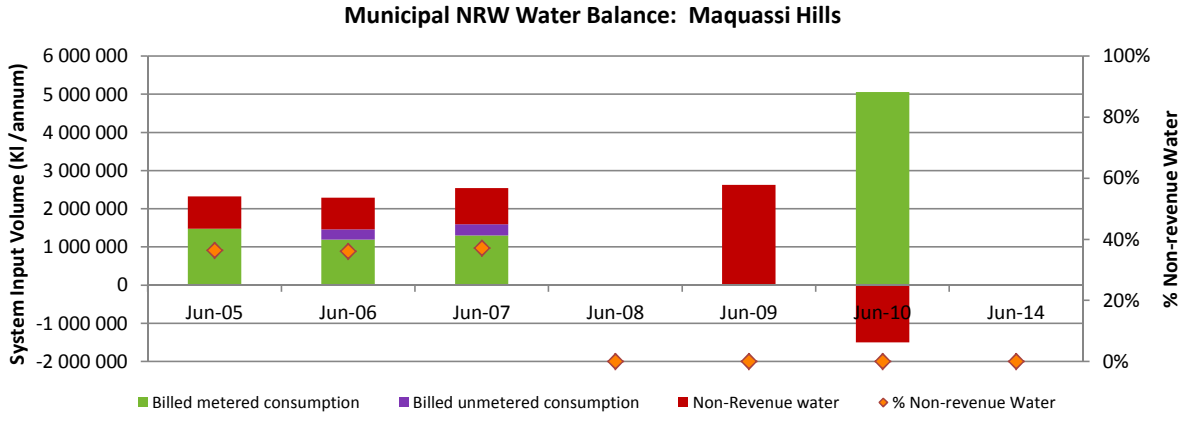

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | North West | | | | | | | WSA |
| Municipal Code | | NW403 | | | | | | | Yes |
| District Municipality | | Dr Kenneth Kaunda | | | | | | | Category |
| Municipality | | Matlosana | | | | | | | B1 |
| Settlements | | JOUBERTON, KANANA, KLERKSDORP, STILFONTEIN, KHUMA | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 381 312 | 384 612 | 386 918 | 388 530 | 390 859 | 403 681 | |
| | Households | | 104 018 | 104 921 | 105 550 | 105 989 | 106 624 | 110 123 | |
| | Connections - metered | | ~~96 359~~ | ~~97 193~~ | ~~97 776~~ | 98 183 | ~~98 772~~ | ~~102 012~~ | |
| | Connections - Unmetered | | ~~8 285~~ | ~~8 357~~ | ~~8 407~~ | 8 442 | ~~8 493~~ | ~~8 771~~ | |
| | Length of mains (km) | | ~~2 093~~ | ~~2 111~~ | ~~2 124~~ | 2 124 | ~~2 145~~ | ~~2 216~~ | |
| | System input volume | kl/annum | | 22 594 000 | | | 28 504 803 | 28 550 000 | |
| | Billed metered consumption | kl/annum | | 10 926 248 | | | | 19 390 000 | |
| | Billed unmetered consumption | kl/annum | | 5 278 752 | | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 16 205 000 | 0 | 0 | 0 | 19 390 000 | 0 |
| | Non-Revenue water | kl/annum | 0 | 6 389 000 | 0 | 0 | 28 504 803 | 9 160 000 | 0 |
| | Water Losses | kl/annum | 0 | 6 389 000 | 0 | 0 | 28 504 803 | 9 160 000 | 0 |
| | % Non-revenue water | | No data | 28.3% | No data | No data | No data | 32.1% | No data |
| | % Water Losses | | No data | 28.3% | No data | No data | 100.0% | 32.1% | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 161 | No data | No data | 200 | 194 | No data |
| | Input: m³ / household / month | | No data | 18 | No data | No data | 22 | 22 | No data |
| | Billed : Litres / capita / day | | No data | 115 | No data | No data | No data | 132 | No data |
| | Billed : m³ / household / month | | No data | 13 | No data | No data | No data | 15 | No data |
| | % Population growth | | | 0.87% | 0.60% | 0.42% | 0.60% | 3.28% | |
| | % Water demand growth | | | #DIV/0! | | | #DIV/0! | 0.16% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | North West | | | | | | | WSA |
| Municipal Code | | NW404 | | | | | | | Yes |
| District Municipality | | Dr Kenneth Kaunda | | | | | | | Category |
| Municipality | | Maquassi Hills | | | | | | | B3 |
| Settlements | | KGAKALA, LEBALENG, TSWELELANG, WOLMARANS | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 73 722 | 74 359 | 74 804 | 75 115 | 75 566 | 77 728 | |
| | Households | | 19 138 | 19 304 | 19 418 | 19 499 | 19 614 | 20 175 | |
| | Connections - metered | | ~~14 850~~ | ~~14 979~~ | ~~15 068~~ | 15 131 | ~~15 222~~ | ~~15 657~~ | |
| | Connections - Unmetered | | ~~4 348~~ | ~~4 386~~ | ~~4 412~~ | 4 430 | ~~4 456~~ | ~~4 584~~ | |
| | Length of mains (km) | | ~~384~~ | ~~387~~ | ~~390~~ | ~~391~~ | ~~394~~ | ~~405~~ | |
| | System input volume | kl/annum | 2 323 809 | 2 287 601 | 2 540 933 | | 2 626 940 | 3 560 000 | |
| | Billed metered consumption | kl/annum | 1 478 291 | 1 194 372 | 1 298 010 | | | 5 060 000 | |
| | Billed unmetered consumption | kl/annum | 0 | 268 776 | 300 000 | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 478 291 | 1 463 148 | 1 598 010 | 0 | 0 | 5 060 000 | 0 |
| | Non-Revenue water | kl/annum | 845 518 | 824 453 | 942 923 | 0 | 2 626 940 | -1 500 000 | 0 |
| | Water Losses | kl/annum | 845 518 | 824 453 | 942 923 | 0 | 2 626 940 | -1 500 000 | 0 |
| | % Non-revenue water | | 36.4% | 36.0% | 37.1% | No data | No data | Check data | No data |
| | % Water Losses | | 36.4% | 36.0% | 37.1% | No data | 100.0% | Check data | No data |
| Key performance indicators | Input : Litres / capita / day | | 86 | 84 | 93 | No data | 95 | 125 | No data |
| | Input: m³ / household / month | | 10 | 10 | 11 | No data | 11 | 15 | No data |
| | Billed : Litres / capita / day | | 55 | 54 | 59 | No data | No data | 178 | No data |
| | Billed : m³ / household / month | | 6 | 6 | 7 | No data | No data | 21 | No data |
| | % Population growth | | | 0.86% | 0.60% | 0.42% | 0.60% | 2.86% | |
| | % Water demand growth | | | -1.56% | 11.07% | | #DIV/0! | 35.52% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

# National Non-Revenue Water Assessment

## Northern Cape Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Intoductory notes

### Terminilogy

| Accronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Mesurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (prefered term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not prefered term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calculated values using trends or averages | |

### Standard IWA Water Balance

**SYSTEM INPUT VOLUME:**
**1 + 2 + 3**
1. Total water treated and measured at treatment works outlet
2. Total water pumped directly from boreholes into reticulation system
3. Total water purchased from bulk water services provider

**AUTHORISED CONSUMPTION:**
**1 + 2 + 3 + 4**
Total water used for legitimate purposes
1. Billed metered water
2. Billed un-metered water
3. Unbilled metered water
4. Unbilled un-metered water

**BILLED METERED:**
1. Water is billed for based on a metered consumption (see further explanatory notes).

**BILLED UN-METERED:**
**1 + 2**
1. Water is billed for based on a flat rate tariff (ie. Not based on a meter reading)
2. Free basic water used through unbilled un-metered stand pipes or yard connections (see further explanatory notes)

**REVENUE WATER:**
**1 + 2**
1. Billed metered
2. Billed un-metered

**UNBILLED METERED:**
1. Usually very small in RSA, can include government buildings or parks that is metered but not billed.

**UNBILLED UN-METERED:**
1. Estimated water used for legitimate purposes such as fire fighting. Also usage above free basic water for un-metered unbilled standpipe and yard connection usage. (see notes)

**Unaccounted for Water (UAW / UFW)**

**TOTAL LOSSES:**
**1 + 2**
Total water not used for legitimate purposes
1. Apparent losses
2. Real losses

**APPARENT LOSSES:**
**1 + 2 + 3**
1. Water used through illegal connections
2. Water used but not billed for because of inaccurate meters
3. Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.

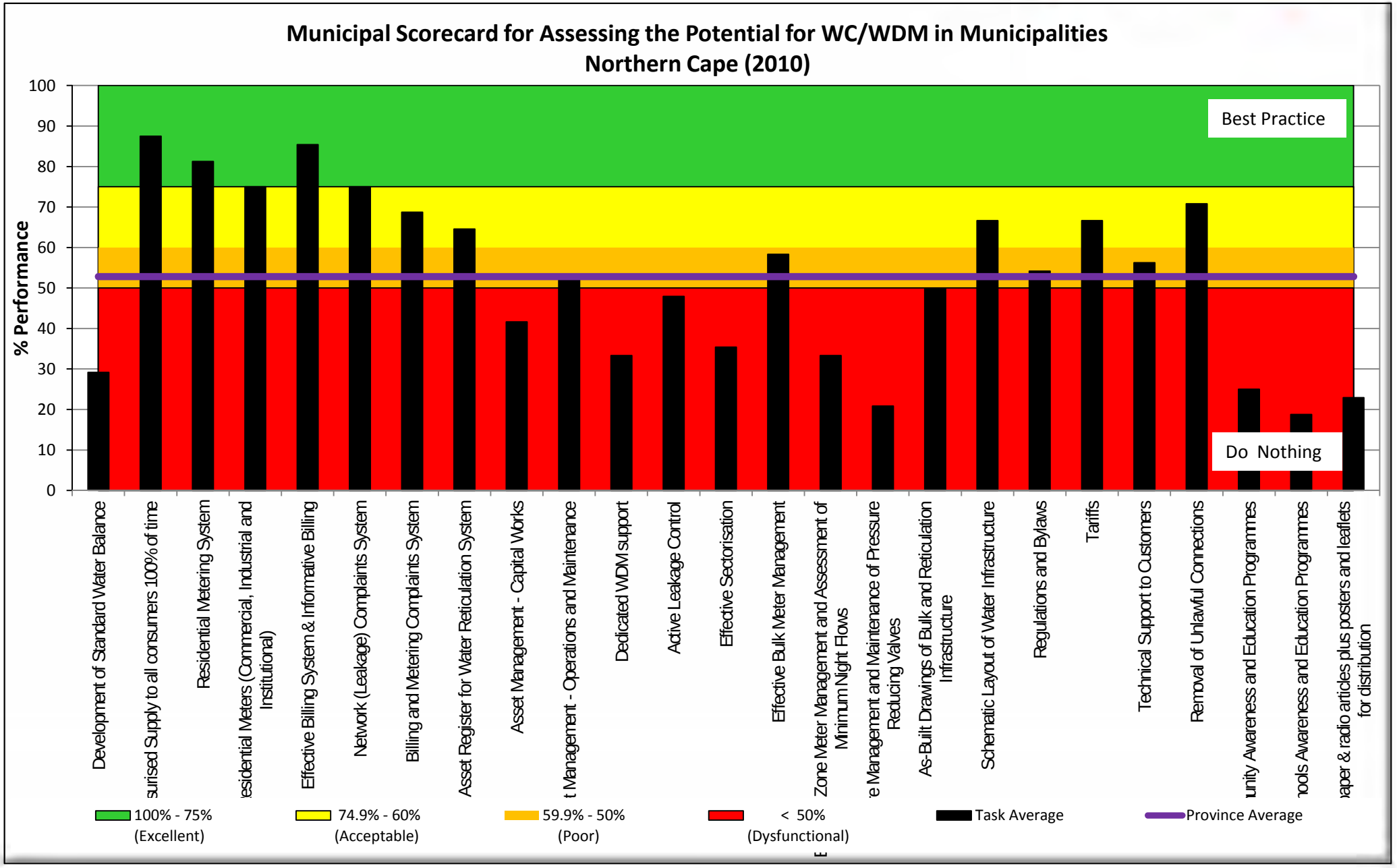
**REAL LOSSES:**
1. Water that leaks from the system through pipes and connections or overflows from reservoirs

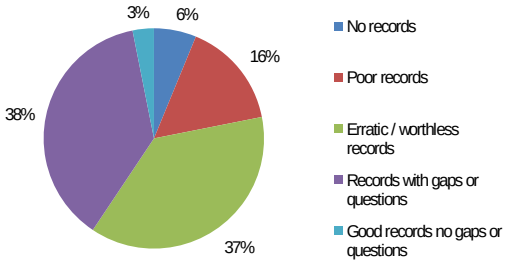
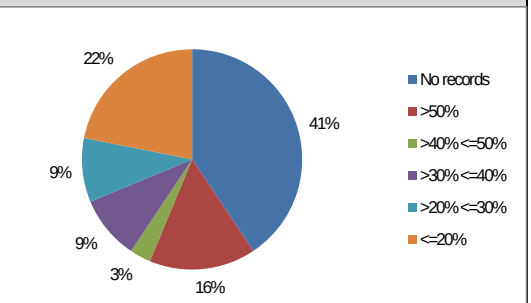
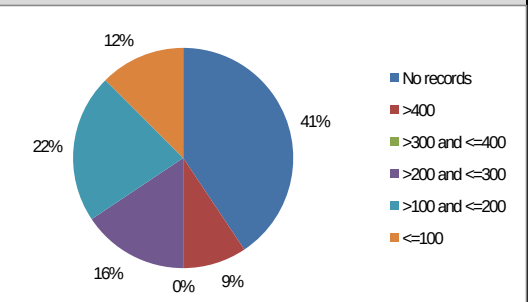
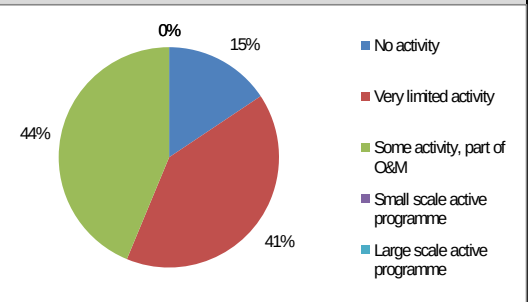
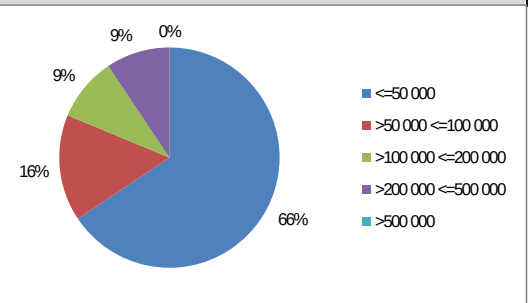
**NON REVENUE WATER:**
**1 + 2 + 3 + 4**
1. Unbilled metered
2. Unbilled un-metered
3. Apparent losses
4. Real losses

| Province | Northern Cape |
|---|---|

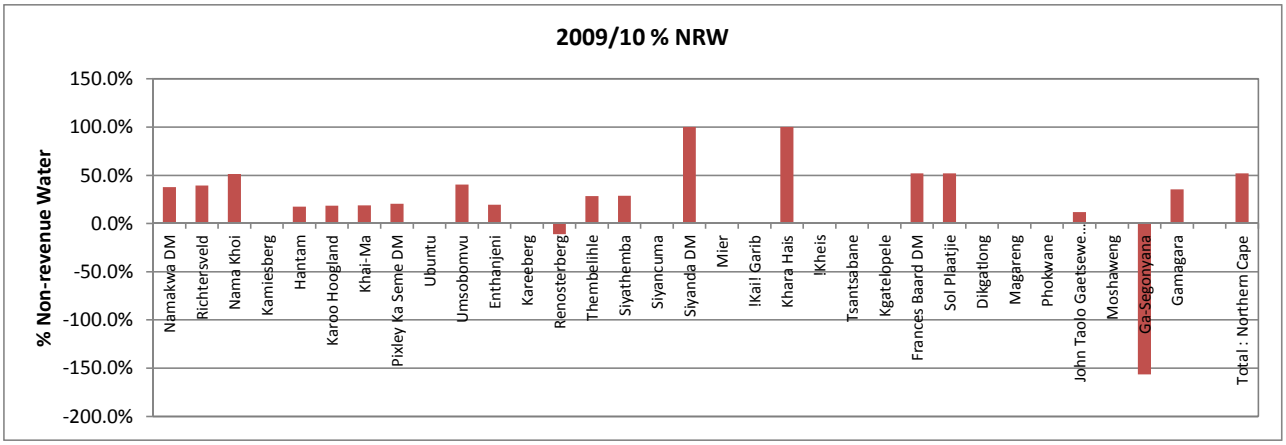
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | DC6 | Namakwa | Namakwa DM | C1 | Yes |
| 2 | NC061 | Namakwa | Richtersveld | B3 | Yes |
| 3 | NC062 | Namakwa | Nama Khoi | B3 | Yes |
| 4 | NC064 | Namakwa | Kamiesberg | B3 | Yes |
| 5 | NC065 | Namakwa | Hantam | B3 | Yes |
| 6 | NC066 | Namakwa | Karoo Hoogland | B3 | Yes |
| 7 | NC067 | Namakwa | Khai-Ma | B3 | Yes |
| 8 | DC7 | Pixley Ka Seme | Pixley Ka Seme DM | C1 | Yes |
| 9 | NC071 | Pixley Ka Seme | Ubuntu | B3 | Yes |
| 10 | NC072 | Pixley Ka Seme | Umsobomvu | B3 | Yes |
| 11 | NC073 | Pixley Ka Seme | Emthanjeni | B3 | Yes |
| 12 | NC074 | Pixley Ka Seme | Kareeberg | B3 | Yes |
| 13 | NC075 | Pixley Ka Seme | Renosterberg | B3 | Yes |
| 14 | NC076 | Pixley Ka Seme | Thembelihle | B3 | Yes |
| 15 | NC077 | Pixley Ka Seme | Siyathemba | B3 | Yes |
| 16 | NC078 | Pixley Ka Seme | Siyancuma | B3 | Yes |
| 17 | DC8 | Siyanda | Siyanda DM | C1 | Yes |
| 18 | NC081 | Siyanda | Mier | B3 | Yes |
| 19 | NC082 | Siyanda | !Kai! Garib | B3 | Yes |
| 20 | NC083 | Siyanda | Khara Hais | B2 | Yes |
| 21 | NC084 | Siyanda | !Kheis | B3 | Yes |
| 22 | NC085 | Siyanda | Tsantsabane | B3 | Yes |
| 23 | NC086 | Siyanda | Kgatelopele | B3 | Yes |
| 24 | DC9 | Frances Baard | Frances Baard DM | C1 | Yes |
| 25 | NC091 | Frances Baard | Sol Plaatjie | B1 | Yes |
| 26 | NC092 | Frances Baard | Dikgatlong | B3 | Yes |
| 27 | NC093 | Frances Baard | Magareng | B3 | Yes |
| 28 | NC094 | Frances Baard | Phokwane | B3 | Yes |
| 29 | DC45 | Kgalagadi | John Taole Gaetsewe DM | C1 | Yes |
| 30 | NC451 | Kgalagadi | Moshaweng | B4 | Yes |
| 31 | NC452 | Kgalagadi | Ga-Segonyana | B3 | Yes |
| 32 | NC453 | Kgalagadi | Gamagara | B3 | Yes |

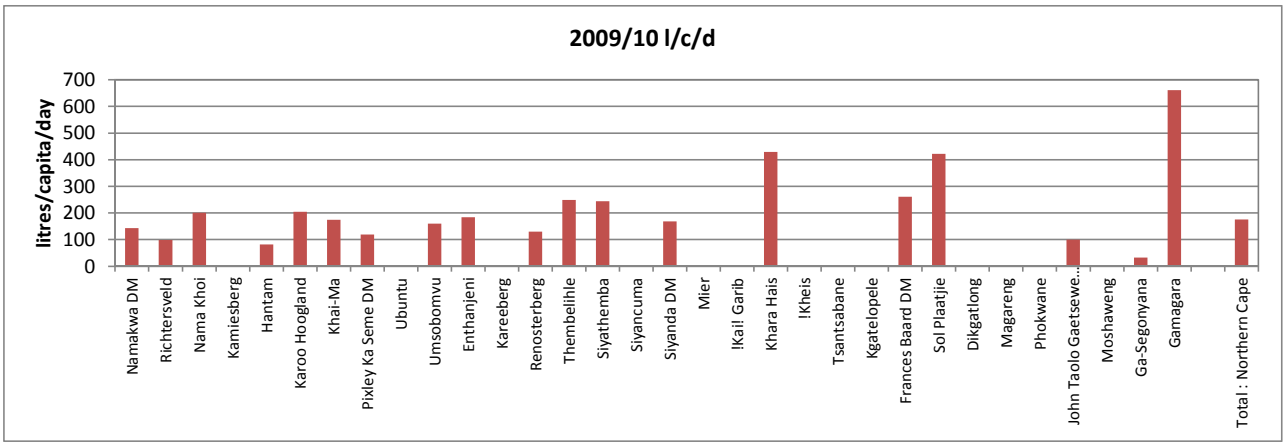
# National NRW Assessment

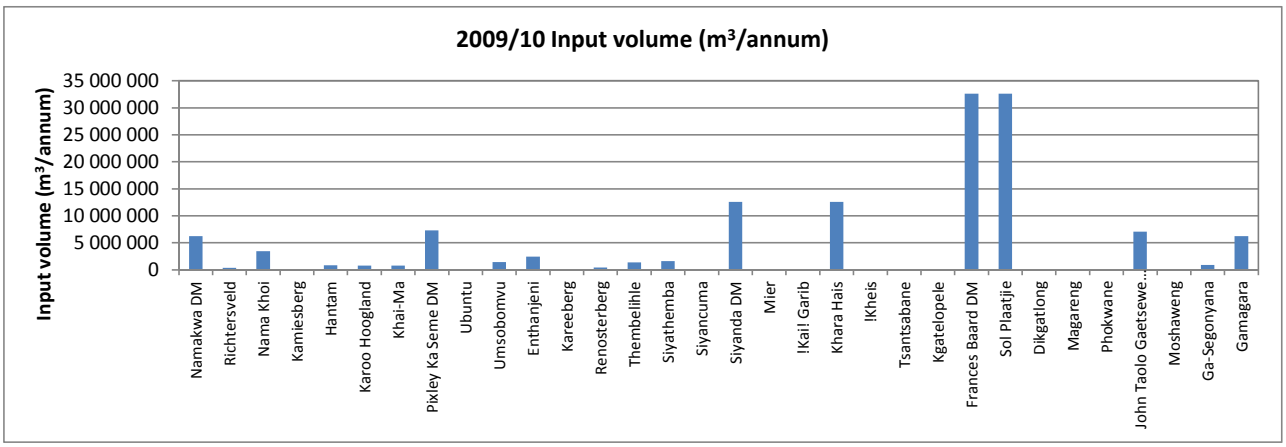


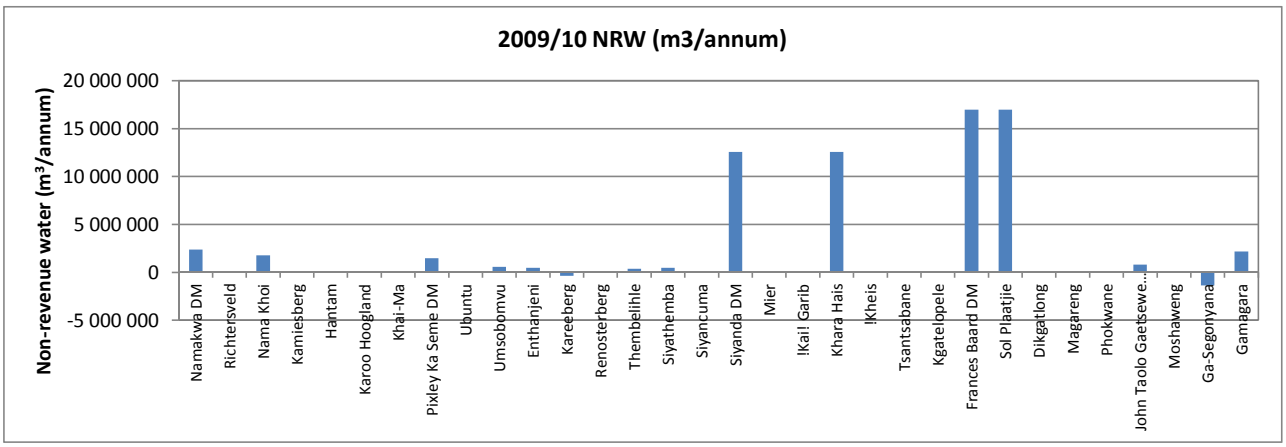
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 32 | | |
| 1 | No records | 2 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 5 | | |
| 3 | Erratic / worthless records | 12 | | |
| 4 | Records with gaps or questions | 12 | | |
| 5 | Good records no gaps or questions | 1 | | |
| | | | | |
| **% NRW** | | 32 | | |
| 0 | No records | 13 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 5 | | |
| 2 | >40% <=50% | 1 | | |
| 3 | >30% <=40% | 3 | | |
| 4 | >20% <=30% | 3 | | |
| 5 | <=20% | 7 | | |
| **litres / capita / day** | | 32 | | |
| 0 | No records | 13 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 3 | | |
| 2 | >300 and <=400 | 0 | | |
| 3 | >200 and <=300 | 5 | | |
| 4 | >100 and <=200 | 7 | | |
| 5 | <=100 | 4 | | |
| **NRW Activity** | | 32 | | |
| 1 | No activity | 5 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 13 | | |
| 3 | Some activity, part of O&M | 14 | | |
| 4 | Small scale active programme | 0 | | |
| 5 | Large scale active programme | 0 | | |
| | | | | |
| **Potential NRW Impact** | | 32 | | |
| 1 | <=50 000 | 21 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 5 | | |
| 3 | >100 000 <=200 000 | 3 | | |
| 4 | >200 000 <=500 000 | 3 | | |
| 5 | >500 000 | 0 | | |
| | | | | |

**Key Performance Indicators**

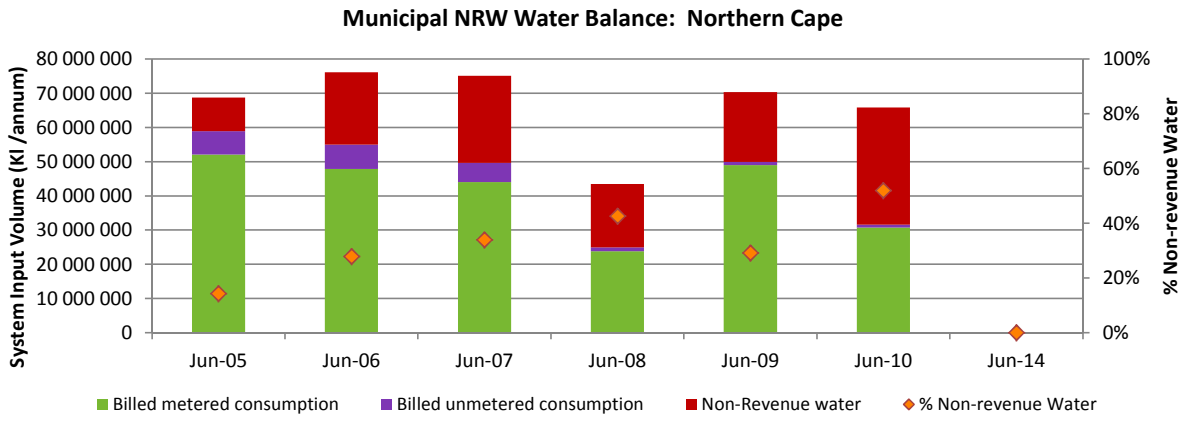


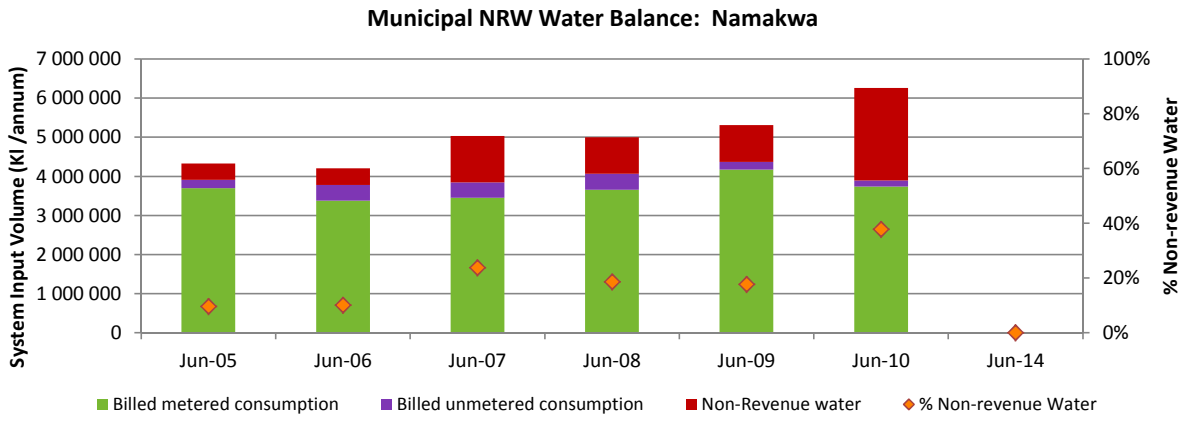



| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | | | | | | | |
| t Municipality | | | | | | | | Category |
| Municipality | | | | | | | | |
| Settlements | | | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 977 048 | 983 348 | 989 260 | 1 000 297 | 1 006 314 | 1 029 253 | 0 |
| | Households | 251 322 | 252 924 | 254 405 | 257 279 | 258 782 | 264 192 | 0 |
| | Connections - metered | 80 549 | 86 311 | 81 982 | 167 332 | 84 043 | 102 027 | 0 |
| | Connections - Unmetered | 3 892 | 3 936 | 3 962 | 30 752 | 4 065 | 5 971 | 0 |
| | Length of mains (km) | 1 658 | 1 818 | 1 727 | 1 706 | 1 725 | 2 330 | 0 |
| | System input volume kl/annum | 68 718 883 | 76 106 656 | 75 115 681 | 43 436 640 | 70 365 027 | 65 831 978 | 0 |
| | Billed metered consumption kl/annum | 52 095 090 | 47 899 628 | 44 052 990 | 23 793 120 | 48 961 380 | 30 738 261 | 0 |
| | Billed unmetered consumption kl/annum | 6 825 509 | 7 051 249 | 5 573 769 | 1 151 709 | 938 770 | 861 212 | 0 |
| | Unbilled metered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water kl/annum | 58 920 599 | 54 950 877 | 49 626 759 | 24 944 829 | 49 900 150 | 31 599 473 | 0 |
| | Non-Revenue water kl/annum | 9 798 285 | 21 155 779 | 25 488 922 | 18 491 811 | 20 464 877 | 34 232 505 | 0 |
| | Water Losses kl/annum | 9 798 285 | 21 155 779 | 25 488 922 | 18 491 811 | 20 464 877 | 34 232 505 | 0 |
| | % Non-revenue water | 14.3% | 27.8% | 33.9% | 42.6% | 29.1% | 52.0% | No data |
| | % Water Losses | 14.3% | 27.8% | 33.9% | 42.6% | 29.1% | 52.0% | No data |
| Key performance indicators | Input : Litres / capita / day | 193 | 212 | 208 | 119 | 192 | 175 | No data |
| | Input: m³ / household / month | 23 | 25 | 25 | 14 | 23 | 21 | No data |
| | Billed : Litres / capita / day | 165 | 153 | 137 | 68 | 136 | 84 | No data |
| | Billed : m³ / household / month | 20 | 18 | 16 | 8 | 16 | 10 | No data |
| | % Population growth | | 0.64% | 0.60% | 1.12% | 0.60% | 2.28% | |
| | % Water demand growth | | 10.75% | -1.30% | -42.17% | 61.99% | -6.44% | |
| Source of information | | | | | | | | |



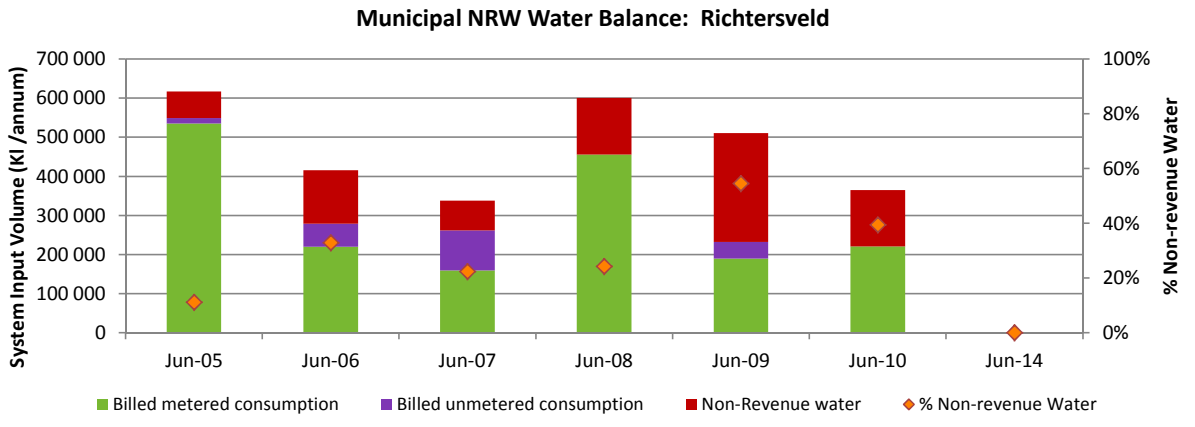

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | DC06 | | | | | | No |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 106 166 | 106 618 | 107 258 | 108 451 | 109 101 | 119 660 | 0 |
| | Households | | 28 479 | 28 601 | 28 776 | 29 085 | 29 263 | 31 199 | 0 |
| | Connections - metered | | 27 086 | 27 201 | 27 365 | 27 669 | 27 835 | 29 930 | 0 |
| | Connections - Unmetered | | 1 132 | 1 136 | 1 143 | 1 155 | 1 162 | 959 | 0 |
| | Length of mains (km) | | 564 | 567 | 570 | 576 | 580 | 628 | 0 |
| | System input volume | kl/annum | 4 323 983 | 4 206 485 | 5 034 818 | 4 996 223 | 5 309 216 | 6 260 177 | 0 |
| | Billed metered consumption | kl/annum | 3 695 352 | 3 381 130 | 3 451 720 | 3 658 286 | 4 169 945 | 3 738 339 | 0 |
| | Billed unmetered consumption | kl/annum | 215 199 | 399 934 | 389 598 | 406 523 | 199 510 | 156 927 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 3 910 551 | 3 781 064 | 3 841 318 | 4 064 809 | 4 369 455 | 3 895 266 | 0 |
| | Non-Revenue water | kl/annum | 413 432 | 425 421 | 1 193 500 | 931 414 | 939 761 | 2 364 911 | 0 |
| | Water Losses | kl/annum | 413 432 | 425 421 | 1 193 500 | 931 414 | 939 761 | 2 364 911 | 0 |
| | % Non-revenue water | | 9.6% | 10.1% | 23.7% | 18.6% | 17.7% | 37.8% | No data |
| | % Water Losses | | 9.6% | 10.1% | 23.7% | 18.6% | 17.7% | 37.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 112 | 108 | 129 | 126 | 133 | 143 | No data |
| | Input: m³ / household / month | | 13 | 12 | 15 | 14 | 15 | 17 | No data |
| | Billed : Litres / capita / day | | 101 | 97 | 98 | 103 | 110 | 89 | No data |
| | Billed : m³ / household / month | | 11 | 11 | 11 | 12 | 12 | 10 | No data |
| | % Population growth | | | 0.43% | 0.60% | 1.11% | 0.60% | 9.68% | |
| | % Water demand growth | | | -2.72% | 19.69% | -0.77% | 6.26% | 17.91% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



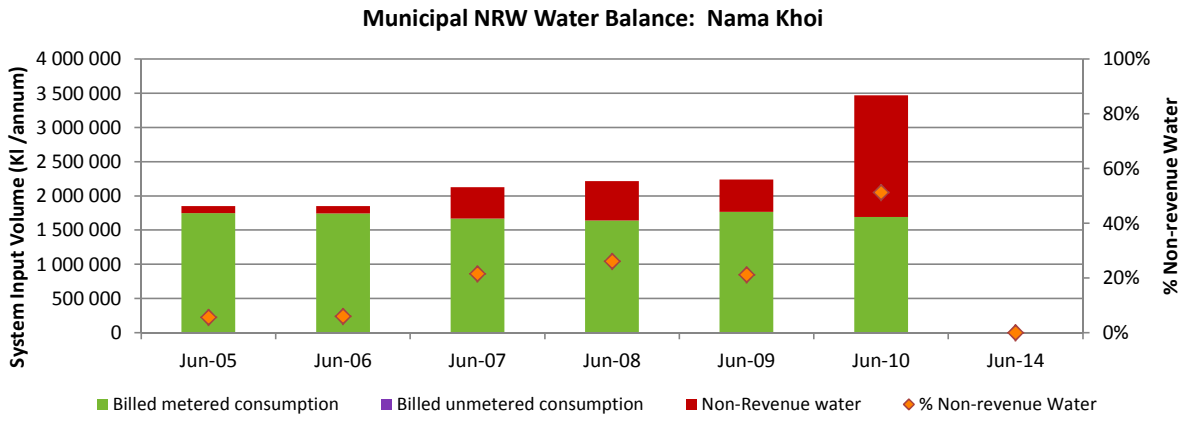

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC061 | | | | | | Yes |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | Richtersveld | | | | | | B3 |
| Settlements | | | Port Nolloth | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 9 552 | 9 595 | 9 652 | 9 757 | 9 815 | 10 155 | |
| | Households | | 2 578 | 2 590 | 2 606 | 2 635 | 2 651 | 2 744 | |
| | Connections - metered | | ~~2 552~~ | ~~2 564~~ | ~~2 579~~ | 2 607 | ~~2 622~~ | ~~2 713~~ | |
| | Connections - Unmetered | | ~~42~~ | ~~42~~ | ~~43~~ | 43 | ~~43~~ | ~~45~~ | |
| | Length of mains (km) | | ~~52~~ | ~~52~~ | ~~52~~ | ~~53~~ | ~~53~~ | ~~55~~ | |
| | System input volume | kl/annum | 617 156 | 415 720 | 337 630 | 601 000 | 510 848 | 364 443 | |
| | Billed metered consumption | kl/annum | 535 261 | 220 000 | 159 441 | ~~455 558~~ | 189 408 | 220 606 | |
| | Billed unmetered consumption | kl/annum | 13 428 | 59 000 | 102 622 | 0 | 42 912 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 548 689 | 279 000 | 262 063 | 455 558 | 232 320 | 220 606 | 0 |
| | Non-Revenue water | kl/annum | 68 467 | 136 720 | 75 567 | 145 442 | 278 528 | 143 837 | 0 |
| | Water Losses | kl/annum | 68 467 | 136 720 | 75 567 | 145 442 | 278 528 | 143 837 | 0 |
| | % Non-revenue water | | 11.1% | 32.9% | 22.4% | 24.2% | 54.5% | 39.5% | No data |
| | % Water Losses | | 11.1% | 32.9% | 22.4% | 24.2% | 54.5% | 39.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 177 | 119 | 96 | 169 | 143 | 98 | No data |
| | Input: m³ / household / month | | 20 | 13 | 11 | 19 | 16 | 11 | No data |
| | Billed : Litres / capita / day | | 157 | 80 | 74 | 128 | 65 | 60 | No data |
| | Billed : m³ / household / month | | 18 | 9 | 8 | 14 | 7 | 7 | No data |
| | % Population growth | | | 0.45% | 0.59% | 1.09% | 0.59% | 3.46% | |
| | % Water demand growth | | | -32.64% | -18.78% | 78.01% | -15.00% | -28.66% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS All town | DWA NIS StatsSA NFC | DWA NIS RPMS | |



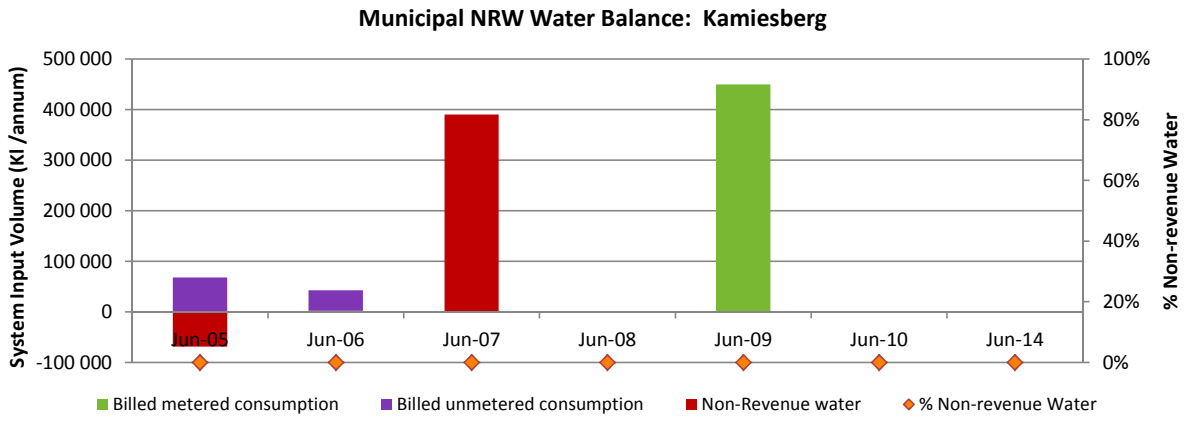

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC062 | | | | | | Yes |
| t Municipality | | Namakwa | | | | | | Category |
| Municipality | | Nama Khoi | | | | | | B3 |
| Settlements | | Springbok | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 44 486 | 44 674 | 44 943 | 45 446 | 45 718 | 47 296 | |
| | Households | 11 384 | 11 434 | 11 505 | 11 629 | 11 701 | 12 105 | |
| | Connections - metered | ~~11 165~~ | ~~11 212~~ | ~~11 280~~ | 11 406 | ~~11 474~~ | ~~11 870~~ | |
| | Connections - Unmetered | ~~286~~ | ~~287~~ | ~~289~~ | 292 | ~~294~~ | 304 | |
| | Length of mains (km) | ~~229~~ | ~~230~~ | ~~231~~ | ~~234~~ | ~~235~~ | ~~243~~ | |
| | System input volume kl/annum | 1 852 931 | 1 852 931 | 2 125 095 | ~~2 216 189~~ | 2 237 819 | 3 469 823 | |
| | Billed metered consumption kl/annum | 1 749 273 | 1 741 757 | 1 668 208 | ~~1 638 570~~ | 1 764 611 | ~~1 690 736~~ | |
| | Billed unmetered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 1 749 273 | 1 741 757 | 1 668 208 | 1 638 570 | 1 764 611 | 1 690 736 | 0 |
| | Non-Revenue water kl/annum | 103 658 | 111 174 | 456 887 | 577 619 | 473 208 | 1 779 087 | 0 |
| | Water Losses kl/annum | 103 658 | 111 174 | 456 887 | 577 619 | 473 208 | 1 779 087 | 0 |
| | % Non-revenue water | 5.6% | 6.0% | 21.5% | 26.1% | 21.1% | 51.3% | No data |
| | % Water Losses | 5.6% | 6.0% | 21.5% | 26.1% | 21.1% | 51.3% | No data |
| Key performance indicators | Input : Litres / capita / day | 114 | 114 | 130 | 134 | 134 | 201 | No data |
| | Input: m³ / household / month | 14 | 14 | 15 | 16 | 16 | 24 | No data |
| | Billed : Litres / capita / day | 108 | 107 | 102 | 99 | 106 | 98 | No data |
| | Billed : m³ / household / month | 13 | 13 | 12 | 12 | 13 | 12 | No data |
| | % Population growth | | 0.42% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | 0.00% | 14.69% | 4.29% | 0.98% | 55.05% | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Estimated | DWA NIS StatsSA NFC | DWA NIS Municipality | |



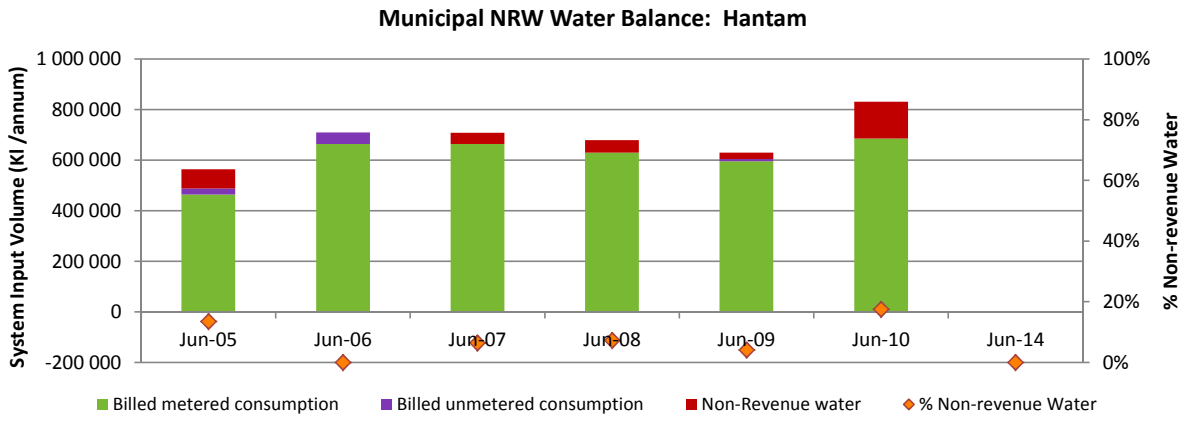

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC064 | | | | | | Yes |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | Kamiesberg | | | | | | B3 |
| Settlements | | | Garies | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 10 604 | 10 645 | 10 709 | 10 825 | 10 890 | 11 267 | |
| | Households | | 2 928 | 2 938 | 2 958 | 2 982 | 3 002 | 3 107 | |
| | Connections - metered | | ~~2 626~~ | ~~2 636~~ | ~~2 652~~ | 2 681 | ~~2 697~~ | ~~2 790~~ | |
| | Connections - Unmetered | | ~~313~~ | ~~314~~ | ~~316~~ | 319 | ~~321~~ | ~~332~~ | |
| | Length of mains (km) | | ~~59~~ | ~~59~~ | ~~59~~ | ~~60~~ | ~~60~~ | ~~62~~ | |
| | System input volume | kl/annum | 0 | 42 677 | 390 312 | | ~~450 000~~ | | |
| | Billed metered consumption | kl/annum | 0 | 2 357 | 0 | | ~~450 000~~ | | |
| | Billed unmetered consumption | kl/annum | 68 400 | 40 320 | 0 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 68 400 | 42 677 | 0 | 0 | 450 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | -68 400 | 0 | 390 312 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | -68 400 | 0 | 390 312 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | Check data | No data | No data | Check data | No data | No data |
| | % Water Losses | | No data | No data | 100.0% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 11 | 100 | No data | 113 | No data | No data |
| | Input: m³ / household / month | | No data | 1 | 11 | No data | 12 | No data | No data |
| | Billed : Litres / capita / day | | 18 | 11 | No data | No data | 113 | No data | No data |
| | Billed : m³ / household / month | | 2 | 1 | No data | No data | 12 | No data | No data |
| | % Population growth | | | 0.39% | 0.60% | 1.08% | 0.60% | 3.46% | |
| | % Water demand growth | | | #DIV/0! | 814.57% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |



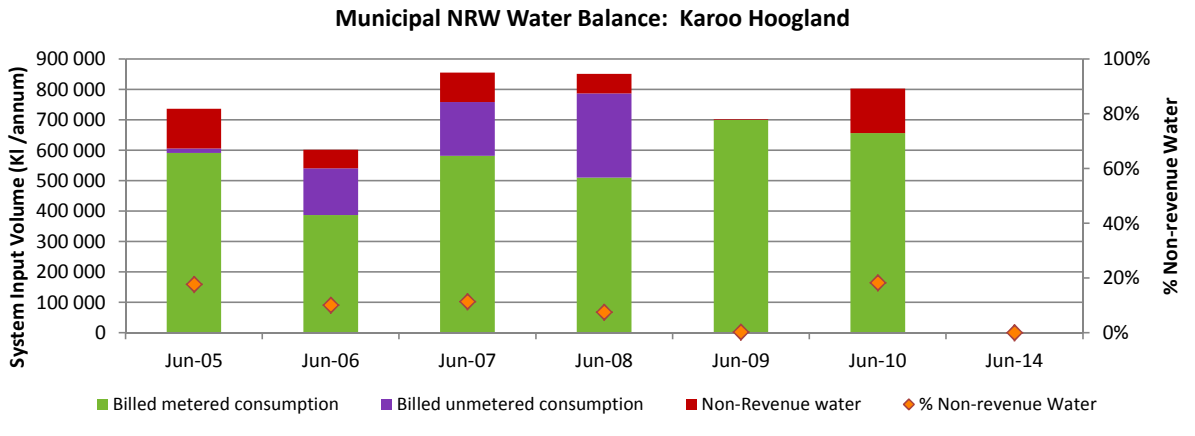

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC065 | | | | | | Yes |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | Hantam | | | | | | B3 |
| Settlements | | | CALVINIA | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 19 754 | 19 839 | 19 957 | 20 180 | 20 301 | 27 792 | |
| | Households | | 5 657 | 5 681 | 5 715 | 5 778 | 5 814 | 6 940 | |
| | Connections - metered | | ~~5 461~~ | ~~5 485~~ | ~~5 517~~ | 5 579 | ~~5 612~~ | 6 940 | |
| | Connections - Unmetered | | ~~229~~ | ~~230~~ | ~~231~~ | 234 | ~~235~~ | 0 | |
| | Length of mains (km) | | ~~114~~ | ~~114~~ | ~~115~~ | ~~116~~ | ~~117~~ | 149 | |
| | System input volume | kl/annum | 564 714 | 708 914 | 708 914 | 679 000 | 630 215 | 831 408 | |
| | Billed metered consumption | kl/annum | 464 489 | 663 576 | 663 576 | ~~629 751~~ | 595 926 | 685 613 | |
| | Billed unmetered consumption | kl/annum | 23 669 | 45 534 | 0 | | 8 598 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 488 158 | 709 110 | 663 576 | 629 751 | 604 524 | 685 613 | 0 |
| | Non-Revenue water | kl/annum | 76 556 | -196 | 45 338 | 49 249 | 25 691 | 145 795 | 0 |
| | Water Losses | kl/annum | 76 556 | -196 | 45 338 | 49 249 | 25 691 | 145 795 | 0 |
| | % Non-revenue water | | 13.6% | Check data | 6.4% | 7.3% | 4.1% | 17.5% | No data |
| | % Water Losses | | 13.6% | Check data | 6.4% | 7.3% | 4.1% | 17.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 78 | 98 | 97 | 92 | 85 | 82 | No data |
| | Input: m³ / household / month | | 8 | 10 | 10 | 10 | 9 | 10 | No data |
| | Billed : Litres / capita / day | | 68 | 98 | 91 | 85 | 82 | 68 | No data |
| | Billed : m³ / household / month | | 7 | 10 | 10 | 9 | 9 | 8 | No data |
| | % Population growth | | | 0.43% | 0.59% | 1.12% | 0.60% | 36.90% | |
| | % Water demand growth | | | 25.54% | 0.00% | -4.22% | -7.18% | 31.92% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS All Town | DWA NIS StatsSA NFC | DWA NIS Municipality | |



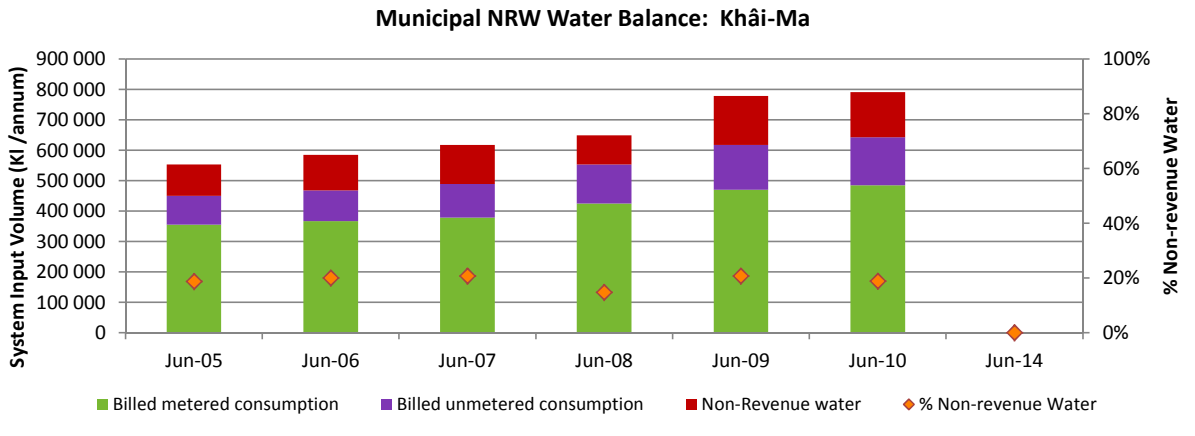

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC066 | | | | | | Yes |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | Karoo Hoogland | | | | | | B3 |
| Settlements | | | Fraserburg | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 10 112 | 10 157 | 10 218 | 10 332 | 10 394 | 10 753 | |
| | Households | | 2 973 | 2 986 | 3 003 | 3 036 | 3 053 | 3 158 | |
| | Connections - metered | | ~~2 355~~ | ~~2 365~~ | ~~2 379~~ | 2 406 | ~~2 420~~ | ~~2 504~~ | |
| | Connections - Unmetered | | ~~239~~ | ~~240~~ | ~~241~~ | 244 | ~~245~~ | ~~254~~ | |
| | Length of mains (km) | | ~~52~~ | ~~52~~ | ~~52~~ | ~~53~~ | ~~53~~ | ~~55~~ | |
| | System input volume | kl/annum | 736 182 | 601 243 | 855 867 | ~~850 946~~ | 701 334 | ~~803 102~~ | |
| | Billed metered consumption | kl/annum | 591 329 | 386 440 | 581 495 | ~~509 907~~ | 700 000 | ~~656 049~~ | |
| | Billed unmetered consumption | kl/annum | 15 040 | 154 080 | 176 976 | ~~277 523~~ | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 606 369 | 540 520 | 758 471 | 787 430 | 700 000 | 656 049 | 0 |
| | Non-Revenue water | kl/annum | 129 813 | 60 723 | 97 396 | 63 516 | 1 334 | 147 053 | 0 |
| | Water Losses | kl/annum | 129 813 | 60 723 | 97 396 | 63 516 | 1 334 | 147 053 | 0 |
| | % Non-revenue water | | 17.6% | 10.1% | 11.4% | 7.5% | 0.2% | 18.3% | No data |
| | % Water Losses | | 17.6% | 10.1% | 11.4% | 7.5% | 0.2% | 18.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 199 | 162 | 229 | 226 | 185 | 205 | No data |
| | Input: m³ / household / month | | 21 | 17 | 24 | 23 | 19 | 21 | No data |
| | Billed : Litres / capita / day | | 164 | 146 | 203 | 209 | 185 | 167 | No data |
| | Billed : m³ / household / month | | 17 | 15 | 21 | 22 | 19 | 17 | No data |
| | % Population growth | | | 0.45% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | -18.33% | 42.35% | -0.57% | -17.58% | 14.51% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



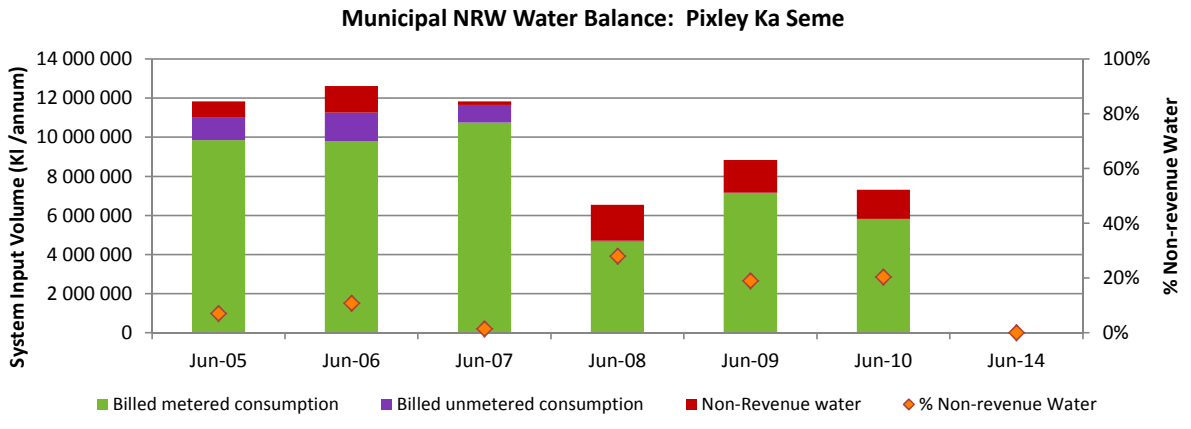

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC067 | | | | | | Yes |
| t Municipality | | | Namakwa | | | | | | Category |
| Municipality | | | Khâi-Ma | | | | | | B3 |
| Settlements | | | Pofadder | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 11 658 | 11 708 | 11 779 | 11 911 | 11 983 | 12 397 | |
| | Households | | 2 959 | 2 972 | 2 989 | 3 025 | 3 042 | 3 145 | |
| | Connections - metered | | ~~2 926~~ | ~~2 939~~ | ~~2 957~~ | 2 990 | ~~3 008~~ | ~~3 112~~ | |
| | Connections - Unmetered | | ~~22~~ | ~~23~~ | ~~23~~ | 23 | ~~23~~ | ~~24~~ | |
| | Length of mains (km) | | ~~59~~ | ~~59~~ | ~~60~~ | ~~60~~ | ~~61~~ | ~~63~~ | |
| | System input volume | kl/annum | ~~553 000~~ | 585 000 | 617 000 | ~~649 088~~ | 779 000 | ~~791 401~~ | |
| | Billed metered consumption | kl/annum | ~~355 000~~ | 367 000 | 379 000 | ~~424 500~~ | 470 000 | ~~485 335~~ | |
| | Billed unmetered consumption | kl/annum | ~~94 662~~ | 101 000 | 110 000 | ~~129 000~~ | 148 000 | ~~156 927~~ | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 449 662 | 468 000 | 489 000 | 553 500 | 618 000 | 642 262 | 0 |
| | Non-Revenue water | kl/annum | 103 338 | 117 000 | 128 000 | 95 588 | 161 000 | 149 140 | 0 |
| | Water Losses | kl/annum | 103 338 | 117 000 | 128 000 | 95 588 | 161 000 | 149 140 | 0 |
| | % Non-revenue water | | 18.7% | 20.0% | 20.7% | 14.7% | 20.7% | 18.8% | No data |
| | % Water Losses | | 18.7% | 20.0% | 20.7% | 14.7% | 20.7% | 18.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 130 | 137 | 144 | 149 | 178 | 175 | No data |
| | Input: m³ / household / month | | 16 | 16 | 17 | 18 | 21 | 21 | No data |
| | Billed : Litres / capita / day | | 106 | 110 | 114 | 127 | 141 | 142 | No data |
| | Billed : m³ / household / month | | 13 | 13 | 14 | 15 | 17 | 17 | No data |
| | % Population growth | | | 0.43% | 0.61% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | 5.79% | 5.47% | 5.20% | 20.01% | 1.59% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



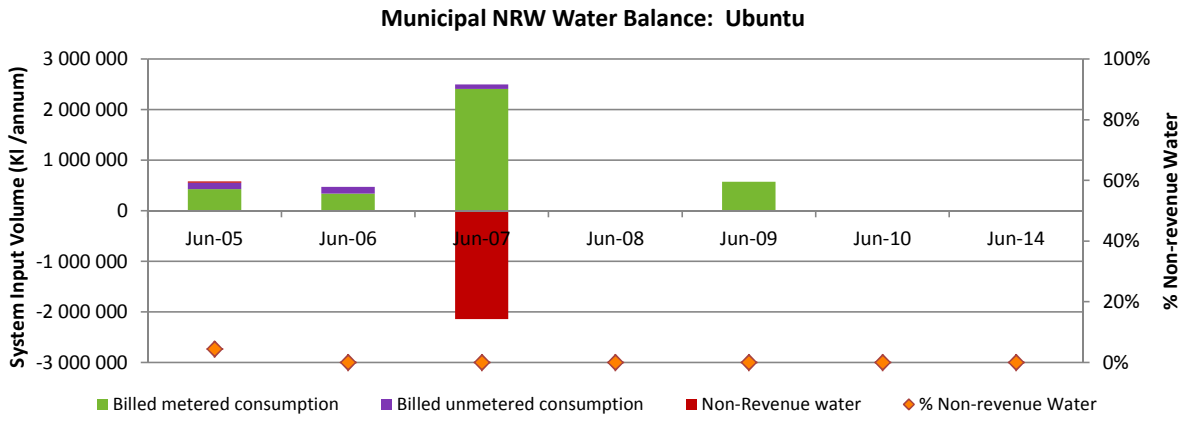

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | DC07 | | | | | | No |
| t Municipality | | Pixley Ka Seme | | | | | | Category |
| Municipality | | | | | | | | C1 |
| Settlements | | | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 157 894 | 158 457 | 159 409 | 161 187 | 162 155 | 167 758 | 0 |
| | Households | 41 127 | 41 271 | 41 521 | 41 984 | 42 235 | 43 693 | 0 |
| | Connections - metered | 13 028 | 13 188 | 13 329 | 20 124 | 13 730 | 20 028 | 0 |
| | Connections - Unmetered | 560 | 568 | 572 | 1 945 | 592 | 924 | 0 |
| | Length of mains (km) | 236 | 236 | 284 | 244 | 248 | 598 | 0 |
| | System input volume kl/annum | 11 835 077 | 12 621 561 | 11 826 377 | 6 539 787 | 8 834 560 | 7 313 606 | 0 |
| | Billed metered consumption kl/annum | 9 848 743 | 9 805 942 | 10 745 467 | 4 662 942 | 7 150 562 | 5 821 019 | 0 |
| | Billed unmetered consumption kl/annum | 1 154 602 | 1 453 390 | 910 744 | 47 874 | 10 000 | 0 | 0 |
| | Unbilled metered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water kl/annum | 11 003 345 | 11 259 332 | 11 656 211 | 4 710 816 | 7 160 562 | 5 821 019 | 0 |
| | Non-Revenue water kl/annum | 831 733 | 1 362 229 | 170 166 | 1 828 971 | 1 673 998 | 1 492 587 | 0 |
| | Water Losses kl/annum | 831 733 | 1 362 229 | 170 166 | 1 828 971 | 1 673 998 | 1 492 587 | 0 |
| | % Non-revenue water | 7.0% | 10.8% | 1.4% | 28.0% | 18.9% | 20.4% | No data |
| | % Water Losses | 7.0% | 10.8% | 1.4% | 28.0% | 18.9% | 20.4% | No data |
| Key performance indicators | Input : Litres / capita / day | 205 | 218 | 203 | 111 | 149 | 119 | No data |
| | Input: m³ / household / month | 24 | 25 | 24 | 13 | 17 | 14 | No data |
| | Billed : Litres / capita / day | 191 | 195 | 200 | 80 | 121 | 95 | No data |
| | Billed : m³ / household / month | 22 | 23 | 23 | 9 | 14 | 11 | No data |
| | % Population growth | | 0.36% | 0.60% | 1.12% | 0.60% | 3.46% | |
| | % Water demand growth | | 6.65% | -6.30% | -44.70% | 35.09% | -17.22% | |
| Source of information | | | | | | | | |



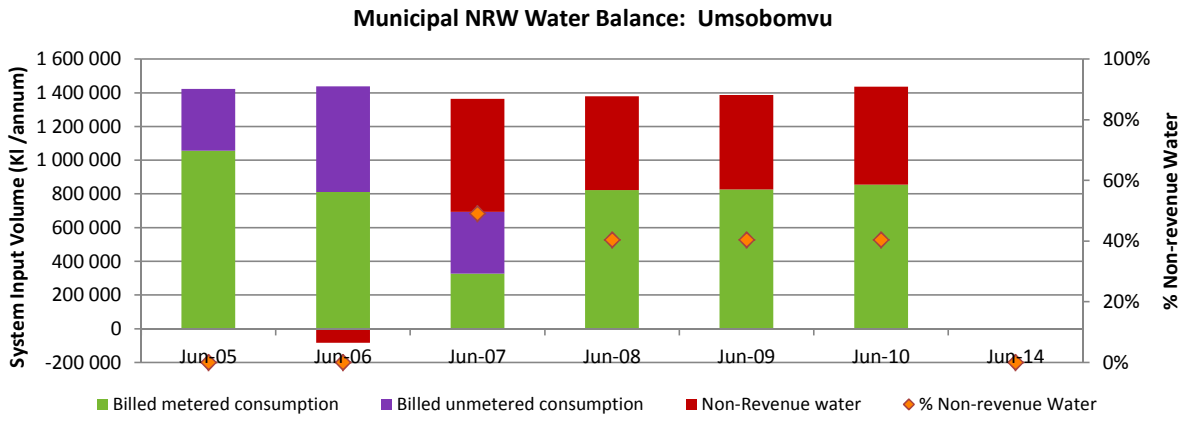

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC071 | | | | | | Yes |
| t Municipality | | Pixley Ka Seme | | | | | | Category |
| Municipality | | Ubuntu | | | | | | B3 |
| Settlements | | Victoria West | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 15 608 | 15 663 | 15 757 | 15 932 | 16 029 | 16 584 | |
| | Households | 4 161 | 4 176 | 4 201 | 4 249 | 4 273 | 4 421 | |
| | Connections - metered | 0 | 0 | 0 | | 0 | 0 | |
| | Connections - Unmetered | 0 | 0 | 0 | | 0 | 0 | |
| | Length of mains (km) | 0 | 0 | 0 | 0 | 0 | 0 | |
| | System input volume kl/annum | 579 435 | 470 376 | 361 317 | | 547 486 | | |
| | Billed metered consumption kl/annum | 425 962 | 342 504 | 2 410 478 | | 570 494 | | |
| | Billed unmetered consumption kl/annum | 127 872 | 127 872 | 90 432 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 553 834 | 470 376 | 2 500 910 | 0 | 570 494 | 0 | 0 |
| | Non-Revenue water kl/annum | 25 601 | 0 | -2 139 593 | 0 | -23 008 | 0 | 0 |
| | Water Losses kl/annum | 25 601 | 0 | -2 139 593 | 0 | -23 008 | 0 | 0 |
| | % Non-revenue water | 4.4% | Check data | Check data | No data | Check data | No data | No data |
| | % Water Losses | 4.4% | No data | Check data | No data | Check data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | 102 | 82 | 63 | No data | 94 | No data | No data |
| | Input: m³ / household / month | 12 | 9 | 7 | No data | 11 | No data | No data |
| | Billed : Litres / capita / day | 97 | 82 | 435 | No data | 98 | No data | No data |
| | Billed : m³ / household / month | 11 | 9 | 50 | No data | 11 | No data | No data |
| | % Population growth | | 0.35% | 0.60% | 1.11% | 0.61% | 3.46% | |
| | % Water demand growth | | -18.82% | -23.19% | | #DIV/0! | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



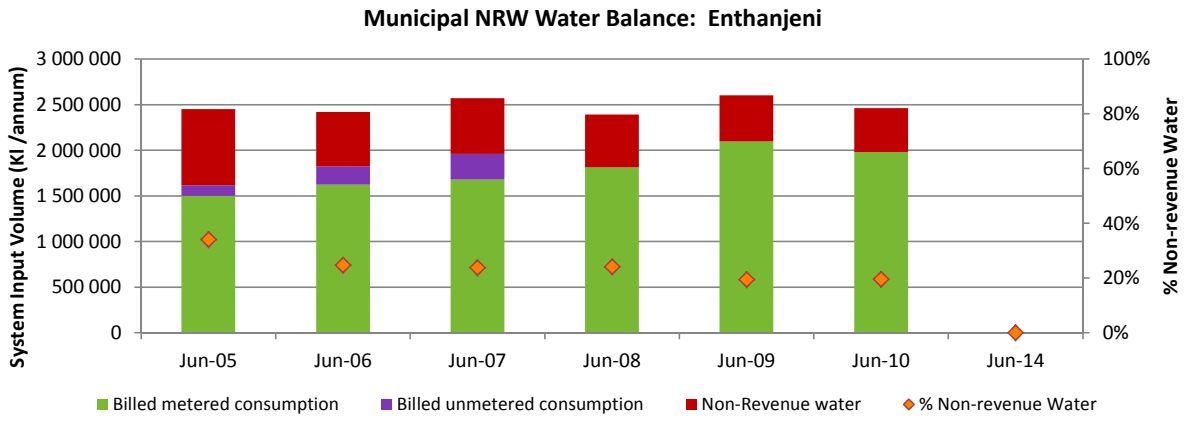

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC072 | | | | | | Yes |
| t Municipality | | Pixley Ka Seme | | | | | | Category |
| Municipality | | Umsobomvu | | | | | | B3 |
| Settlements | | COLESBERG | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 23 060 | 23 143 | 23 282 | 23 542 | 23 684 | 24 502 | |
| | Households | 5 988 | 6 009 | 6 045 | 6 113 | 6 150 | 6 363 | |
| | Connections - metered | | | | | | 6 043 | |
| | Connections - Unmetered | | | | | | 320 | |
| | Length of mains (km) | | | | | | 72 | |
| | System input volume kl/annum | 1 423 047 | 1 355 774 | 1 363 917 | 1 379 149 | 1 387 468 | 1 435 388 | |
| | Billed metered consumption kl/annum | 1 056 423 | 812 007 | 326 802 | 821 818 | 826 775 | 855 330 | |
| | Billed unmetered consumption kl/annum | 366 624 | 626 160 | 367 632 | | | 0 | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 1 423 047 | 1 438 167 | 694 434 | 821 818 | 826 775 | 855 330 | 0 |
| | Non-Revenue water kl/annum | 0 | -82 393 | 669 483 | 557 331 | 560 693 | 580 058 | 0 |
| | Water Losses kl/annum | 0 | -82 393 | 669 483 | 557 331 | 560 693 | 580 058 | 0 |
| | % Non-revenue water | Check data | Check data | 49.1% | 40.4% | 40.4% | 40.4% | No data |
| | % Water Losses | No data | Check data | 49.1% | 40.4% | 40.4% | 40.4% | No data |
| Key performance indicators | Input : Litres / capita / day | 169 | 160 | 160 | 160 | 161 | 160 | No data |
| | Input: m³ / household / month | 20 | 19 | 19 | 19 | 19 | 19 | No data |
| | Billed : Litres / capita / day | 169 | 170 | 82 | 96 | 96 | 96 | No data |
| | Billed : m³ / household / month | 20 | 20 | 10 | 11 | 11 | 11 | No data |
| | % Population growth | | 0.36% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | -4.73% | 0.60% | 1.12% | 0.60% | 3.45% | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS WDM report | DWA NIS | DWA NIS RPMS | DWA NIS | |



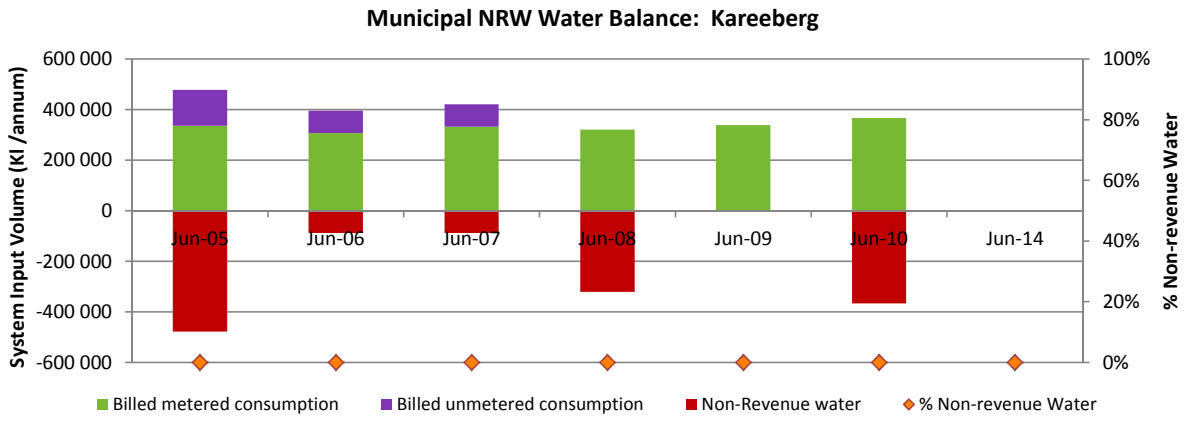

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC073 | | | | | | Yes |
| t Municipality | | | Pixley Ka Seme | | | | | | Category |
| Municipality | | | Enthanjeni | | | | | | B3 |
| Settlements | | | De Aar, Hanover, Britstown | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 34 518 | 34 640 | 34 848 | 35 237 | 35 448 | 36 672 | |
| | Households | | 8 793 | 8 824 | 8 878 | 8 976 | 9 031 | 9 344 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 274 | |
| | System input volume | kl/annum | 2 452 464 | 2 418 483 | 2 569 958 | 2 390 985 | 2 601 608 | 2 463 465 | |
| | Billed metered consumption | kl/annum | 1 500 499 | 1 624 772 | 1 680 894 | 1 814 407 | 2 097 709 | 1 982 352 | |
| | Billed unmetered consumption | kl/annum | 115 680 | 196 980 | 278 280 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 616 179 | 1 821 752 | 1 959 174 | 1 814 407 | 2 097 709 | 1 982 352 | 0 |
| | Non-Revenue water | kl/annum | 836 286 | 596 731 | 610 784 | 576 578 | 503 899 | 481 113 | 0 |
| | Water Losses | kl/annum | 836 286 | 596 731 | 610 784 | 576 578 | 503 899 | 481 113 | 0 |
| | % Non-revenue water | | 34.1% | 24.7% | 23.8% | 24.1% | 19.4% | 19.5% | No data |
| | % Water Losses | | 34.1% | 24.7% | 23.8% | 24.1% | 19.4% | 19.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 195 | 191 | 202 | 186 | 201 | 184 | No data |
| | Input: m³ / household / month | | 23 | 23 | 24 | 22 | 24 | 22 | No data |
| | Billed : Litres / capita / day | | 128 | 144 | 154 | 141 | 162 | 148 | No data |
| | Billed : m³ / household / month | | 15 | 17 | 18 | 17 | 19 | 18 | No data |
| | % Population growth | | | 0.35% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | -1.39% | 6.26% | -6.96% | 8.81% | -5.31% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS StatsSA NFC | DWA NIS Municipality | |




Comments

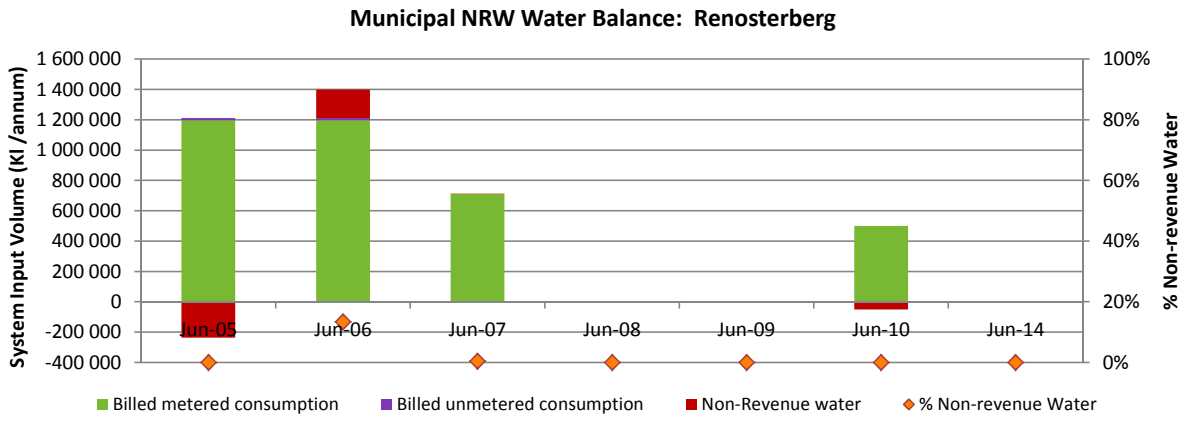
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC074 | | | | | | Yes |
| t Municipality | | | Pixley Ka Seme | | | | | | Category |
| Municipality | | | Kareeberg | | | | | | B3 |
| Settlements | | | Carnarvon | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 9 030 | 9 062 | 9 117 | 9 220 | 9 275 | 9 596 | |
| | Households | | 2 390 | 2 398 | 2 412 | 2 440 | 2 454 | 2 539 | |
| | Connections - metered | | 1 880 | 1 868 | 1 941 | 1 949 | 1 954 | 1 953 | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | 44 | | | | |
| | System input volume | kl/annum | 0 | 308 000 | 333 000 | | 338 386 | | |
| | Billed metered consumption | kl/annum | 335 743 | 307 716 | 333 092 | 321 067 | 338 396 | 366 913 | |
| | Billed unmetered consumption | kl/annum | 142 000 | 88 000 | 88 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 477 743 | 395 716 | 421 092 | 321 067 | 338 396 | 366 913 | 0 |
| | Non-Revenue water | kl/annum | -477 743 | -87 716 | -88 092 | -321 067 | -10 | -366 913 | 0 |
| | Water Losses | kl/annum | -477 743 | -87 716 | -88 092 | -321 067 | -10 | -366 913 | 0 |
| | % Non-revenue water | | No data | Check data | Check data | No data | Check data | No data | No data |
| | % Water Losses | | No data | Check data | Check data | No data | Check data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 93 | 100 | No data | 100 | No data | No data |
| | Input: m³ / household / month | | No data | 11 | 12 | No data | 11 | No data | No data |
| | Billed : Litres / capita / day | | 145 | 120 | 127 | 95 | 100 | 105 | No data |
| | Billed : m³ / household / month | | 17 | 14 | 15 | 11 | 11 | 12 | No data |
| | % Population growth | | | 0.35% | 0.61% | 1.13% | 0.60% | 3.46% | |
| | % Water demand growth | | | #DIV/0! | 8.12% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS WDM report | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




Comments

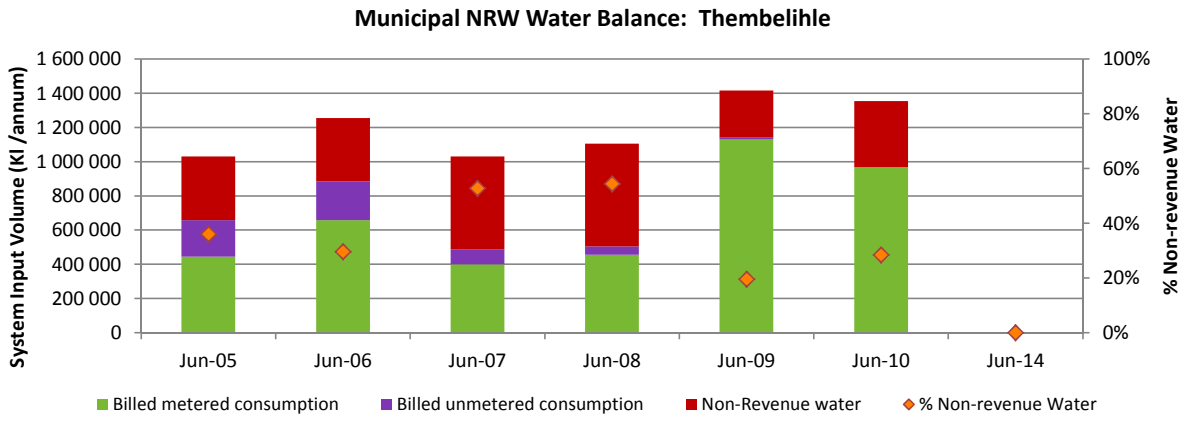
NRW cannot be zero?

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC075 | | | | | | Yes |
| t Municipality | | Pixley Ka Seme | | | | | | Category |
| Municipality | | Renosterberg | | | | | | B3 |
| Settlements | | Phillipstown | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 8 905 | 8 937 | 8 991 | 9 091 | 9 146 | 9 462 | |
| | Households | 2 523 | 2 531 | 2 546 | 2 575 | 2 590 | 2 679 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 2 402 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 188 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 974 028 | 1 398 178 | 713 508 | | | 450 000 | |
| | Billed metered consumption kl/annum | 1 197 048 | 1 197 048 | 710 637 | | | 500 000 | |
| | Billed unmetered consumption kl/annum | 13 482 | 13 482 | 0 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 1 210 530 | 1 210 530 | 710 637 | 0 | 0 | 500 000 | 0 |
| | Non-Revenue water kl/annum | -236 502 | 187 648 | 2 871 | 0 | 0 | -50 000 | 0 |
| | Water Losses kl/annum | -236 502 | 187 648 | 2 871 | 0 | 0 | -50 000 | 0 |
| | % Non-revenue water | Check data | 13.4% | 0.4% | No data | No data | Check data | No data |
| | % Water Losses | Check data | 13.4% | 0.4% | No data | No data | Check data | No data |
| Key performance indicators | Input : Litres / capita / day | 300 | 429 | 217 | No data | No data | 130 | No data |
| | Input: m³ / household / month | 32 | 46 | 23 | No data | No data | 14 | No data |
| | Billed : Litres / capita / day | 372 | 371 | 217 | No data | No data | 145 | No data |
| | Billed : m³ / household / month | 40 | 40 | 23 | No data | No data | 16 | No data |
| | % Population growth | | 0.36% | 0.60% | 1.11% | 0.60% | 3.46% | |
| | % Water demand growth | | 43.55% | -48.97% | | | #DIV/0! | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



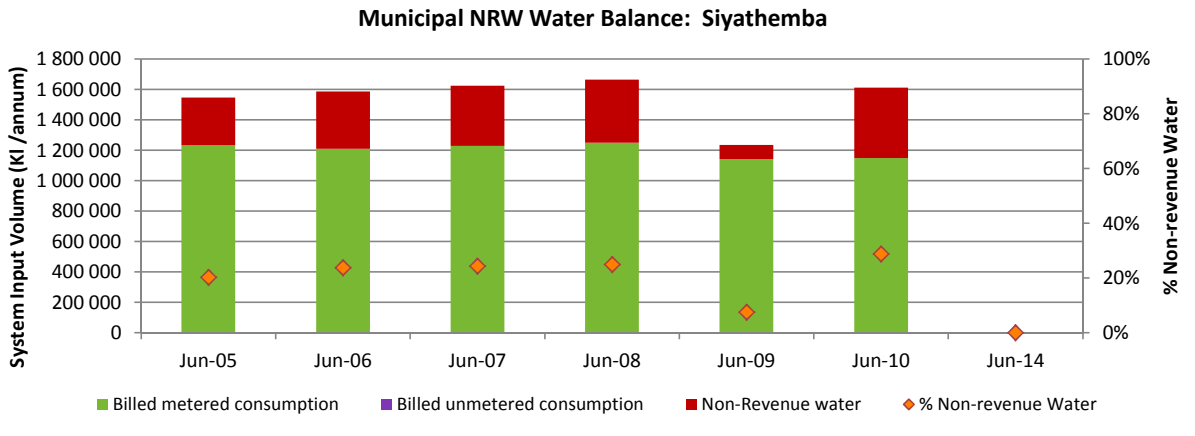

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC076 | | | | | | Yes |
| t Municipality | | | Pixley Ka Seme | | | | | | Category |
| Municipality | | | Thembelihle | | | | | | B3 |
| Settlements | | | Hopetown | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 13 987 | 14 038 | 14 123 | 14 281 | 14 367 | 14 863 | |
| | Households | | 3 592 | 3 605 | 3 627 | 3 667 | 3 689 | 3 815 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 3 042 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 441 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 1 029 526 | 1 254 886 | 1 029 526 | 1 104 646 | 1 416 000 | 1 353 678 | |
| | Billed metered consumption | kl/annum | 445 175 | 658 583 | 400 351 | 456 484 | 1 130 000 | 968 288 | |
| | Billed unmetered consumption | kl/annum | 213 408 | 225 360 | 86 400 | 47 874 | 10 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 658 583 | 883 943 | 486 751 | 504 358 | 1 140 000 | 968 288 | 0 |
| | Non-Revenue water | kl/annum | 370 943 | 370 943 | 542 775 | 600 288 | 276 000 | 385 390 | 0 |
| | Water Losses | kl/annum | 370 943 | 370 943 | 542 775 | 600 288 | 276 000 | 385 390 | 0 |
| | % Non-revenue water | | 36.0% | 29.6% | 52.7% | 54.3% | 19.5% | 28.5% | No data |
| | % Water Losses | | 36.0% | 29.6% | 52.7% | 54.3% | 19.5% | 28.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 202 | 245 | 200 | 212 | 270 | 250 | No data |
| | Input: m³ / household / month | | 24 | 29 | 24 | 25 | 32 | 30 | No data |
| | Billed : Litres / capita / day | | 129 | 173 | 94 | 97 | 217 | 178 | No data |
| | Billed : m³ / household / month | | 15 | 20 | 11 | 11 | 26 | 21 | No data |
| | % Population growth | | | 0.36% | 0.61% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | 21.89% | -17.96% | 7.30% | 28.19% | -4.40% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



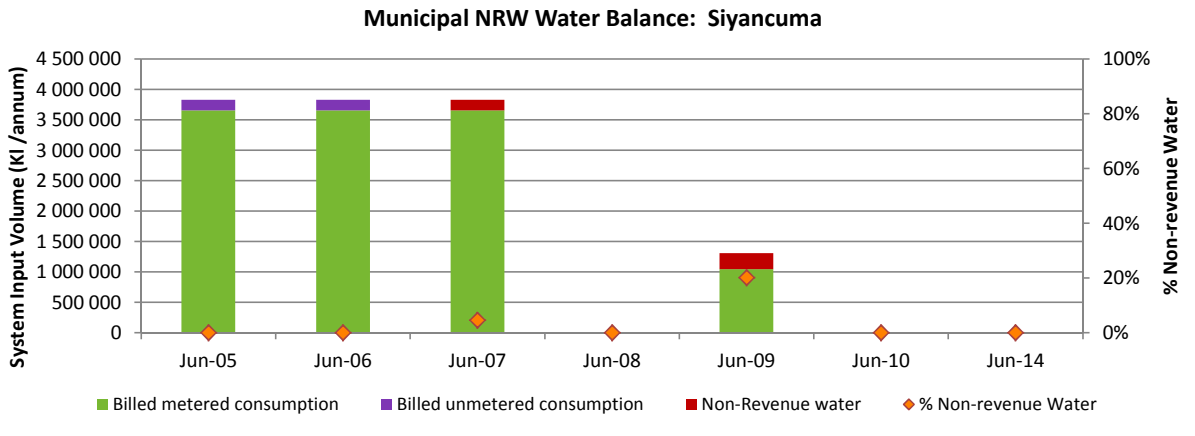

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC077 | | | | | | Yes |
| t Municipality | | | Pixley Ka Seme | | | | | | Category |
| Municipality | | | Siyathemba | | | | | | B3 |
| Settlements | | | PRIESKA | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 16 984 | 17 045 | 17 148 | 17 339 | 17 443 | 18 046 | |
| | Households | | 4 174 | 4 188 | 4 213 | 4 261 | 4 286 | 4 434 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 4 112 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 175 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 1 547 038 | 1 586 325 | 1 625 612 | 1 665 007 | 1 235 000 | 1 611 075 | |
| | Billed metered consumption | kl/annum | 1 233 890 | 1 209 309 | 1 229 210 | 1 249 166 | 1 142 000 | 1 148 136 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 233 890 | 1 209 309 | 1 229 210 | 1 249 166 | 1 142 000 | 1 148 136 | 0 |
| | Non-Revenue water | kl/annum | 313 148 | 377 016 | 396 402 | 415 841 | 93 000 | 462 939 | 0 |
| | Water Losses | kl/annum | 313 148 | 377 016 | 396 402 | 415 841 | 93 000 | 462 939 | 0 |
| | % Non-revenue water | | 20.2% | 23.8% | 24.4% | 25.0% | 7.5% | 28.7% | No data |
| | % Water Losses | | 20.2% | 23.8% | 24.4% | 25.0% | 7.5% | 28.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 250 | 255 | 260 | 263 | 194 | 245 | No data |
| | Input: m³ / household / month | | 31 | 32 | 32 | 33 | 24 | 30 | No data |
| | Billed : Litres / capita / day | | 199 | 194 | 196 | 197 | 179 | 174 | No data |
| | Billed : m³ / household / month | | 25 | 24 | 24 | 24 | 22 | 22 | No data |
| | % Population growth | | | 0.36% | 0.60% | 1.11% | 0.60% | 3.46% | |
| | % Water demand growth | | | 2.54% | 2.48% | 2.42% | -25.83% | 30.45% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |




Comments

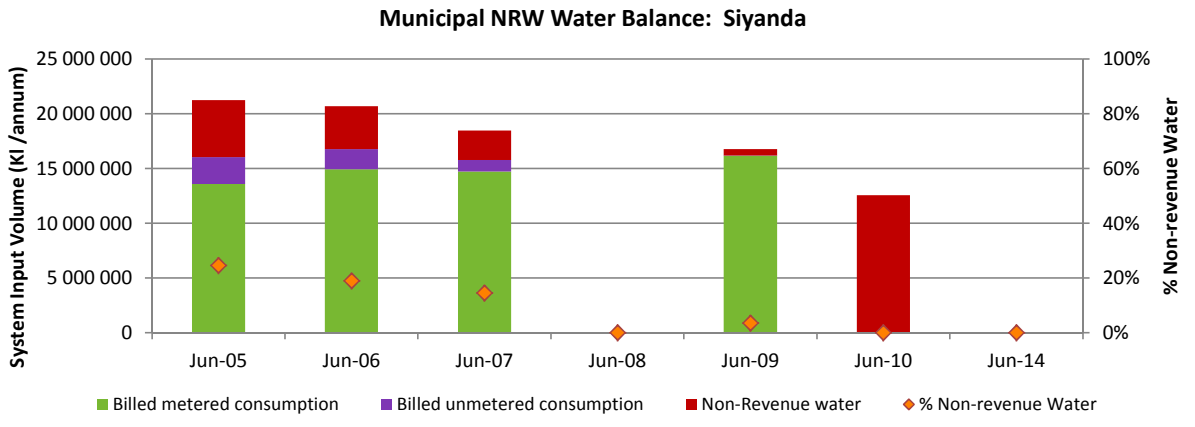
| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC078 | | | | | | Yes |
| t Municipality | | Pixley Ka Seme | | | | | | Category |
| Municipality | | Siyancuma | | | | | | B3 |
| Settlements | | DOUGLAS, GRIEKWASTAD | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 35 802 | 35 929 | 36 143 | 36 545 | 36 763 | 38 033 | |
| | Households | 9 506 | 9 540 | 9 599 | 9 703 | 9 762 | 10 098 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 8 619 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 1 141 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 3 829 539 | 3 829 539 | 3 829 539 | | 1 308 612 | | |
| | Billed metered consumption kl/annum | 3 654 003 | 3 654 003 | 3 654 003 | | 1 045 188 | | |
| | Billed unmetered consumption kl/annum | 175 536 | 175 536 | 0 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 3 829 539 | 3 829 539 | 3 654 003 | 0 | 1 045 188 | 0 | 0 |
| | Non-Revenue water kl/annum | 0 | 0 | 175 536 | 0 | 263 424 | 0 | 0 |
| | Water Losses kl/annum | 0 | 0 | 175 536 | 0 | 263 424 | 0 | 0 |
| | % Non-revenue water | Check data | Check data | 4.6% | No data | 20.1% | No data | No data |
| | % Water Losses | No data | No data | 4.6% | No data | 20.1% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | 293 | 292 | 290 | No data | 98 | No data | No data |
| | Input: m³ / household / month | 34 | 33 | 33 | No data | 11 | No data | No data |
| | Billed : Litres / capita / day | 293 | 292 | 277 | No data | 78 | No data | No data |
| | Billed : m³ / household / month | 34 | 33 | 32 | No data | 9 | No data | No data |
| | % Population growth | | 0.35% | 0.60% | 1.11% | 0.60% | 3.45% | |
| | % Water demand growth | | 0.00% | 0.00% | | #DIV/0! | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |




**Comments**

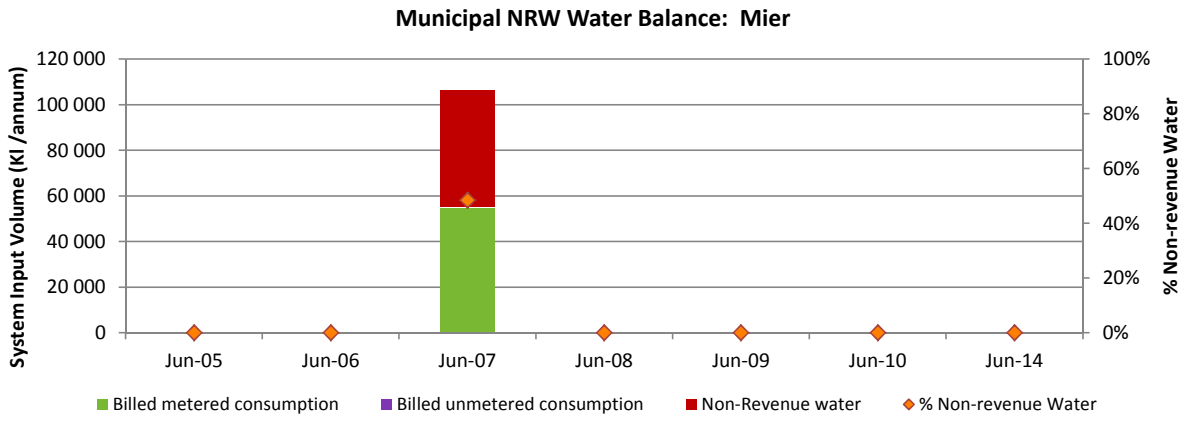
Consistent data for 2005 to 2007? Input volume for 2009 low?

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | DC08 | | | | | | No |
| t Municipality | | Siyanda | | | | | | Category |
| Municipality | | | | | | | | C1 |
| Settlements | | | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 190 556 | 193 253 | 194 410 | 196 575 | 197 757 | 204 587 | 0 |
| | Households | 46 411 | 47 070 | 47 354 | 47 875 | 48 162 | 49 830 | 0 |
| | Connections - metered | 26 500 | 26 892 | 27 054 | 42 929 | 27 759 | 28 529 | 0 |
| | Connections - Unmetered | 1 501 | 1 522 | 1 532 | 3 734 | 1 571 | 1 615 | 0 |
| | Length of mains (km) | 562 | 566 | 573 | 581 | 587 | 602 | 0 |
| | System input volume kl/annum | 21 252 202 | 20 697 564 | 18 467 350 | 0 | 16 762 270 | 12 570 000 | 0 |
| | Billed metered consumption kl/annum | 13 573 332 | 14 943 986 | 14 718 686 | 0 | 16 160 000 | 0 | 0 |
| | Billed unmetered consumption kl/annum | 2 458 132 | 1 823 066 | 1 061 136 | 0 | 19 000 | 0 | 0 |
| | Unbilled metered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water kl/annum | 16 031 464 | 16 767 052 | 15 779 822 | 0 | 16 179 000 | 0 | 0 |
| | Non-Revenue water kl/annum | 5 220 738 | 3 930 512 | 2 687 528 | 0 | 583 270 | 12 570 000 | 0 |
| | Water Losses kl/annum | 5 220 738 | 3 930 512 | 2 687 528 | 0 | 583 270 | 12 570 000 | 0 |
| | % Non-revenue water | 24.6% | 19.0% | 14.6% | No data | 3.5% | No data | No data |
| | % Water Losses | 24.6% | 19.0% | 14.6% | No data | 3.5% | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | 306 | 293 | 260 | No data | 232 | 168 | No data |
| | Input: m³ / household / month | 38 | 37 | 32 | No data | 29 | 21 | No data |
| | Billed : Litres / capita / day | 230 | 238 | 222 | No data | 224 | No data | No data |
| | Billed : m³ / household / month | 29 | 30 | 28 | No data | 28 | No data | No data |
| | % Population growth | | 1.42% | 0.60% | 1.11% | 0.60% | 3.45% | |
| | % Water demand growth | | -2.61% | -10.78% | | #DIV/0! | -25.01% | |
| Source of information | | | | | | | | |



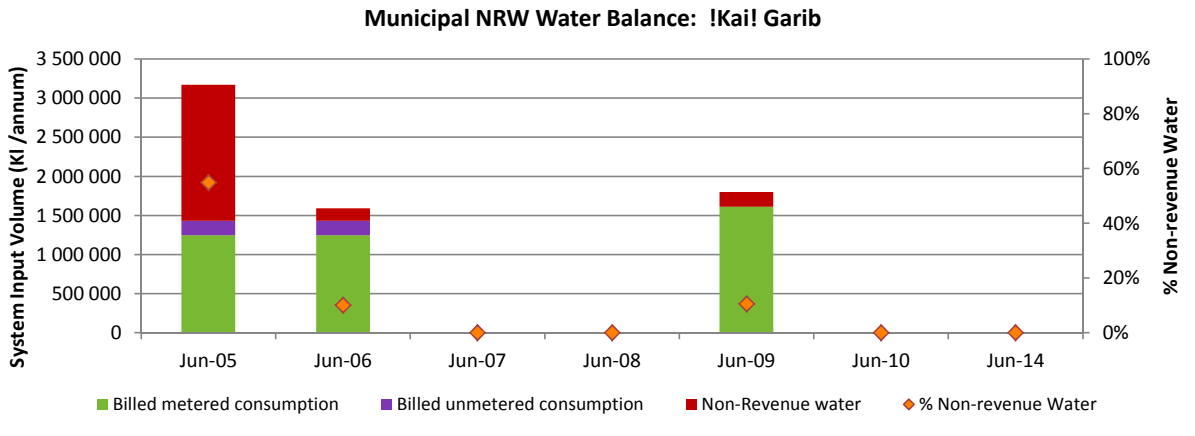

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC081 | | | | | | Yes |
| t Municipality | | Siyanda | | | | | | Category |
| Municipality | | Mier | | | | | | B3 |
| Settlements | | Mier | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 6 894 | 6 992 | 7 033 | 7 109 | 7 153 | 7 400 | |
| | Households | 1 654 | 1 678 | 1 688 | 1 703 | 1 713 | 1 775 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 1 565 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 149 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | | | 106 236 | | | | |
| | Billed metered consumption kl/annum | | | 54 756 | | | | |
| | Billed unmetered consumption kl/annum | | | 0 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 0 | 0 | 54 756 | 0 | 0 | 0 | 0 |
| | Non-Revenue water kl/annum | 0 | 0 | 51 480 | 0 | 0 | 0 | 0 |
| | Water Losses kl/annum | 0 | 0 | 51 480 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | No data | No data | 48.5% | No data | No data | No data | No data |
| | % Water Losses | No data | No data | 48.5% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | No data | No data | 41 | No data | No data | No data | No data |
| | Input: m³ / household / month | No data | No data | 5 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | No data | No data | 21 | No data | No data | No data | No data |
| | Billed : m³ / household / month | No data | No data | 3 | No data | No data | No data | No data |
| | % Population growth | | 1.42% | 0.59% | 1.08% | 0.62% | 3.45% | |
| | % Water demand growth | | | #DIV/0! | | | | |
| Source of information | | DWA NIS | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



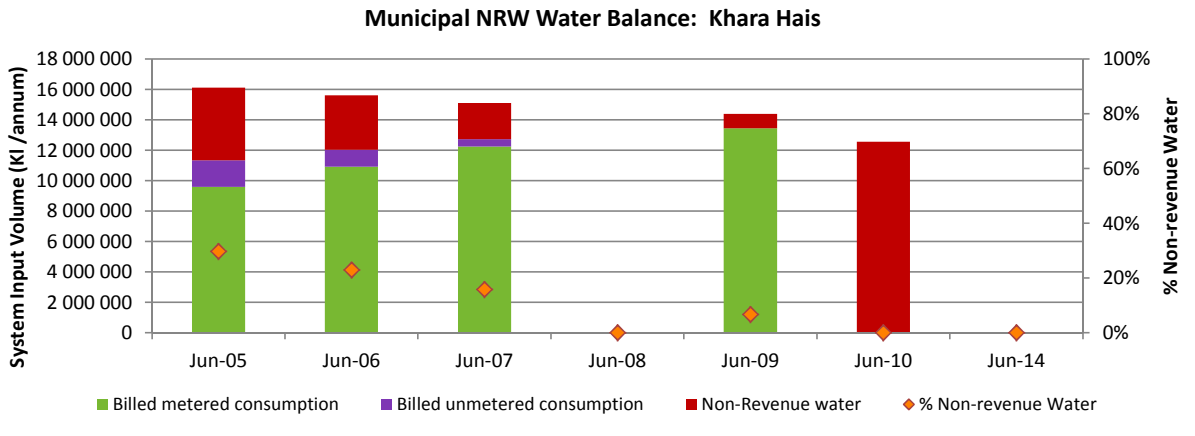

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC082 | | | | | | Yes |
| t Municipality | | | Siyanda | | | | | | Category |
| Municipality | | | !Kai! Garib | | | | | | B3 |
| Settlements | | | Keimoes | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 54 857 | 55 634 | 55 966 | 56 588 | 56 927 | 58 893 | |
| | Households | | 13 389 | 13 578 | 13 659 | 13 810 | 13 891 | 14 372 | |
| | Connections - metered | | ~~12 565~~ | ~~12 742~~ | ~~12 819~~ | 12 961 | ~~13 039~~ | ~~13 489~~ | |
| | Connections - Unmetered | | ~~801~~ | ~~812~~ | ~~817~~ | 826 | ~~831~~ | ~~860~~ | |
| | Length of mains (km) | | ~~267~~ | ~~271~~ | ~~273~~ | ~~276~~ | ~~277~~ | ~~287~~ | |
| | System input volume | kl/annum | 3 170 000 | 1 590 628 | | | 1 800 000 | | |
| | Billed metered consumption | kl/annum | 1 248 242 | 1 248 242 | | | 1 610 000 | | |
| | Billed unmetered consumption | kl/annum | 183 024 | 183 024 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 431 266 | 1 431 266 | 0 | 0 | 1 610 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 738 734 | 159 362 | 0 | 0 | 190 000 | 0 | 0 |
| | Water Losses | kl/annum | 1 738 734 | 159 362 | 0 | 0 | 190 000 | 0 | 0 |
| | % Non-revenue water | | 54.8% | 10.0% | No data | No data | 10.6% | No data | No data |
| | % Water Losses | | 54.8% | 10.0% | No data | No data | 10.6% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 158 | 78 | No data | No data | 87 | No data | No data |
| | Input: m³ / household / month | | 20 | 10 | No data | No data | 11 | No data | No data |
| | Billed : Litres / capita / day | | 71 | 70 | No data | No data | 77 | No data | No data |
| | Billed : m³ / household / month | | 9 | 9 | No data | No data | 10 | No data | No data |
| | % Population growth | | | 1.42% | 0.60% | 1.11% | 0.60% | 3.45% | |
| | % Water demand growth | | | -49.82% | | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS RPMS | DWA NIS | |



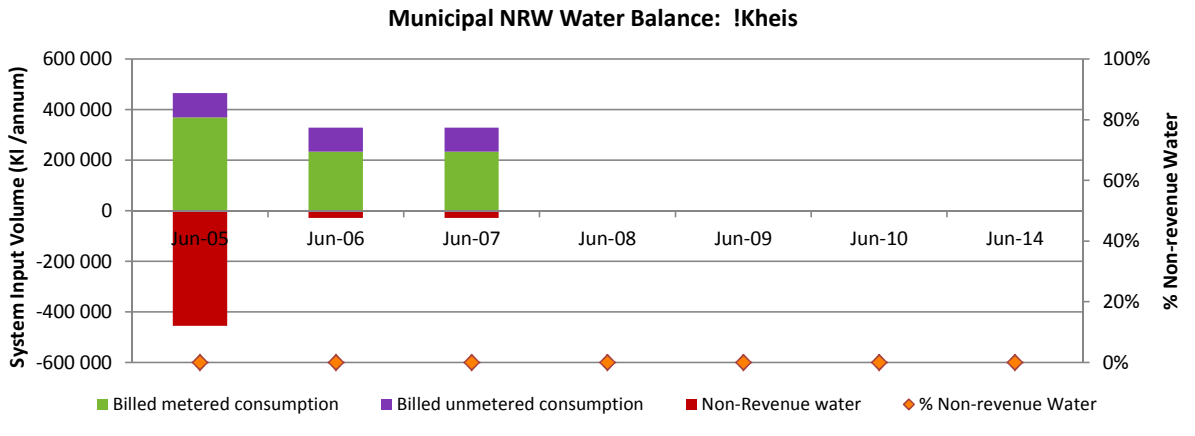

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC083 | | | | | | Yes |
| t Municipality | | | Siyanda | | | | | | Category |
| Municipality | | | //Khara Hais | | | | | | B2 |
| Settlements | | | UPINGTON | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 74 742 | 75 799 | 76 255 | 77 106 | 77 570 | 80 248 | |
| | Households | | 17 791 | 18 044 | 18 153 | 18 354 | 18 464 | 19 103 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 15 830 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 1 651 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 16 128 734 | 15 620 100 | 15 111 466 | | 14 392 030 | 12 570 000 | |
| | Billed metered consumption | kl/annum | 9 595 687 | 10 922 999 | 12 250 311 | | 13 440 000 | | |
| | Billed unmetered consumption | kl/annum | 1 736 044 | 1 106 522 | 477 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 11 331 731 | 12 029 521 | 12 727 311 | 0 | 13 440 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | 4 797 003 | 3 590 579 | 2 384 155 | 0 | 952 030 | 12 570 000 | 0 |
| | Water Losses | kl/annum | 4 797 003 | 3 590 579 | 2 384 155 | 0 | 952 030 | 12 570 000 | 0 |
| | % Non-revenue water | | 29.7% | 23.0% | 15.8% | No data | 6.6% | No data | No data |
| | % Water Losses | | 29.7% | 23.0% | 15.8% | No data | 6.6% | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 591 | 565 | 543 | No data | 508 | 429 | No data |
| | Input: m³ / household / month | | 76 | 72 | 69 | No data | 65 | 55 | No data |
| | Billed : Litres / capita / day | | 415 | 435 | 457 | No data | 475 | No data | No data |
| | Billed : m³ / household / month | | 53 | 56 | 58 | No data | 61 | No data | No data |
| | % Population growth | | | 1.41% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | -3.15% | -3.26% | | #DIV/0! | -12.66% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



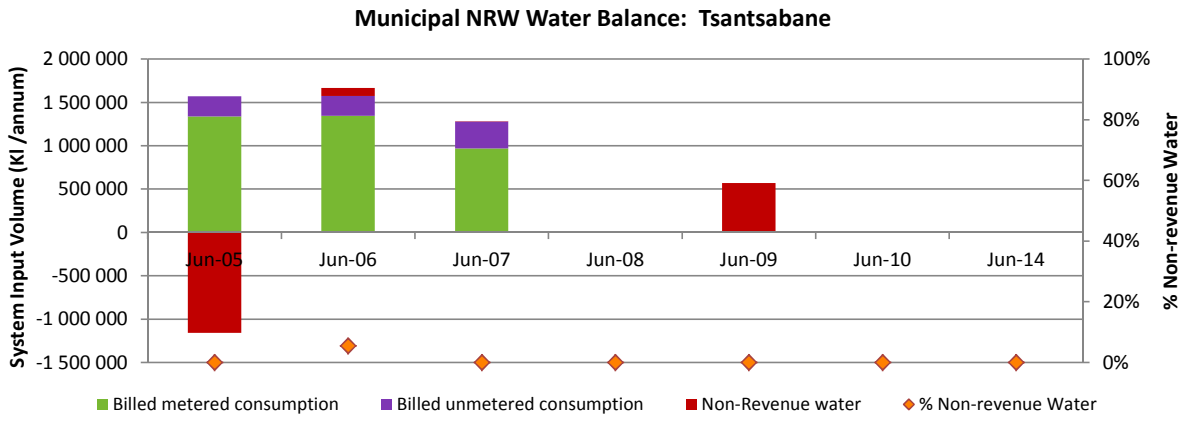

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC084 | | | | | | Yes |
| t Municipality | | Siyanda | | | | | | Category |
| Municipality | | !Kheis | | | | | | B3 |
| Settlements | | Groblershoop | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 16 266 | 16 497 | 16 596 | 16 782 | 16 884 | 17 468 | |
| | Households | 4 148 | 4 208 | 4 234 | 4 281 | 4 308 | 4 457 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 3 437 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 606 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 9 263 | 300 107 | 300 107 | | | | |
| | Billed metered consumption kl/annum | 369 478 | 233 476 | 233 476 | | | | |
| | Billed unmetered consumption kl/annum | 95 328 | 95 328 | 95 328 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 464 806 | 328 804 | 328 804 | 0 | 0 | 0 | 0 |
| | Non-Revenue water kl/annum | -455 543 | -28 697 | -28 697 | 0 | 0 | 0 | 0 |
| | Water Losses kl/annum | -455 543 | -28 697 | -28 697 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | Check data | Check data | Check data | No data | No data | No data | No data |
| | % Water Losses | Check data | Check data | Check data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | 2 | 50 | 50 | No data | No data | No data | No data |
| | Input: m³ / household / month | 0 | 6 | 6 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | 78 | 55 | 54 | No data | No data | No data | No data |
| | Billed : m³ / household / month | 9 | 7 | 6 | No data | No data | No data | No data |
| | % Population growth | | 1.42% | 0.60% | 1.12% | 0.61% | 3.46% | |
| | % Water demand growth | | 3139.85% | 0.00% | | | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



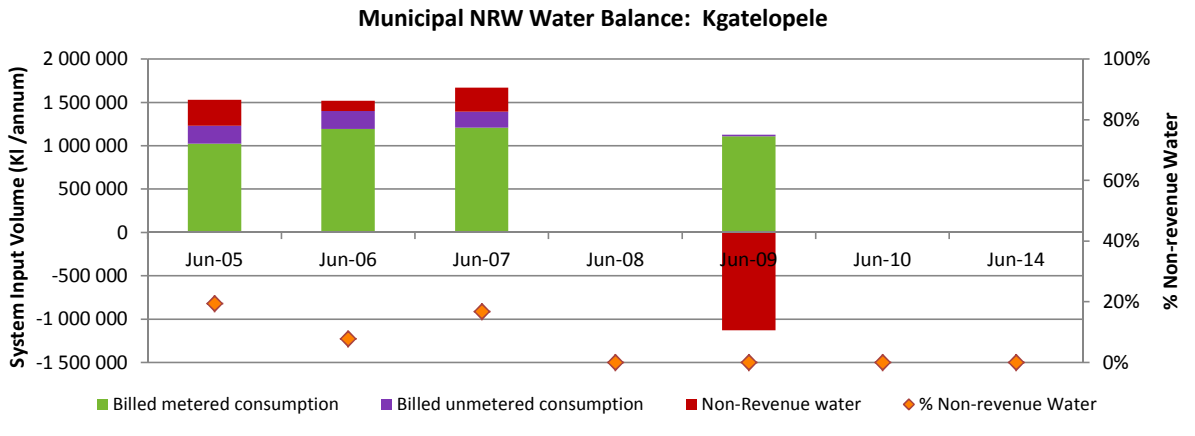

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC085 | | | | | | Yes |
| t Municipality | | Siyanda | | | | | | Category |
| Municipality | | Tsantsabane | | | | | | B3 |
| Settlements | | POSTMASBURG | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 22 781 | 23 103 | 23 241 | 23 500 | 23 641 | 24 458 | |
| | Households | 5 566 | 5 644 | 5 678 | 5 742 | 5 777 | 5 976 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 5 306 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 323 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 414 710 | 1 666 729 | 1 277 541 | | 570 240 | | |
| | Billed metered consumption kl/annum | 1 336 581 | 1 346 125 | 970 155 | | | | |
| | Billed unmetered consumption kl/annum | 235 080 | 229 536 | 307 296 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 1 571 661 | 1 575 661 | 1 277 451 | 0 | 0 | 0 | 0 |
| | Non-Revenue water kl/annum | -1 156 951 | 91 068 | 90 | 0 | 570 240 | 0 | 0 |
| | Water Losses kl/annum | -1 156 951 | 91 068 | 90 | 0 | 570 240 | 0 | 0 |
| | % Non-revenue water | Check data | 5.5% | 0.0% | No data | No data | No data | No data |
| | % Water Losses | Check data | 5.5% | 0.0% | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | 50 | 198 | 151 | No data | 66 | No data | No data |
| | Input: m³ / household / month | 6 | 25 | 19 | No data | 8 | No data | No data |
| | Billed : Litres / capita / day | 189 | 187 | 151 | No data | No data | No data | No data |
| | Billed : m³ / household / month | 24 | 23 | 19 | No data | No data | No data | No data |
| | % Population growth | | 1.41% | 0.60% | 1.11% | 0.60% | 3.46% | |
| | % Water demand growth | | 301.90% | -23.35% | | #DIV/0! | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



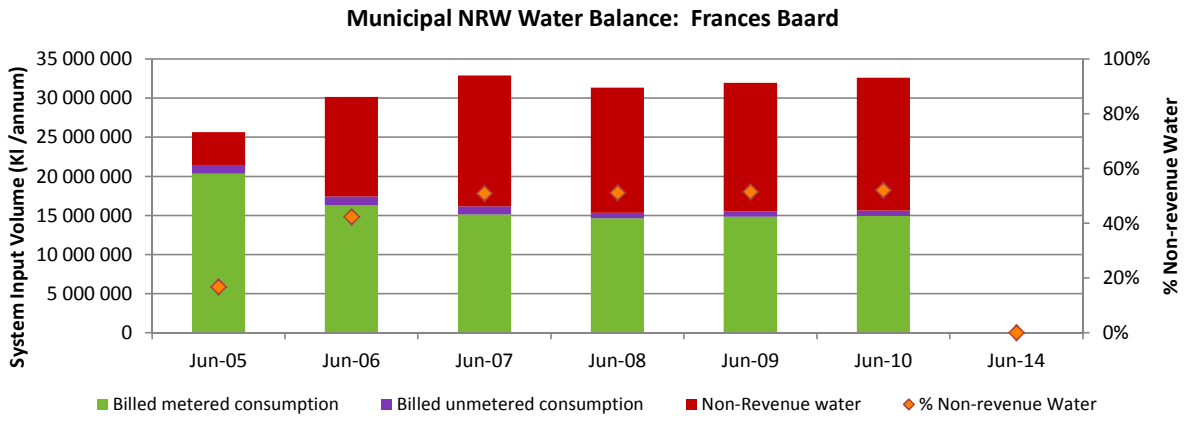

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC086 | | | | | | Yes |
| t Municipality | | | Siyanda | | | | | | Category |
| Municipality | | | Kgatelopele | | | | | | B3 |
| Settlements | | | Danielskuil | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 15 016 | 15 228 | 15 319 | 15 490 | 15 582 | 16 120 | |
| | Households | | 3 863 | 3 918 | 3 942 | 3 985 | 4 009 | 4 147 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 3 830 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 179 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 1 529 495 | 1 520 000 | 1 672 000 | | | | |
| | Billed metered consumption | kl/annum | 1 023 344 | 1 193 144 | 1 209 988 | | 1 110 000 | | |
| | Billed unmetered consumption | kl/annum | 208 656 | 208 656 | 181 512 | | 19 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 232 000 | 1 401 800 | 1 391 500 | 0 | 1 129 000 | 0 | 0 |
| | Non-Revenue water | kl/annum | 297 495 | 118 200 | 280 500 | 0 | -1 129 000 | 0 | 0 |
| | Water Losses | kl/annum | 297 495 | 118 200 | 280 500 | 0 | -1 129 000 | 0 | 0 |
| | % Non-revenue water | | 19.5% | 7.8% | 16.8% | No data | No data | No data | No data |
| | % Water Losses | | 19.5% | 7.8% | 16.8% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 279 | 273 | 299 | No data | No data | No data | No data |
| | Input: m³ / household / month | | 33 | 32 | 35 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 225 | 252 | 249 | No data | 199 | No data | No data |
| | Billed : m³ / household / month | | 27 | 30 | 29 | No data | 23 | No data | No data |
| | % Population growth | | | 1.41% | 0.60% | 1.12% | 0.59% | 3.45% | |
| | % Water demand growth | | | -0.62% | 10.00% | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS RPMS | DWA NIS | |



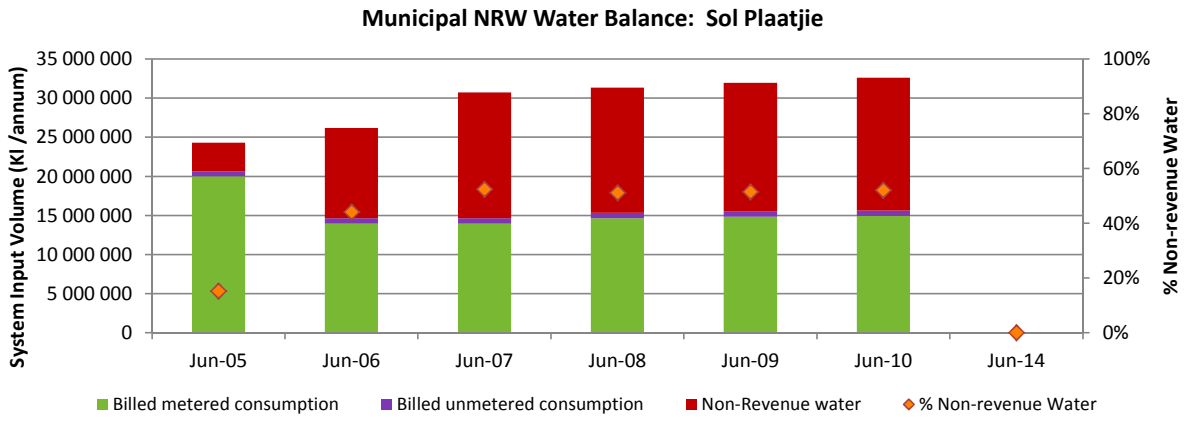

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | DC09 | | | | | | No |
| t Municipality | | Frances Baard | | | | | | Category |
| Municipality | | | | | | | | C1 |
| Settlements | | | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 321 821 | 323 885 | 325 828 | 329 460 | 331 433 | 342 883 | 0 |
| | Households | 86 805 | 87 362 | 87 885 | 88 866 | 89 398 | 92 485 | 0 |
| | Connections - metered | 8 361 | 13 369 | 8 541 | 64 885 | 8 832 | 9 024 | 0 |
| | Connections - Unmetered | 420 | 426 | 429 | 4 365 | 444 | 453 | 0 |
| | Length of mains (km) | 177 | 331 | 180 | 183 | 186 | 189 | 0 |
| | System input volume kl/annum | 25 654 065 | 30 168 223 | 32 904 663 | 31 336 039 | 31 962 760 | 32 602 015 | 0 |
| | Billed metered consumption kl/annum | 20 348 270 | 16 281 542 | 15 137 117 | 14 626 443 | 14 830 708 | 14 920 435 | 0 |
| | Billed unmetered consumption kl/annum | 1 013 976 | 1 123 256 | 1 004 692 | 697 312 | 697 312 | 704 285 | 0 |
| | Unbilled metered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water kl/annum | 21 362 246 | 17 404 798 | 16 141 809 | 15 323 755 | 15 528 020 | 15 624 720 | 0 |
| | Non-Revenue water kl/annum | 4 291 819 | 12 763 425 | 16 762 854 | 16 012 284 | 16 434 740 | 16 977 295 | 0 |
| | Water Losses kl/annum | 4 291 819 | 12 763 425 | 16 762 854 | 16 012 284 | 16 434 740 | 16 977 295 | 0 |
| | % Non-revenue water | 16.7% | 42.3% | 50.9% | 51.1% | 51.4% | 52.1% | No data |
| | % Water Losses | 16.7% | 42.3% | 50.9% | 51.1% | 51.4% | 52.1% | No data |
| Key performance indicators | Input : Litres / capita / day | 218 | 255 | 277 | 261 | 264 | 260 | No data |
| | Input: m³ / household / month | 25 | 29 | 31 | 29 | 30 | 29 | No data |
| | Billed : Litres / capita / day | 182 | 147 | 136 | 127 | 128 | 125 | No data |
| | Billed : m³ / household / month | 21 | 17 | 15 | 14 | 14 | 14 | No data |
| | % Population growth | | 0.64% | 0.60% | 1.11% | 0.60% | 3.45% | |
| | % Water demand growth | | 17.60% | 9.07% | -4.77% | 2.00% | 2.00% | |
| Source of information | | | | | | | | |



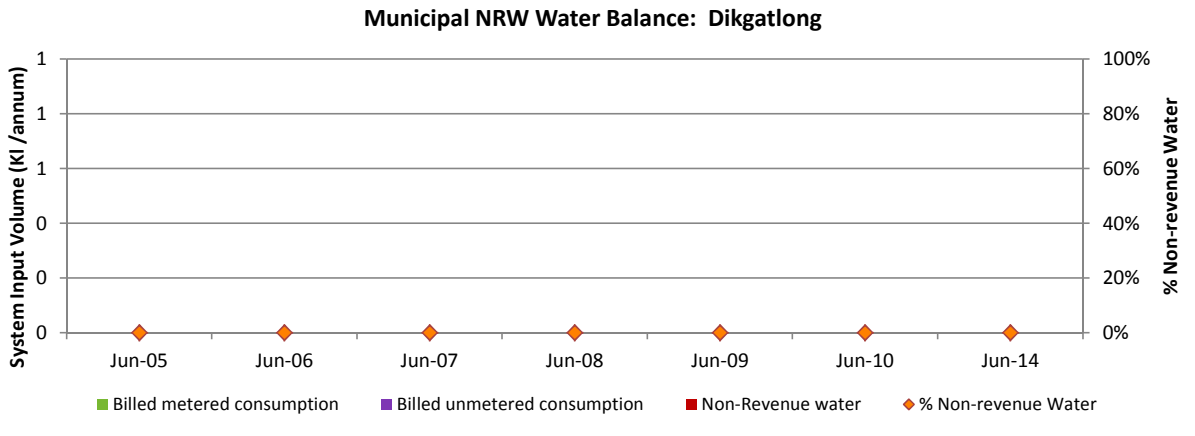

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC091 | | | | | | Yes |
| t Municipality | | Frances Baard | | | | | | Category |
| Municipality | | Sol Plaatjie | | | | | | B1 |
| Settlements | | KIMBERLEY | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 198 813 | 200 088 | 201 289 | 203 535 | 204 756 | 211 828 | |
| | Households | 52 020 | 52 355 | 52 668 | 53 256 | 53 576 | 55 426 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 50 484 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 2 962 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 24 306 806 | 26 175 663 | 30 721 607 | 31 336 039 | 31 962 760 | 32 602 015 | |
| | Billed metered consumption kl/annum | 19 996 017 | 13 929 946 | 13 929 946 | 14 626 443 | 14 830 708 | 14 920 435 | |
| | Billed unmetered consumption kl/annum | 617 040 | 690 408 | 690 408 | 697 312 | 697 312 | 704 285 | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 20 613 057 | 14 620 354 | 14 620 354 | 15 323 755 | 15 528 020 | 15 624 720 | 0 |
| | Non-Revenue water kl/annum | 3 693 749 | 11 555 309 | 16 101 253 | 16 012 284 | 16 434 740 | 16 977 295 | 0 |
| | Water Losses kl/annum | 3 693 749 | 11 555 309 | 16 101 253 | 16 012 284 | 16 434 740 | 16 977 295 | 0 |
| | % Non-revenue water | 15.2% | 44.1% | 52.4% | 51.1% | 51.4% | 52.1% | No data |
| | % Water Losses | 15.2% | 44.1% | 52.4% | 51.1% | 51.4% | 52.1% | No data |
| Key performance indicators | Input : Litres / capita / day | 335 | 358 | 418 | 422 | 428 | 422 | No data |
| | Input: m³ / household / month | 39 | 42 | 49 | 49 | 50 | 49 | No data |
| | Billed : Litres / capita / day | 284 | 200 | 199 | 206 | 208 | 202 | No data |
| | Billed : m³ / household / month | 33 | 23 | 23 | 24 | 24 | 23 | No data |
| | % Population growth | | 0.64% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | 7.69% | 17.37% | 2.00% | 2.00% | 2.00% | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



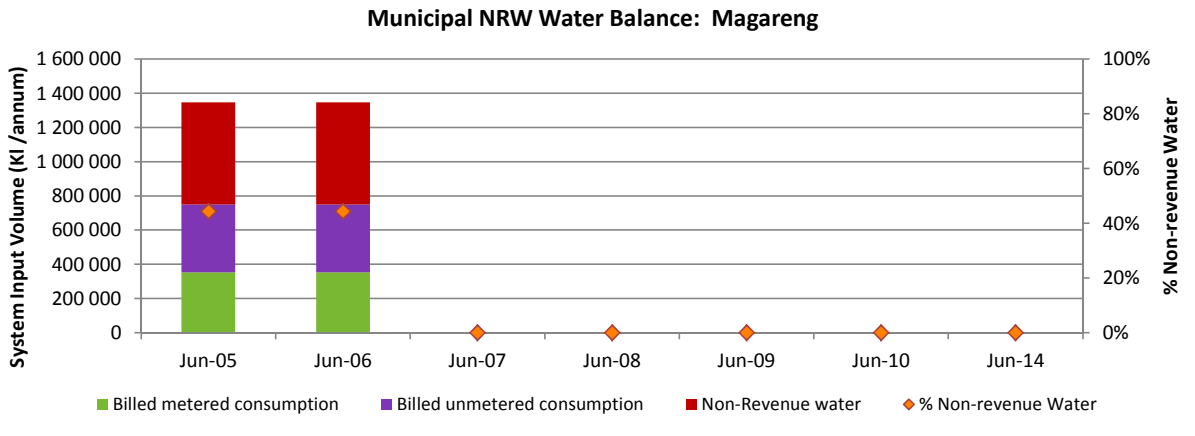

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC092 | | | | | | Yes |
| t Municipality | | | Frances Baard | | | | | | Category |
| Municipality | | | Dikgatlong | | | | | | B3 |
| Settlements | | | BARKLY WEST, DE AAR | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 35 161 | 35 387 | 35 599 | 35 995 | 36 210 | 37 463 | |
| | Households | | 9 753 | 9 816 | 9 875 | 9 986 | 10 046 | 10 392 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 8 935 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 1 102 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | | | | | | | |
| | Billed metered consumption | kl/annum | | | | | | | |
| | Billed unmetered consumption | kl/annum | | | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | No data | No data | No data | No data | No data | No data |
| | % Water Losses | | No data | No data | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | No data | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | No data | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.64% | 0.60% | 1.11% | 0.60% | 3.46% | |
| | % Water demand growth | | | | | | | | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



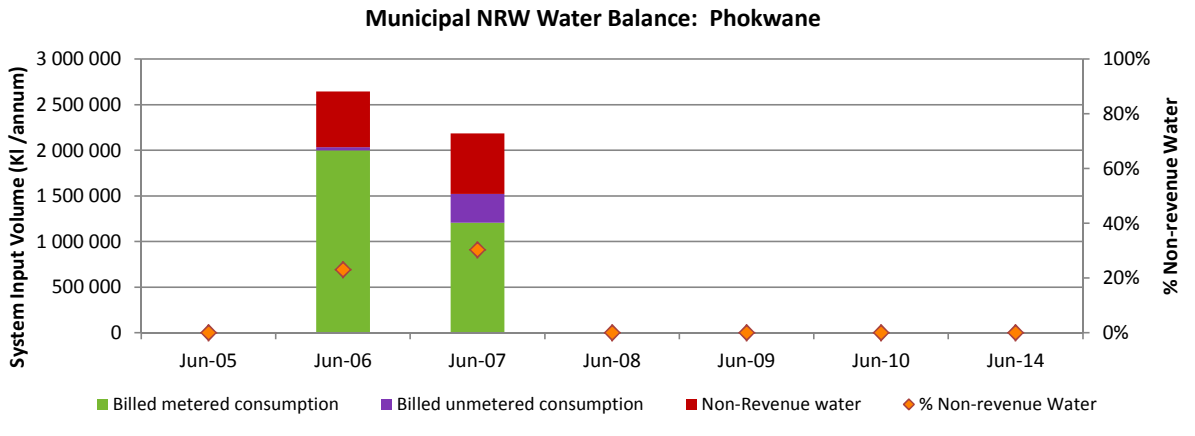

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC093 | | | | | | Yes |
| t Municipality | | | Frances Baard | | | | | | Category |
| Municipality | | | Magareng | | | | | | B3 |
| Settlements | | | WARRENTON | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 21 366 | 21 503 | 21 631 | 21 871 | 22 001 | 22 761 | |
| | Households | | 5 909 | 5 946 | 5 981 | 6 047 | 6 082 | 6 293 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 5 466 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 301 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 1 347 259 | 1 347 259 | | | | | |
| | Billed metered consumption | kl/annum | 352 253 | 352 253 | | | | | |
| | Billed unmetered consumption | kl/annum | 396 936 | 396 936 | | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 749 189 | 749 189 | 0 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 598 070 | 598 070 | 0 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 598 070 | 598 070 | 0 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | 44.4% | 44.4% | No data | No data | No data | No data | No data |
| | % Water Losses | | 44.4% | 44.4% | No data | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 173 | 172 | No data | No data | No data | No data | No data |
| | Input: m³ / household / month | | 19 | 19 | No data | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | 96 | 95 | No data | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 11 | 10 | No data | No data | No data | No data | No data |
| | % Population growth | | | 0.64% | 0.60% | 1.11% | 0.59% | 3.45% | |
| | % Water demand growth | | | 0.00% | | | | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



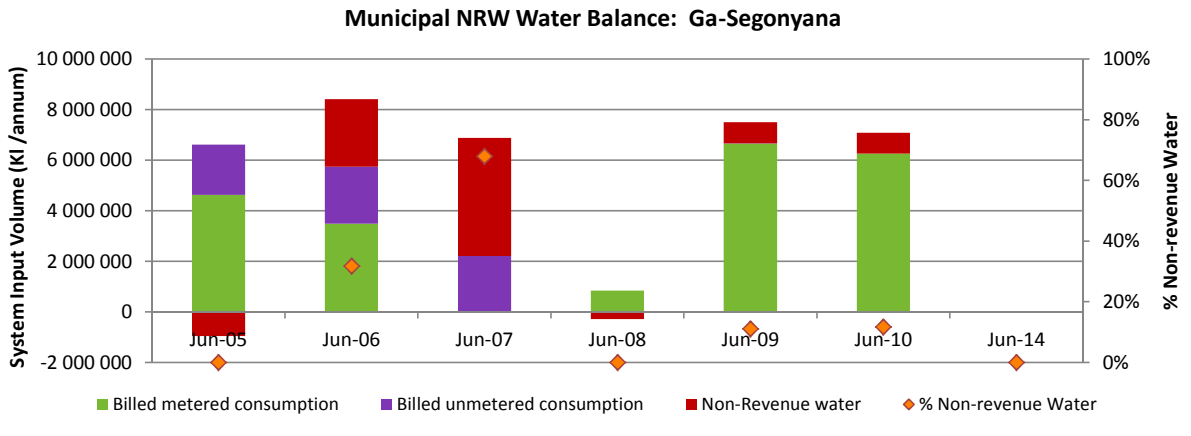

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC094 | | | | | | Yes |
| t Municipality | | | Frances Baard | | | | | | Category |
| Municipality | | | Phokwane | | | | | | B3 |
| Settlements | | | HARTSWATER, JAN KEMPDORP | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 66 481 | 66 907 | 67 309 | 68 059 | 68 466 | 70 831 | |
| | Households | | 19 123 | 19 245 | 19 361 | 19 577 | 19 694 | 20 374 | |
| | Connections - metered | | | ~~4 879~~ | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | ~~154~~ | | | | | |
| | System input volume | kl/annum | | ~~2 645 301~~ | 2 183 056 | | | | |
| | Billed metered consumption | kl/annum | | ~~1 999 343~~ | 1 207 171 | | | | |
| | Billed unmetered consumption | kl/annum | | 35 912 | 314 284 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 0 | 2 035 255 | 1 521 455 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 0 | 610 046 | 661 601 | 0 | 0 | 0 | 0 |
| | Water Losses | kl/annum | 0 | 610 046 | 661 601 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | | No data | 23.1% | 30.3% | No data | No data | No data | No data |
| | % Water Losses | | No data | 23.1% | 30.3% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | No data | 108 | 89 | No data | No data | No data | No data |
| | Input: m³ / household / month | | No data | 11 | 9 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | | No data | 83 | 62 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | No data | 9 | 7 | No data | No data | No data | No data |
| | % Population growth | | | 0.64% | 0.60% | 1.11% | 0.60% | 3.45% | |
| | % Water demand growth | | | #DIV/0! | -17.47% | | | | |
| Source of information | | | DWA NIS | DWA NIS WDM report | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



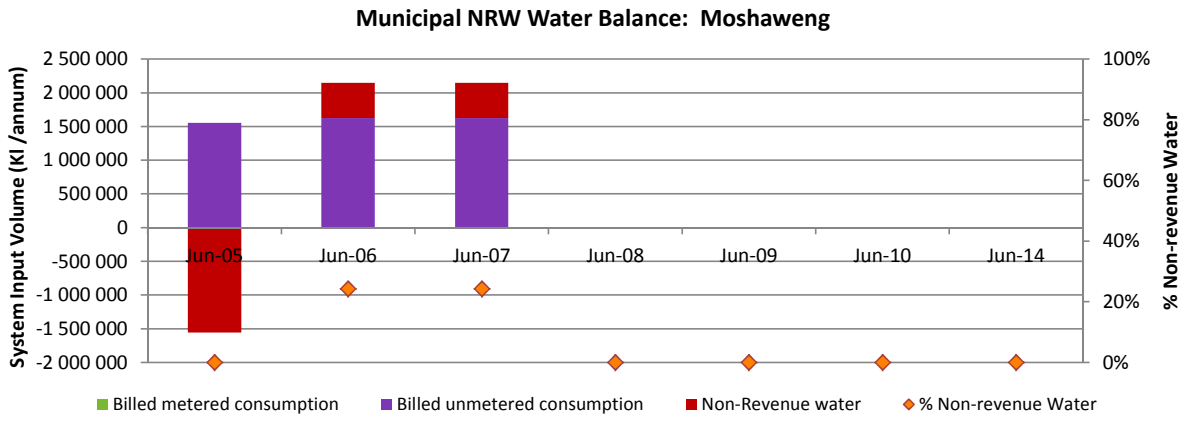

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | DC45 | | | | | | No |
| t Municipality | | | John Taolo Gaetsewe | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 200 611 | 201 135 | 202 355 | 204 624 | 205 868 | 194 365 | 0 |
| | Households | | 48 500 | 48 620 | 48 869 | 49 469 | 49 724 | 46 985 | 0 |
| | Connections - metered | | 5 574 | 5 660 | 5 694 | 11 725 | 5 888 | 14 516 | 0 |
| | Connections - Unmetered | | 280 | 284 | 286 | 19 553 | 296 | 2 021 | 0 |
| | Length of mains (km) | | 118 | 118 | 120 | 122 | 124 | 314 | 0 |
| | System input volume | kl/annum | 5 653 556 | 8 412 823 | 6 882 473 | 564 591 | 7 496 221 | 7 086 180 | 0 |
| | Billed metered consumption | kl/annum | 4 629 393 | 3 487 028 | 0 | 845 449 | 6 650 165 | 6 258 468 | 0 |
| | Billed unmetered consumption | kl/annum | 1 983 600 | 2 251 603 | 2 207 599 | 0 | 12 948 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 6 612 993 | 5 738 631 | 2 207 599 | 845 449 | 6 663 113 | 6 258 468 | 0 |
| | Non-Revenue water | kl/annum | -959 437 | 2 674 192 | 4 674 874 | -280 858 | 833 108 | 827 712 | 0 |
| | Water Losses | kl/annum | -959 437 | 2 674 192 | 4 674 874 | -280 858 | 833 108 | 827 712 | 0 |
| | % Non-revenue water | | Check data | 31.8% | 67.9% | Check data | 11.1% | 11.7% | No data |
| | % Water Losses | | Check data | 31.8% | 67.9% | Check data | 11.1% | 11.7% | No data |
| Key performance indicators | Input : Litres / capita / day | | 77 | 115 | 93 | 8 | 100 | 100 | No data |
| | Input: m³ / household / month | | 10 | 14 | 12 | 1 | 13 | 13 | No data |
| | Billed : Litres / capita / day | | 90 | 78 | 30 | 11 | 89 | 88 | No data |
| | Billed : m³ / household / month | | 11 | 10 | 4 | 1 | 11 | 11 | No data |
| | % Population growth | | | 0.26% | 0.61% | 1.12% | 0.61% | -5.59% | |
| | % Water demand growth | | | 48.81% | -18.19% | -91.80% | 1227.73% | -5.47% | |
| Source of information | | | | | | | | | |



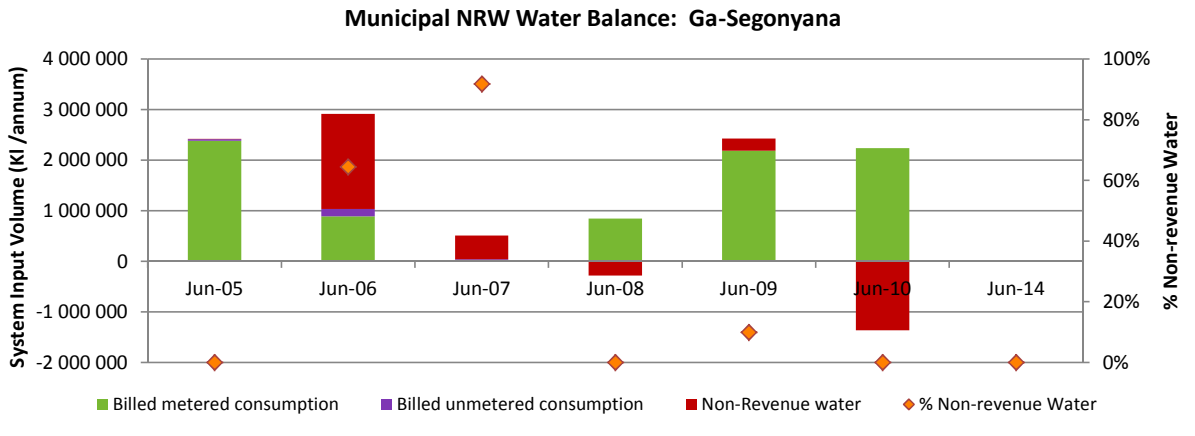

Comments

| Province | | Northern Cape | | | | | | WSA |
|---|---|---|---|---|---|---|---|---|
| unicipal Code | | NC451 | | | | | | Yes |
| t Municipality | | John Taolo Gaetsewe | | | | | | Category |
| Municipality | | Moshaweng | | | | | | B3 |
| Settlements | | Kgalagadi | | | | | | Target |
| | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | 101 480 | 101 687 | 102 309 | 103 460 | 104 096 | 96 243 | |
| | Households | 23 365 | 23 411 | 23 511 | 23 819 | 23 922 | 22 123 | |
| | Connections - metered | 2 787 | 2 830 | 2 847 | 3 857 | 2 944 | 3 008 | |
| | Connections - Unmetered | 140 | 142 | 143 | 13 073 | 148 | 151 | |
| | Length of mains (km) | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume kl/annum | 0 | 2 146 600 | 2 146 600 | | | | |
| | Billed metered consumption kl/annum | 4 018 | 0 | 0 | | | | |
| | Billed unmetered consumption kl/annum | 1 550 808 | 1 625 256 | 1 625 256 | | | | |
| | Unbilled metered consumption kl/annum | | | | | | | |
| | Unbilled unmetered consumption kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water kl/annum | 1 554 826 | 1 625 256 | 1 625 256 | 0 | 0 | 0 | 0 |
| | Non-Revenue water kl/annum | -1 554 826 | 521 344 | 521 344 | 0 | 0 | 0 | 0 |
| | Water Losses kl/annum | -1 554 826 | 521 344 | 521 344 | 0 | 0 | 0 | 0 |
| | % Non-revenue water | No data | 24.3% | 24.3% | No data | No data | No data | No data |
| | % Water Losses | No data | 24.3% | 24.3% | No data | No data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | No data | 58 | 57 | No data | No data | No data | No data |
| | Input: m³ / household / month | No data | 8 | 8 | No data | No data | No data | No data |
| | Billed : Litres / capita / day | 42 | 44 | 44 | No data | No data | No data | No data |
| | Billed : m³ / household / month | 6 | 6 | 6 | No data | No data | No data | No data |
| | % Population growth | | 0.20% | 0.61% | 1.13% | 0.61% | -7.54% | |
| | % Water demand growth | | #DIV/0! | 0.00% | | | | |
| Source of information | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS | DWA NIS | |



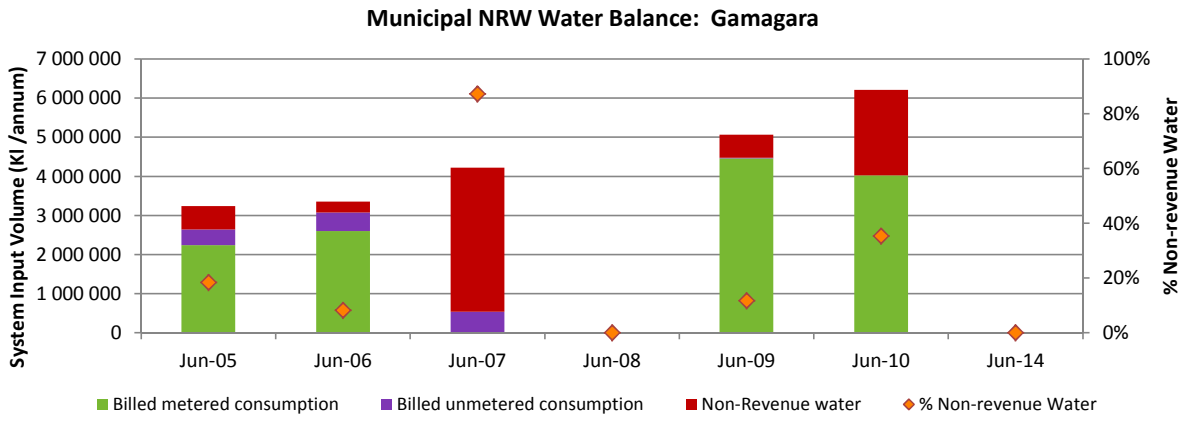

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC452 | | | | | | Yes |
| t Municipality | | | John Taolo Gaetsewe | | | | | | Category |
| Municipality | | | Ga-Segonyana | | | | | | B3 |
| Settlements | | | Kuruman | | | | | | Target |
| | | Year ending | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 74 951 | 75 120 | 75 572 | 76 417 | 76 877 | 72 367 | |
| | Households | | 19 201 | 19 240 | 19 353 | 19 577 | 19 693 | 18 541 | |
| | Connections - metered | | 2 787 | 2 830 | 2 847 | 7 868 | 2 944 | 3 008 | |
| | Connections - Unmetered | | 140 | 142 | 143 | 6 480 | 148 | 151 | |
| | Length of mains (km) | | 59 | 59 | 60 | 61 | 62 | 63 | |
| | System input volume | kl/annum | 2 416 223 | 2 916 040 | 513 040 | 564 591 | 2 430 000 | 871 615 | |
| | Billed metered consumption | kl/annum | 2 385 632 | 888 380 | 0 | 845 449 | 2 187 954 | 2 236 143 | |
| | Billed unmetered consumption | kl/annum | 29 592 | 147 542 | 42 343 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 415 224 | 1 035 922 | 42 343 | 845 449 | 2 187 954 | 2 236 143 | 0 |
| | Non-Revenue water | kl/annum | 999 | 1 880 118 | 470 697 | -280 858 | 242 046 | -1 364 528 | 0 |
| | Water Losses | kl/annum | 999 | 1 880 118 | 470 697 | -280 858 | 242 046 | -1 364 528 | 0 |
| | % Non-revenue water | | 0.0% | 64.5% | 91.7% | Check data | 10.0% | Check data | No data |
| | % Water Losses | | 0.0% | 64.5% | 91.7% | Check data | 10.0% | Check data | No data |
| Key performance indicators | Input : Litres / capita / day | | 88 | 106 | 19 | 20 | 87 | 33 | No data |
| | Input: m³ / household / month | | 10 | 13 | 2 | 2 | 10 | 4 | No data |
| | Billed : Litres / capita / day | | 88 | 38 | 2 | 30 | 78 | 85 | No data |
| | Billed : m³ / household / month | | 10 | 4 | 0 | 4 | 9 | 10 | No data |
| | % Population growth | | | 0.23% | 0.60% | 1.12% | 0.60% | -5.87% | |
| | % Water demand growth | | | 20.69% | -82.41% | 10.05% | 330.40% | -64.13% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS RPMS | DWA NIS StatsSA NFC | DWA NIS RPMS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | | Northern Cape | | | | | | WSA |
| unicipal Code | | | NC453 | | | | | | Yes |
| t Municipality | | | John Taolo Gaetsewe | | | | | | Category |
| Municipality | | | Gamagara | | | | | | B4 |
| Settlements | | | Kathu | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 24 180 | 24 328 | 24 474 | 24 747 | 24 895 | 25 755 | |
| | Households | | 5 934 | 5 969 | 6 005 | 6 073 | 6 109 | 6 321 | |
| | Connections - metered | | | | | | | 8 500 | |
| | Connections - Unmetered | | | | | | | 1 719 | |
| | Length of mains (km) | | | | | | | 188 | |
| | System input volume | kl/annum | 3 237 333 | 3 350 183 | 4 222 833 | | 5 066 221 | 6 214 565 | |
| | Billed metered consumption | kl/annum | 2 239 743 | 2 598 648 | 0 | | 4 462 211 | 4 022 325 | |
| | Billed unmetered consumption | kl/annum | 403 200 | 478 805 | 540 000 | | 12 948 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 642 943 | 3 077 453 | 540 000 | 0 | 4 475 159 | 4 022 325 | 0 |
| | Non-Revenue water | kl/annum | 594 390 | 272 730 | 3 682 833 | 0 | 591 062 | 2 192 240 | 0 |
| | Water Losses | kl/annum | 594 390 | 272 730 | 3 682 833 | 0 | 591 062 | 2 192 240 | 0 |
| | % Non-revenue water | | 18.4% | 8.1% | 87.2% | No data | 11.7% | 35.3% | No data |
| | % Water Losses | | 18.4% | 8.1% | 87.2% | No data | 11.7% | 35.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 367 | 377 | 473 | No data | 558 | 661 | No data |
| | Input: m³ / household / month | | 45 | 47 | 59 | No data | 69 | 82 | No data |
| | Billed : Litres / capita / day | | 299 | 347 | 60 | No data | 492 | 428 | No data |
| | Billed : m³ / household / month | | 37 | 43 | 7 | No data | 61 | 53 | No data |
| | % Population growth | | | 0.61% | 0.60% | 1.12% | 0.60% | 3.45% | |
| | % Water demand growth | | | 3.49% | 26.05% | | #DIV/0! | 22.67% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS VGG Study | |




Comments

# National Non-Revenue Water Assessment

## Western Cape Province

July 2011

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

## Intoductory notes

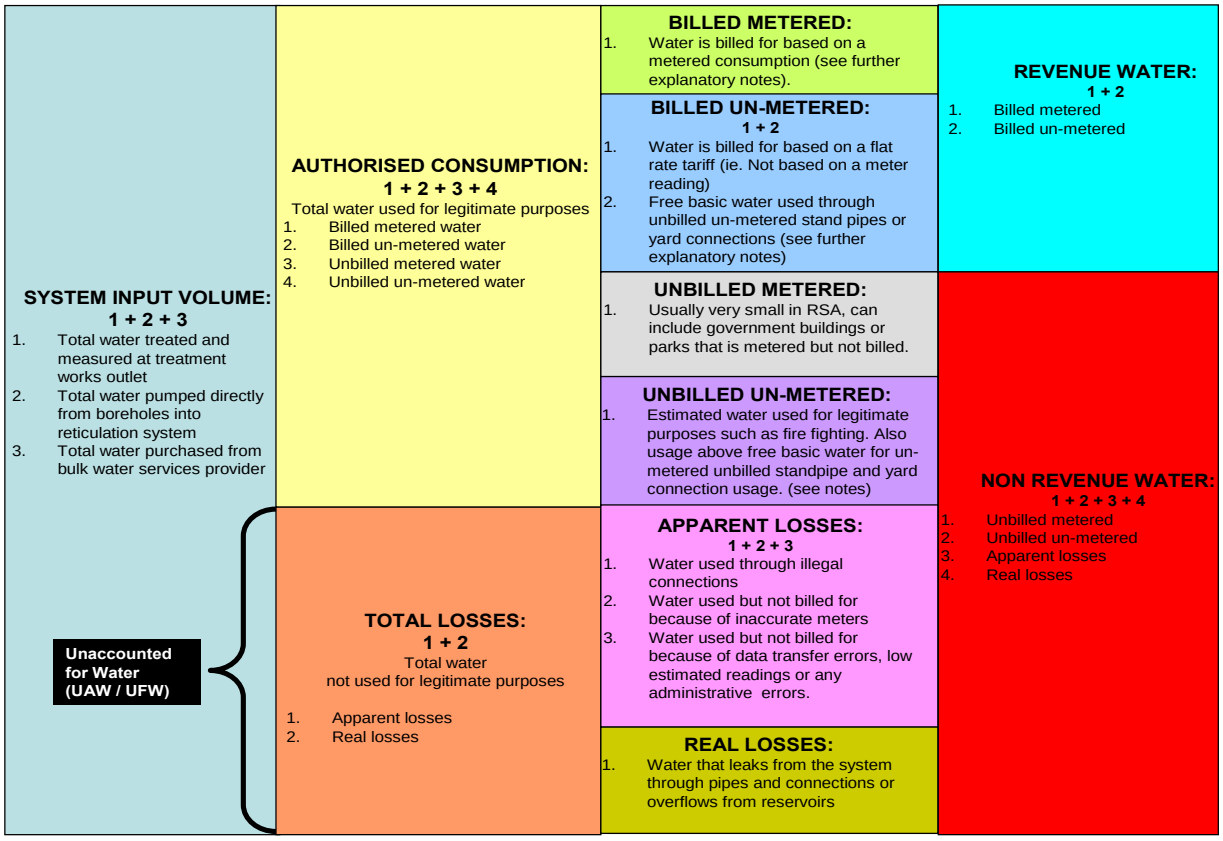
### Terminilogy

| Accronym | Description | Link |
|---|---|---|
| DWA | Department of Water Affairs | http://www.dwa.gov.za |
| WS RPMS | Water Services : Regulatory Performance Mesurement System | http://www.dwa.gov.za/dir_ws/rpm/ |
| WS NIS | Water Services : National Information System | http://www.dwa.gov.za/dir_ws/wsnis/ |
| FBS | Water Services : Free Basic Water Project | http://www.dwaf.gov.za/dir_ws/fbw/ |
| NRW | Non-revenue water. Volume of water for which no revenue is received (prefered term) | |
| UAW or UFW | Unaccounted-for water. Volume of water lost due to physical and apparent losses (not prefered term) | |
| StatsSA NFC | Statistics South Africa : Non-Financial Census of Municipalities P9115 | http://www.statssa.gov.za/ |

### Information sources

| Item | Source | Calculation |
|---|---|---|
| Population | DWA WS NIS or municipality | |
| Households | DWA WS NIS or municipality | |
| Connections - metered | Extrapolated 2007 DWA - WS FBW serviced above RDP or municipality | |
| Connections - Unmetered | Extrapolated 2007 DWA - WS FBW serviced at RDP or municipality | |
| Length of mains (km) | Actual value or calculated at average of 50 connections / km of mains | # connections ÷ 50 |
| (A) System input volume | Total volume of potable water supplied by the municipality in kl/annum | |
| (B) Billed metered consumption | Total volume of water metered and billed by the municipality in kl/annum | |
| (C) Billed unmetered consumption | Total volume of water unmetered and billed by the municipality in kl/annum | |
| Underlined values | Calcualted values unsing trends or averages | |

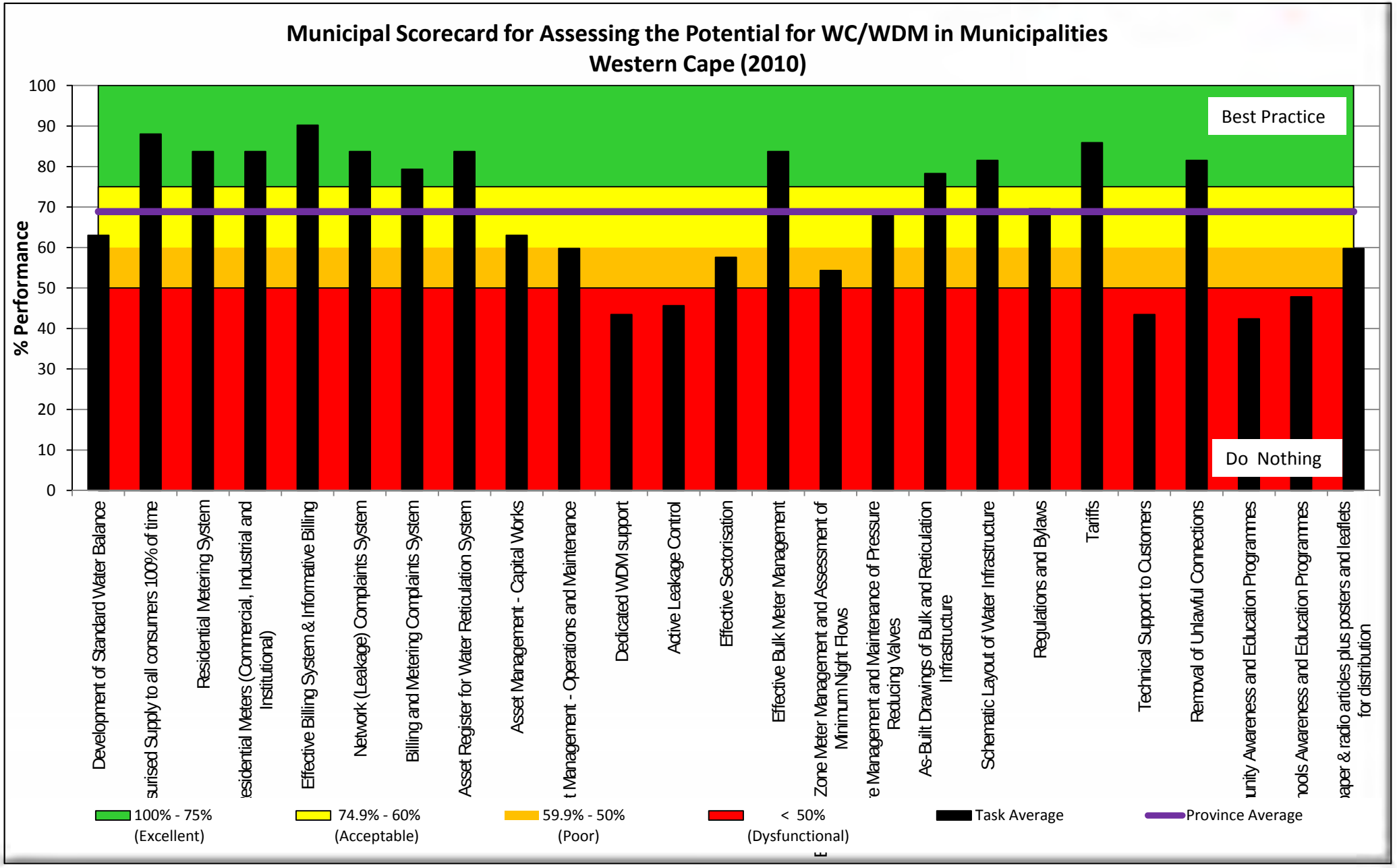
### Standard IWA Water Balance

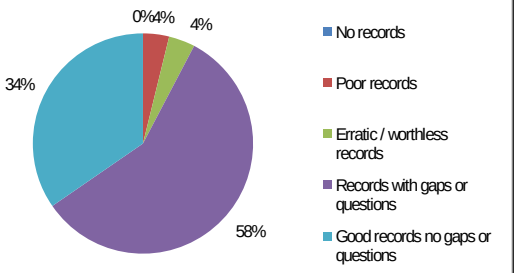
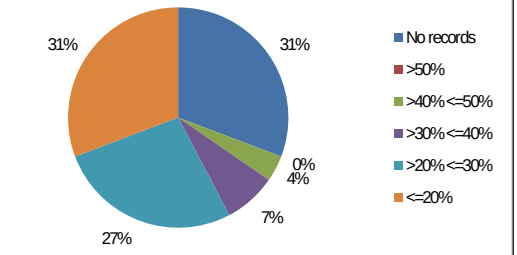
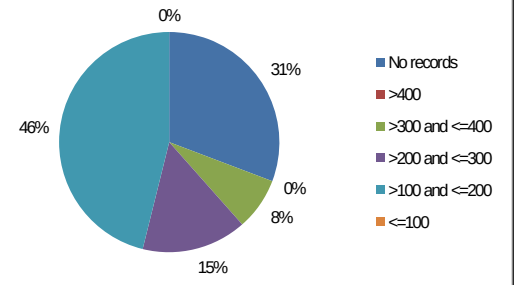
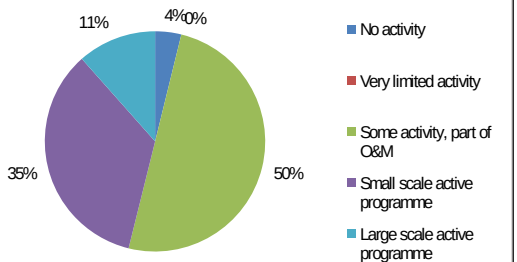
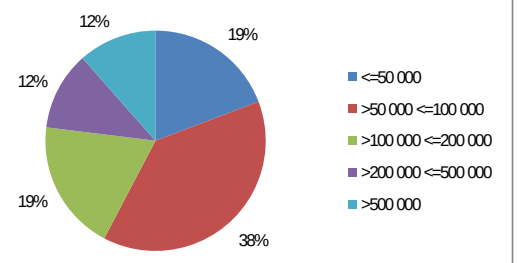


| Province | Western Cape |
|---|---|

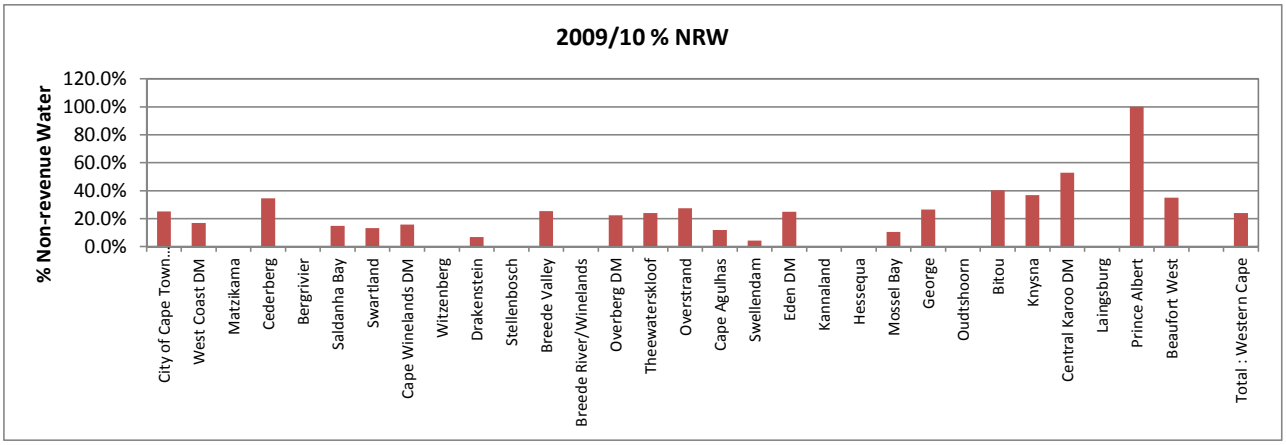
| No | Municipal Code | District Municipality | Municipality | Category | WSA |
|---|---|---|---|---|---|
| 1 | CPT | City of Cape Town Metro | City of Cape Town Metro | A | Yes |
| 2 | DC1 | West Coast | West Coast DM | C1 | Yes |
| 3 | WC011 | West Coast | Matzikama | B3 | Yes |
| 4 | WC012 | West Coast | Cederberg | B3 | Yes |
| 5 | WC013 | West Coast | Bergrivier | B3 | Yes |
| 6 | WC014 | West Coast | Saldanha Bay | B2 | Yes |
| 7 | WC015 | West Coast | Swartland | B3 | Yes |
| 8 | DC2 | Cape Winelands | Cape Winelands DM | C1 | Yes |
| 9 | WC022 | Cape Winelands | Witzenberg | B3 | Yes |
| 10 | WC023 | Cape Winelands | Drakenstein | B1 | Yes |
| 11 | WC024 | Cape Winelands | Stellenbosch | B1 | Yes |
| 12 | WC025 | Cape Winelands | Breede Valley | B2 | Yes |
| 13 | WC026 | Cape Winelands | Breede River/Winelands | B3 | Yes |
| 14 | DC3 | Overberg | Overberg DM | C1 | Yes |
| 15 | WC031 | Overberg | Theewaterskloof | B3 | Yes |
| 16 | WC032 | Overberg | Overstrand | B2 | Yes |
| 17 | WC033 | Overberg | Cape Agulhas | B3 | Yes |
| 18 | WC034 | Overberg | Swellendam | B3 | Yes |
| 19 | DC4 | Eden | Eden DM | C1 | Yes |
| 20 | WC041 | Eden | Kannaland | B3 | Yes |
| 21 | WC042 | Eden | Hessequa | B3 | Yes |
| 22 | WC043 | Eden | Mossel Bay | B2 | Yes |
| 23 | WC044 | Eden | George | B1 | Yes |
| 24 | WC045 | Eden | Oudtshoorn | B2 | Yes |
| 25 | WC047 | Eden | Bitou | B3 | Yes |
| 26 | WC048 | Eden | Knysna | B2 | Yes |
| 27 | DC5 | Central Karoo | Central Karoo DM | C1 | Yes |
| 28 | WC051 | Central Karoo | Laingsburg | B3 | Yes |
| 29 | WC052 | Central Karoo | Prince Albert | B3 | Yes |
| 30 | WC053 | Central Karoo | Beaufort West | B3 | Yes |

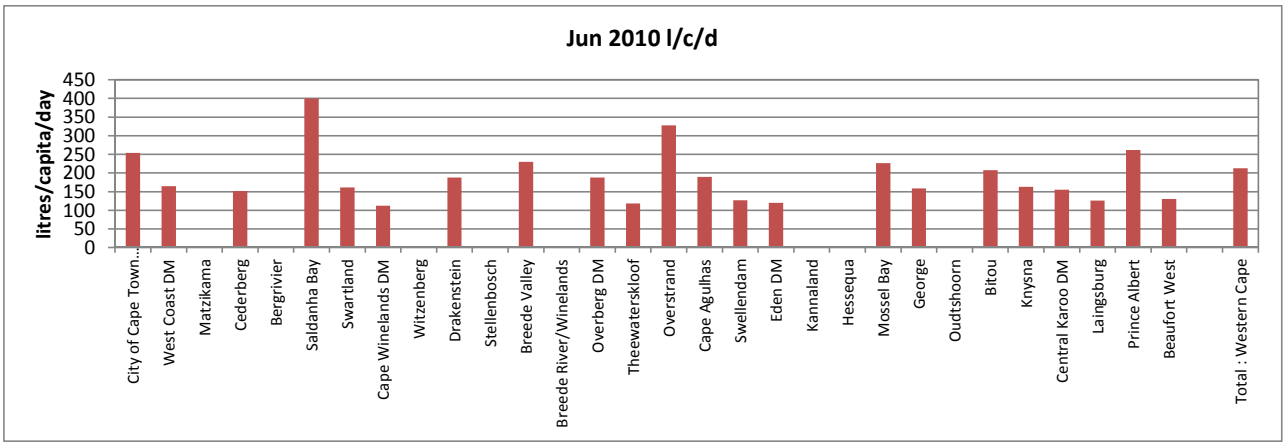
# National NRW Assessment

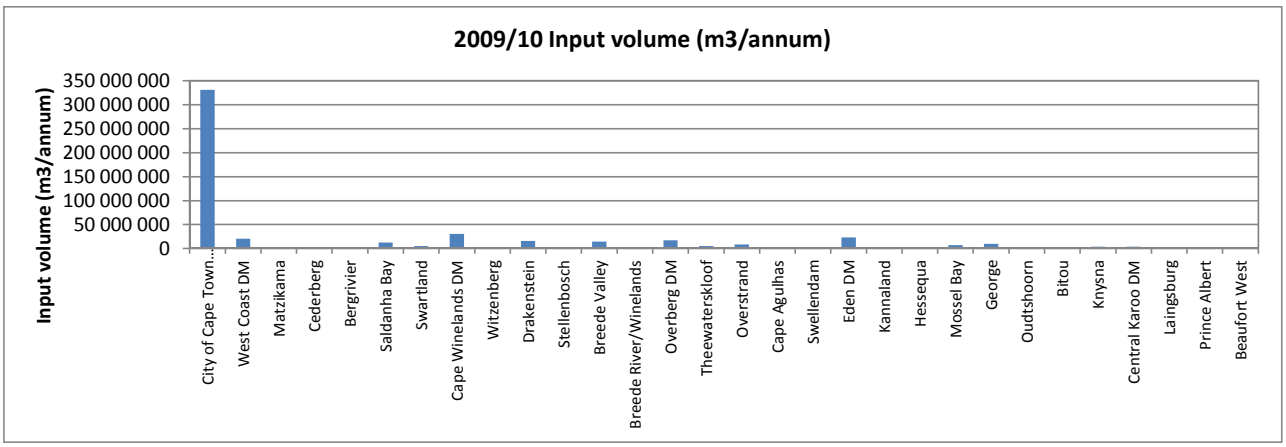


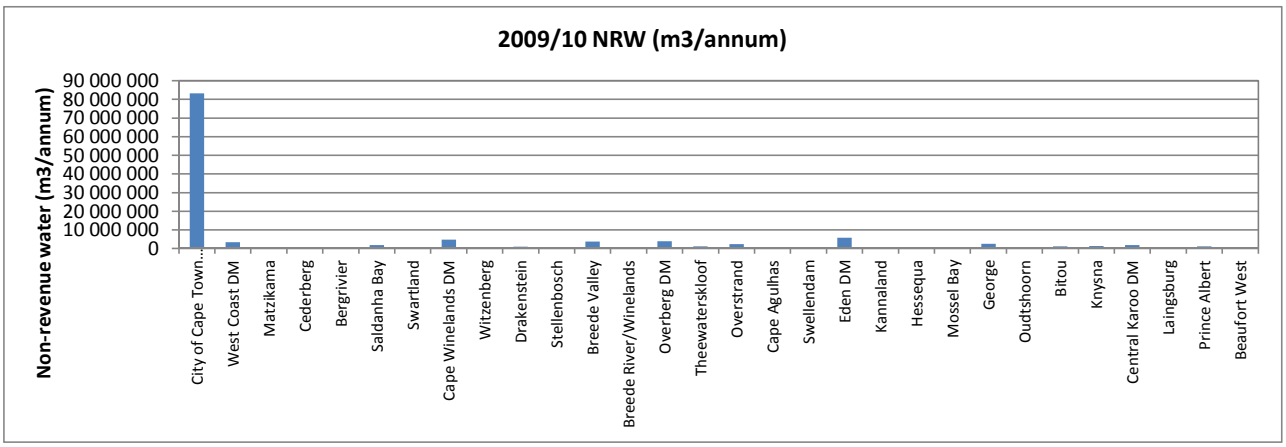
| Score | Criteria | # of Records | Comments | Distribution |
|---|---|---|---|---|
| **Record Keeping** | | 26 | | |
| 1 | No records | 0 | Good records keeping is the first step towards water management and reducing water losses |  |
| 2 | Poor records | 1 | | |
| 3 | Erratic / worthless records | 1 | | |
| 4 | Records with gaps or questions | 15 | | |
| 5 | Good records no gaps or questions | 9 | | |
| | | | | |
| **% NRW** | | 26 | | |
| 0 | No records | 8 | % Non-revenue water (volume of water for which no income is received). Current estimated national average ±35% |  |
| 1 | >50% | 0 | | |
| 2 | >40% <=50% | 1 | | |
| 3 | >30% <=40% | 2 | | |
| 4 | >20% <=30% | 7 | | |
| 5 | <=20% | 8 | | |
| **litres / capita / day** | | 26 | | |
| 0 | No records | 8 | Average litres / capita /day based on system input volume. Expected average around 200l/c/d. |  |
| 1 | >400 | 0 | | |
| 2 | >300 and <=400 | 2 | | |
| 3 | >200 and <=300 | 4 | | |
| 4 | >100 and <=200 | 12 | | |
| 5 | <=100 | 0 | | |
| **NRW Activity** | | 26 | | |
| 1 | No activity | 1 | Based on local knowledge, scorecard, available records. |  |
| 2 | Very limited activity | 0 | | |
| 3 | Some activity, part of O&M | 13 | | |
| 4 | Small scale active programme | 9 | | |
| 5 | Large scale active programme | 3 | | |
| | | | | |
| **Potential NRW Impact** | | 26 | | |
| 1 | <=50 000 | 5 | Potential impact of intervention based on population. High population = high consumption = higher potential saving. |  |
| 2 | >50 000 <=100 000 | 10 | | |
| 3 | >100 000 <=200 000 | 5 | | |
| 4 | >200 000 <=500 000 | 3 | | |
| 5 | >500 000 | 3 | | |
| | | | | |

**Key Performance Indicators**

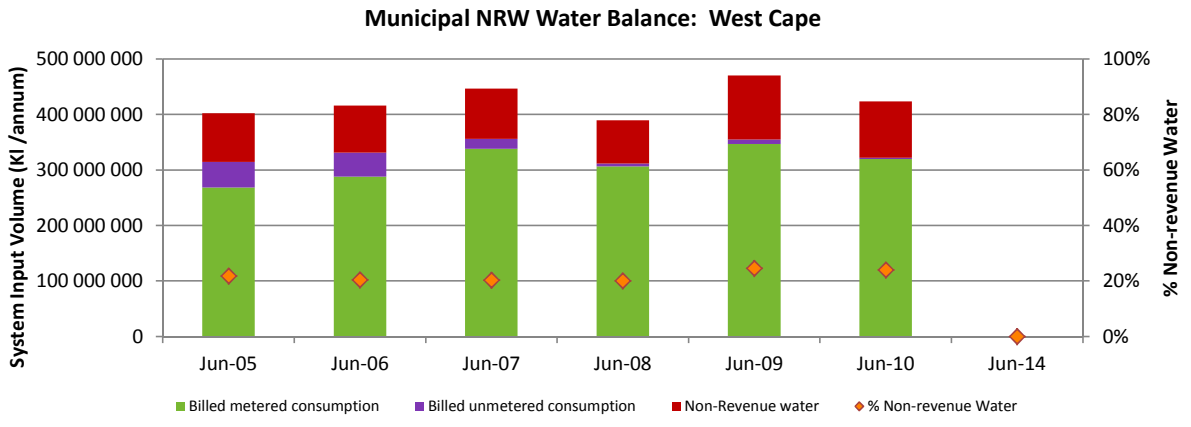


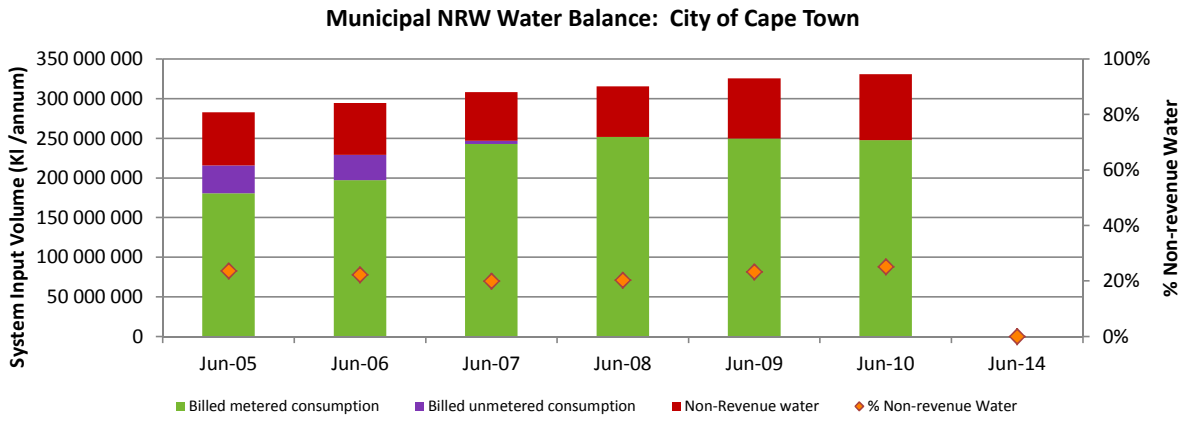



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | | | | | | | | | |
| District Municipality | | | | | | | | | Category |
| Municipality | | | | | | | | | |
| Settlements | | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 4 883 133 | 4 995 762 | 5 025 745 | 5 166 455 | 5 197 447 | 5 458 337 | 0 |
| | Households | | 1 331 538 | 1 362 319 | 1 370 475 | 1 408 865 | 1 417 307 | 1 406 093 | 0 |
| | Connections - metered | | 243 227 | 248 587 | 261 120 | 267 619 | 311 201 | 1 345 594 | 0 |
| | Connections - Unmetered | | 15 864 | 16 216 | 16 312 | 16 770 | 16 870 | 317 213 | 0 |
| | Length of mains (km) | | 5 182 | 5 296 | 5 451 | 6 599 | 7 015 | 673 778 | 0 |
| | System input volume | kl/annum | 402 109 370 | 416 270 415 | 446 469 624 | 389 543 562 | 470 475 734 | 423 415 843 | 0 |
| | Billed metered consumption | kl/annum | 268 651 842 | 287 799 196 | 338 174 215 | 306 780 081 | 346 972 081 | 319 584 943 | 0 |
| | Billed unmetered consumption | kl/annum | 45 662 323 | 43 501 015 | 17 830 542 | 4 700 417 | 7 880 493 | 2 525 132 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 314 314 165 | 331 300 211 | 356 004 757 | 311 480 498 | 354 852 574 | 322 110 075 | 0 |
| | Non-Revenue water | kl/annum | 87 795 205 | 84 970 204 | 90 464 867 | 78 063 064 | 115 623 160 | 101 305 768 | 0 |
| | Water Losses | kl/annum | 87 795 205 | 84 970 204 | 90 464 867 | 78 063 064 | 115 623 160 | 101 305 768 | 0 |
| | % Non-revenue water | | 21.8% | 20.4% | 20.3% | 20.0% | 24.6% | 23.9% | No data |
| | % Water Losses | | 21.8% | 20.4% | 20.3% | 20.0% | 24.6% | 23.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 226 | 228 | 243 | 207 | 248 | 213 | No data |
| | Input: m³ / household / month | | 25 | 25 | 27 | 23 | 28 | 25 | No data |
| | Billed : Litres / capita / day | | 176 | 182 | 194 | 165 | 187 | 162 | No data |
| | Billed : m³ / household / month | | 20 | 20 | 22 | 18 | 21 | 19 | No data |
| | % Population growth | | | 2.31% | 0.60% | 2.80% | 0.60% | 5.02% | |
| | % Water demand growth | | | 3.52% | 7.25% | -12.75% | 20.78% | -10.00% | |
| Source of information | | | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | DWA NIS | |



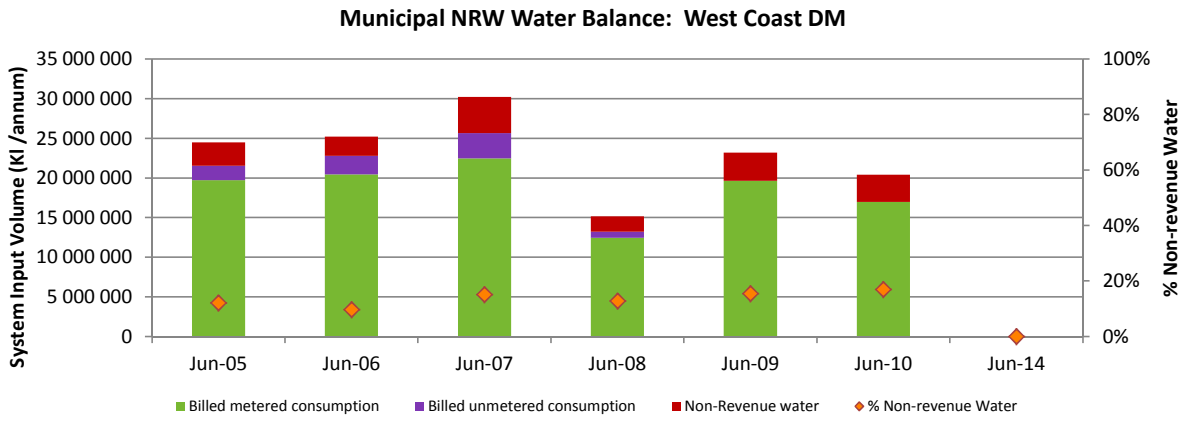

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | CPT | | | | | | | | Yes |
| District Municipality | City of Cape Town | | | | | | | | Category |
| Municipality | City of Cape Town | | | | | | | | A |
| Settlements | ATLANTIS, BELHAR, EERSTERIVIER, KHAYELITSHA, PAARL | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 3 169 041 | 3 241 420 | 3 260 871 | 3 352 175 | 3 372 289 | 3 572 221 | |
| | Households | | 873 735 | 893 691 | 899 054 | 924 224 | 929 768 | 902 279 | |
| | Connections - metered | | | | | | | 604 248 | |
| | Connections - Unmetered | | | | | | | 298 031 | |
| | Length of mains (km) | | | | | | | 663 983 | |
| | System input volume | kl/annum | 282 738 423 | 294 495 896 | 308 431 938 | 315 555 297 | 325 691 626 | 331 062 488 | |
| | Billed metered consumption | kl/annum | 180 746 365 | 197 293 056 | 242 740 152 | 251 745 818 | 249 790 408 | 247 787 926 | |
| | Billed unmetered consumption | kl/annum | 35 032 189 | 31 625 136 | 4 238 400 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 215 778 554 | 228 918 192 | 246 978 552 | 251 745 818 | 249 790 408 | 247 787 926 | 0 |
| | Non-Revenue water | kl/annum | 66 959 869 | 65 577 704 | 61 453 386 | 63 809 479 | 75 901 218 | 83 274 562 | 0 |
| | Water Losses | kl/annum | 66 959 869 | 65 577 704 | 61 453 386 | 63 809 479 | 75 901 218 | 83 274 562 | 0 |
| | % Non-revenue water | | 23.7% | 22.3% | 19.9% | 20.2% | 23.3% | 25.2% | No data |
| | % Water Losses | | 23.7% | 22.3% | 19.9% | 20.2% | 23.3% | 25.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 244 | 249 | 259 | 258 | 265 | 254 | No data |
| | Input: m³ / household / month | | 27 | 27 | 29 | 28 | 29 | 31 | No data |
| | Billed : Litres / capita / day | | 187 | 193 | 208 | 206 | 203 | 190 | No data |
| | Billed : m³ / household / month | | 21 | 21 | 23 | 23 | 22 | 23 | No data |
| | % Population growth | | | 2.28% | 0.60% | 2.80% | 0.60% | 5.93% | |
| | % Water demand growth | | | 4.16% | 4.73% | 2.31% | 3.21% | 1.65% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS Municipality | DWA NIS Municipality | DWA NIS Municipality | |



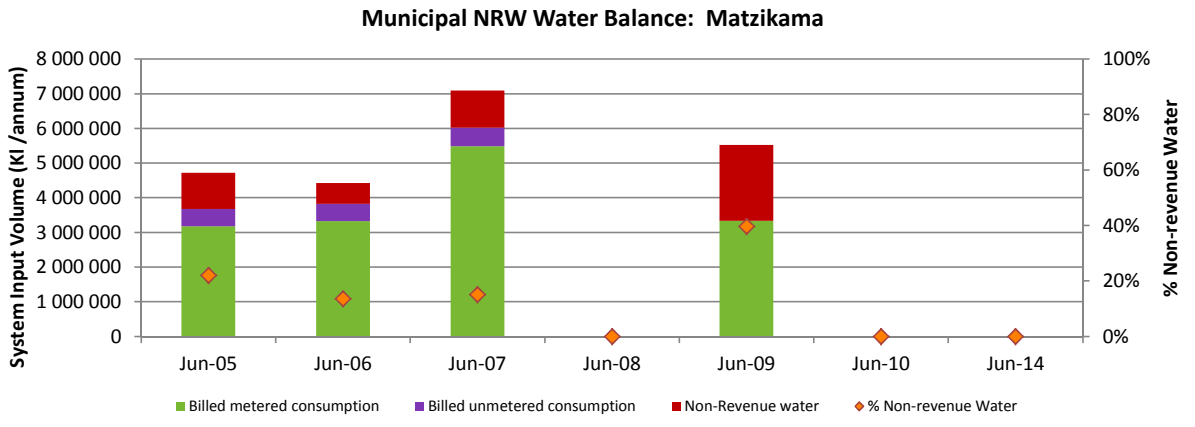

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | DC01 | | | | | | | | Yes |
| District Municipality | West Coast | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 309 183 | 317 155 | 319 059 | 327 989 | 329 961 | 340 379 | 0 |
| | Households | | 84 281 | 86 454 | 86 969 | 89 404 | 89 939 | 92 785 | 0 |
| | Connections - metered | | 27 354 | 28 059 | 39 270 | 39 561 | 46 540 | 71 016 | 0 |
| | Connections - Unmetered | | 1 505 | 1 544 | 1 553 | 1 597 | 1 606 | 1 650 | 0 |
| | Length of mains (km) | | 577 | 592 | 596 | 612 | 995 | 1 871 | 0 |
| | System input volume | kl/annum | 24 488 299 | 25 229 983 | 30 205 861 | 15 143 029 | 23 200 647 | 20 417 029 | 0 |
| | Billed metered consumption | kl/annum | 19 728 919 | 20 464 008 | 22 452 138 | 12 467 842 | 19 626 753 | 16 962 244 | 0 |
| | Billed unmetered consumption | kl/annum | 1 789 103 | 2 337 080 | 3 203 892 | 741 949 | 0 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 21 518 022 | 22 801 088 | 25 656 030 | 13 209 791 | 19 626 753 | 16 962 244 | 0 |
| | Non-Revenue water | kl/annum | 2 970 277 | 2 428 895 | 4 549 831 | 1 933 239 | 3 573 894 | 3 454 785 | 0 |
| | Water Losses | kl/annum | 2 970 277 | 2 428 895 | 4 549 831 | 1 933 239 | 3 573 894 | 3 454 785 | 0 |
| | % Non-revenue water | | 12.1% | 9.6% | 15.1% | 12.8% | 15.4% | 16.9% | No data |
| | % Water Losses | | 12.1% | 9.6% | 15.1% | 12.8% | 15.4% | 16.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 217 | 218 | 259 | 126 | 193 | 164 | No data |
| | Input: m³ / household / month | | 24 | 24 | 29 | 14 | 21 | 18 | No data |
| | Billed : Litres / capita / day | | 191 | 197 | 220 | 110 | 163 | 137 | No data |
| | Billed : m³ / household / month | | 21 | 22 | 25 | 12 | 18 | 15 | No data |
| | % Population growth | | | 2.58% | 0.60% | 2.80% | 0.60% | 3.16% | |
| | % Water demand growth | | | 3.03% | 19.72% | -49.87% | 53.21% | -12.00% | |
| Source of information | | | | | | | | | |



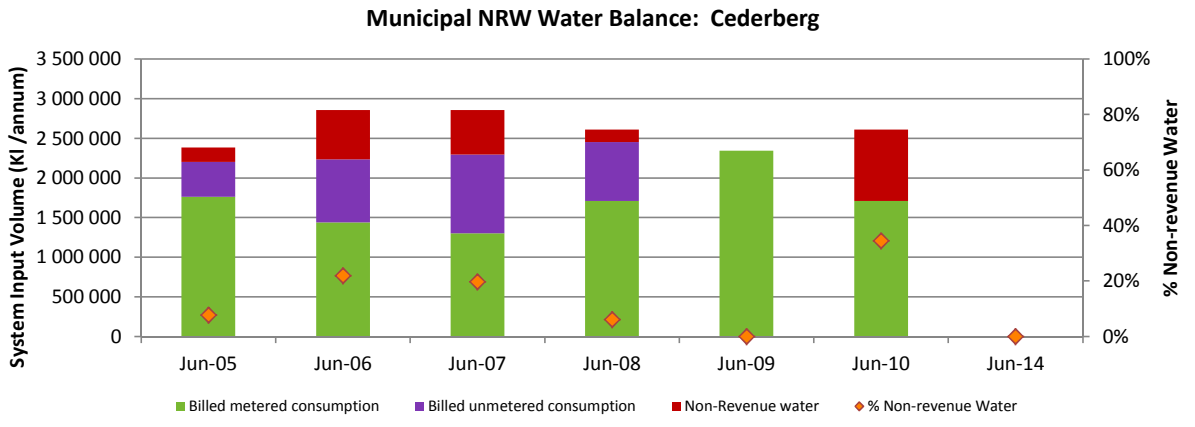

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC011 | | | | | | | | Yes |
| District Municipality | West Coast | | | | | | | | Category |
| Municipality | Matzikama | | | | | | | | B3 |
| Settlements | VREDENDAL | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 56 187 | 57 635 | 57 981 | 59 606 | 59 965 | 62 113 | |
| | Households | | 16 560 | 16 986 | 17 085 | 17 568 | 17 672 | 18 307 | |
| | Connections - metered | | ~~15 613~~ | ~~16 015~~ | ~~16 111~~ | 16 563 | ~~16 663~~ | ~~17 260~~ | |
| | Connections - Unmetered | | ~~1 047~~ | ~~1 074~~ | ~~1 080~~ | 1 111 | ~~1 118~~ | ~~1 158~~ | |
| | Length of mains (km) | | ~~333~~ | ~~342~~ | ~~344~~ | ~~353~~ | ~~356~~ | ~~368~~ | |
| | System input volume | kl/annum | 4 715 700 | 4 422 000 | 7 089 038 | | 5 523 256 | | |
| | Billed metered consumption | kl/annum | 3 176 000 | 3 326 000 | 5 483 680 | | 3 333 018 | | |
| | Billed unmetered consumption | kl/annum | 503 000 | 496 000 | 540 000 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 679 000 | 3 822 000 | 6 023 680 | 0 | 3 333 018 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 036 700 | 600 000 | 1 065 358 | 0 | 2 190 238 | 0 | 0 |
| | Water Losses | kl/annum | 1 036 700 | 600 000 | 1 065 358 | 0 | 2 190 238 | 0 | 0 |
| | % Non-revenue water | | 22.0% | 13.6% | 15.0% | No data | 39.7% | No data | No data |
| | % Water Losses | | 22.0% | 13.6% | 15.0% | No data | 39.7% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 230 | 210 | 335 | No data | 252 | No data | No data |
| | Input: m³ / household / month | | 24 | 22 | 35 | No data | 26 | No data | No data |
| | Billed : Litres / capita / day | | 179 | 182 | 285 | No data | 152 | No data | No data |
| | Billed : m³ / household / month | | 19 | 19 | 29 | No data | 16 | No data | No data |
| | % Population growth | | | 2.58% | 0.60% | 2.80% | 0.60% | 3.58% | |
| | % Water demand growth | | | -6.23% | 60.31% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



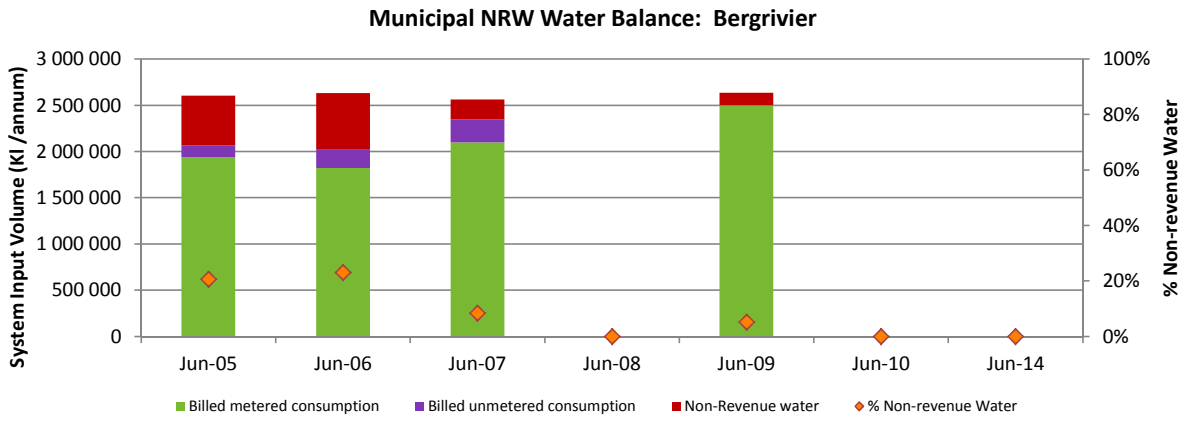

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC012 | | | | | | | | Yes |
| District Municipality | West Coast | | | | | | | | Category |
| Municipality | Cederberg | | | | | | | | B3 |
| Settlements | Citrusdal | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 43 865 | 44 998 | 45 268 | 46 533 | 46 814 | 47 098 | |
| | Households | | 12 123 | 12 437 | 12 510 | 12 863 | 12 940 | 13 018 | |
| | Connections - metered | | ~~11 741~~ | ~~12 044~~ | ~~12 116~~ | 12 455 | ~~12 530~~ | ~~12 606~~ | |
| | Connections - Unmetered | | ~~458~~ | ~~470~~ | ~~473~~ | 486 | ~~489~~ | ~~492~~ | |
| | Length of mains (km) | | ~~244~~ | ~~250~~ | ~~252~~ | ~~259~~ | ~~260~~ | ~~262~~ | |
| | System input volume | kl/annum | 2 385 640 | 2 858 000 | 2 857 880 | 2 611 029 | 2 342 596 | 2 611 029 | |
| | Billed metered consumption | kl/annum | 1 763 145 | 1 439 052 | 1 300 185 | 1 711 244 | 2 342 596 | 1 711 244 | |
| | Billed unmetered consumption | kl/annum | 438 591 | 793 872 | 993 384 | 741 949 | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 201 736 | 2 232 924 | 2 293 569 | 2 453 193 | 2 342 596 | 1 711 244 | 0 |
| | Non-Revenue water | kl/annum | 183 904 | 625 076 | 564 311 | 157 836 | 0 | 899 785 | 0 |
| | Water Losses | kl/annum | 183 904 | 625 076 | 564 311 | 157 836 | 0 | 899 785 | 0 |
| | % Non-revenue water | | 7.7% | 21.9% | 19.7% | 6.0% | Check data | 34.5% | No data |
| | % Water Losses | | 7.7% | 21.9% | 19.7% | 6.0% | No data | 34.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 149 | 174 | 173 | 154 | 137 | 152 | No data |
| | Input: m³ / household / month | | 16 | 19 | 19 | 17 | 15 | 17 | No data |
| | Billed : Litres / capita / day | | 138 | 136 | 139 | 144 | 137 | 100 | No data |
| | Billed : m³ / household / month | | 15 | 15 | 15 | 16 | 15 | 11 | No data |
| | % Population growth | | | 2.58% | 0.60% | 2.79% | 0.60% | 0.61% | |
| | % Water demand growth | | | 19.80% | 0.00% | -8.64% | -10.28% | 11.46% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



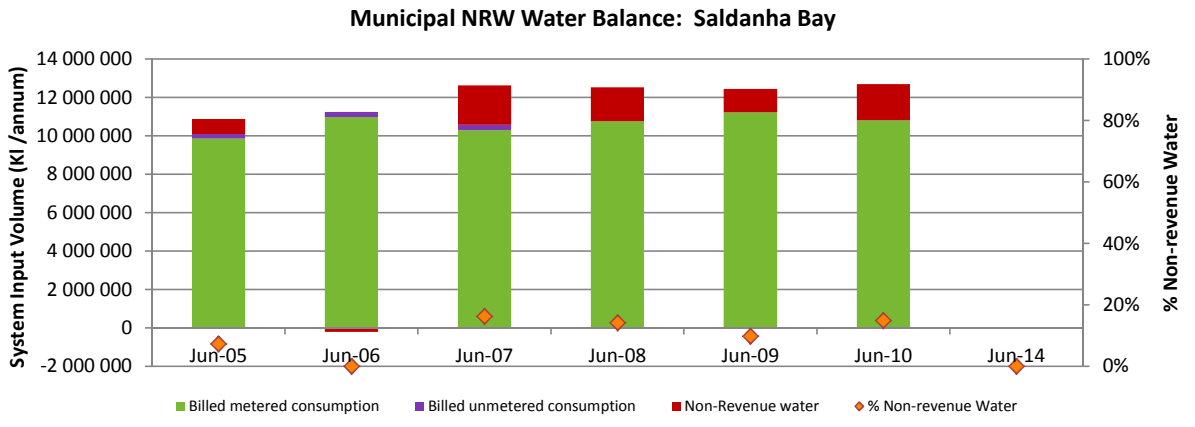

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC013 | | | | | | | | Yes |
| District Municipality | West Coast | | | | | | | | Category |
| Municipality | Bergrivier | | | | | | | | B3 |
| Settlements | Velddrif | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 52 318 | 53 666 | 53 991 | 55 505 | 55 841 | 57 265 | |
| | Households | | 13 895 | 14 256 | 14 342 | 14 739 | 14 827 | 15 204 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 224 | |
| | System input volume | kl/annum | 2 605 443 | 2 631 237 | 2 562 307 | | 2 636 795 | | |
| | Billed metered consumption | kl/annum | 1 939 375 | 1 822 827 | 2 098 072 | | 2 501 741 | | |
| | Billed unmetered consumption | kl/annum | 128 160 | 203 472 | 250 308 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 067 535 | 2 026 299 | 2 348 380 | 0 | 2 501 741 | 0 | 0 |
| | Non-Revenue water | kl/annum | 537 908 | 604 938 | 213 927 | 0 | 135 054 | 0 | 0 |
| | Water Losses | kl/annum | 537 908 | 604 938 | 213 927 | 0 | 135 054 | 0 | 0 |
| | % Non-revenue water | | 20.6% | 23.0% | 8.3% | No data | 5.1% | No data | No data |
| | % Water Losses | | 20.6% | 23.0% | 8.3% | No data | 5.1% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 136 | 134 | 130 | No data | 129 | No data | No data |
| | Input: m³ / household / month | | 16 | 15 | 15 | No data | 15 | No data | No data |
| | Billed : Litres / capita / day | | 108 | 103 | 119 | No data | 123 | No data | No data |
| | Billed : m³ / household / month | | 12 | 12 | 14 | No data | 14 | No data | No data |
| | % Population growth | | | 2.58% | 0.61% | 2.80% | 0.61% | 2.55% | |
| | % Water demand growth | | | 0.99% | -2.62% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS | |



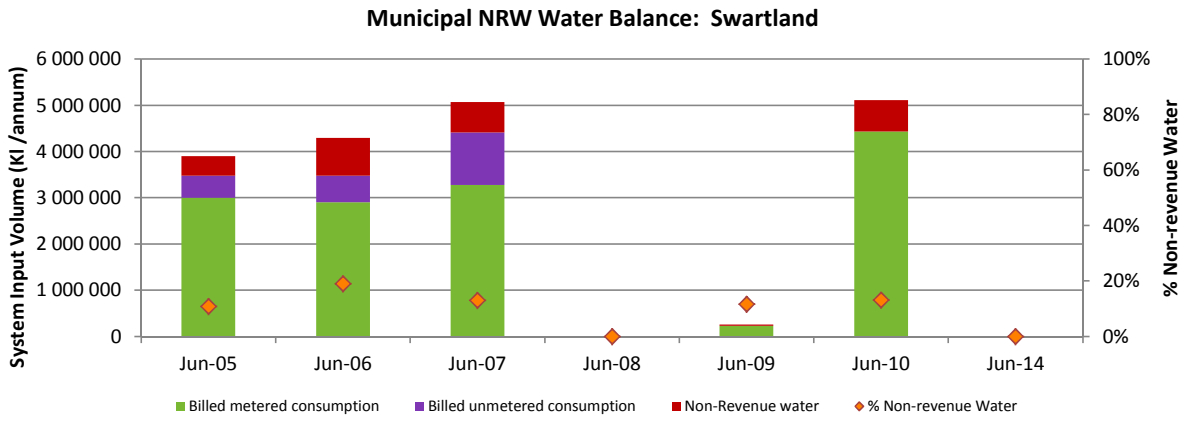

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC014 | | | | | | | | Yes |
| District Municipality | West Coast | | | | | | | | Category |
| Municipality | Saldanha Bay | | | | | | | | B2 |
| Settlements | DIAZVILLE, VREDENBURG | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 78 082 | 80 094 | 80 574 | 82 827 | 83 323 | 87 066 | |
| | Households | | 21 759 | 22 319 | 22 453 | 23 081 | 23 220 | 24 262 | |
| | Connections - metered | | | | | | | 23 237 | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | | | 524 | |
| | System input volume | kl/annum | 10 883 314 | 11 025 198 | 12 624 000 | ~~12 532 000~~ | 12 440 000 | 12 697 000 | |
| | Billed metered consumption | kl/annum | 9 853 402 | 10 975 000 | 10 291 797 | ~~10 756 598~~ | 11 221 398 | 10 815 000 | |
| | Billed unmetered consumption | kl/annum | 240 912 | 268 335 | 283 968 | | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 10 094 314 | 11 243 335 | 10 575 765 | 10 756 598 | 11 221 398 | 10 815 000 | 0 |
| | Non-Revenue water | kl/annum | 789 000 | -218 137 | 2 048 235 | 1 775 403 | 1 218 602 | 1 882 000 | 0 |
| | Water Losses | kl/annum | 789 000 | -218 137 | 2 048 235 | 1 775 403 | 1 218 602 | 1 882 000 | 0 |
| | % Non-revenue water | | 7.2% | Check data | 16.2% | 14.2% | 9.8% | 14.8% | No data |
| | % Water Losses | | 7.2% | Check data | 16.2% | 14.2% | 9.8% | 14.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 382 | 377 | 429 | 415 | 409 | 400 | No data |
| | Input: m³ / household / month | | 42 | 41 | 47 | 45 | 45 | 44 | No data |
| | Billed : Litres / capita / day | | 354 | 385 | 360 | 356 | 369 | 340 | No data |
| | Billed : m³ / household / month | | 39 | 42 | 39 | 39 | 40 | 37 | No data |
| | % Population growth | | | 2.58% | 0.60% | 2.80% | 0.60% | 4.49% | |
| | % Water demand growth | | | 1.30% | 14.50% | -0.73% | -0.73% | 2.07% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS Municipality | |



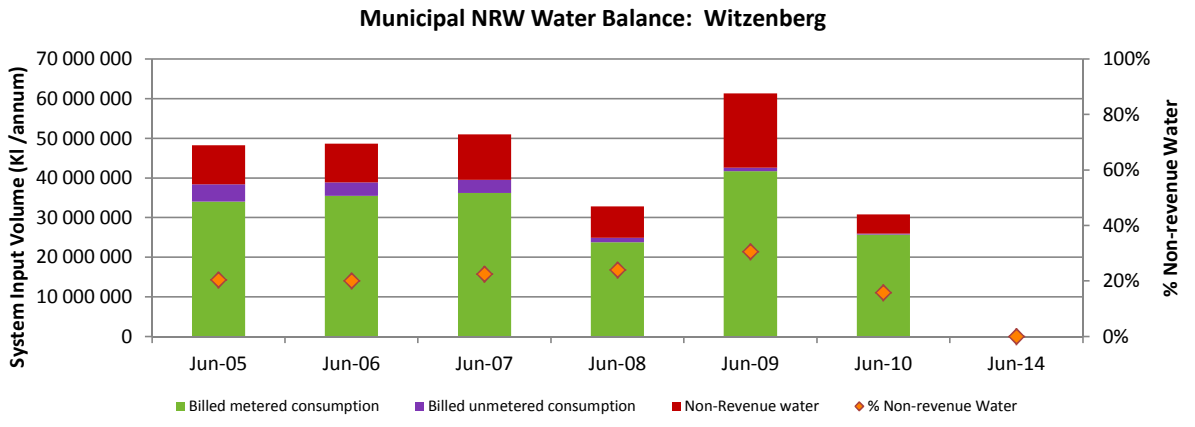

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | | Western Cape | | | | | | | WSA |
| Municipal Code | | WC015 | | | | | | | Yes |
| District Municipality | | West Coast | | | | | | | Category |
| Municipality | | Swartland | | | | | | | B3 |
| Settlements | | MALMESBURY | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 78 731 | 80 762 | 81 245 | 83 518 | 84 018 | 86 837 | |
| | Households | | 19 944 | 20 456 | 20 579 | 21 153 | 21 280 | 21 994 | |
| | Connections - metered | | | | 11 042 | 10 543 | 17 347 | 17 913 | |
| | Connections - Unmetered | | | | 0 | 0 | 0 | 0 | |
| | Length of mains (km) | | | | | | 379 | 493 | |
| | System input volume | kl/annum | 3 898 202 | 4 293 548 | 5 072 636 | | 258 000 | 5 109 000 | |
| | Billed metered consumption | kl/annum | 2 996 997 | 2 901 129 | 3 278 404 | | 228 000 | 4 436 000 | |
| | Billed unmetered consumption | kl/annum | 478 440 | 575 401 | 1 136 232 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 475 437 | 3 476 530 | 4 414 636 | 0 | 228 000 | 4 436 000 | 0 |
| | Non-Revenue water | kl/annum | 422 765 | 817 018 | 658 000 | 0 | 30 000 | 673 000 | 0 |
| | Water Losses | kl/annum | 422 765 | 817 018 | 658 000 | 0 | 30 000 | 673 000 | 0 |
| | % Non-revenue water | | 10.8% | 19.0% | 13.0% | No data | 11.6% | 13.2% | No data |
| | % Water Losses | | 10.8% | 19.0% | 13.0% | No data | 11.6% | 13.2% | No data |
| Key performance indicators | Input : Litres / capita / day | | 136 | 146 | 171 | No data | 8 | 161 | No data |
| | Input: m³ / household / month | | 16 | 17 | 21 | No data | 1 | 19 | No data |
| | Billed : Litres / capita / day | | 121 | 118 | 149 | No data | 7 | 140 | No data |
| | Billed : m³ / household / month | | 15 | 14 | 18 | No data | 1 | 17 | No data |
| | % Population growth | | | 2.58% | 0.60% | 2.80% | 0.60% | 3.36% | |
| | % Water demand growth | | | 10.14% | 18.15% | | #DIV/0! | 1880.23% | |
| Source of information | | | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS StatsSA NFC | DWA NIS | DWA NIS StatsSA NFC | DWA NIS Municipality | |



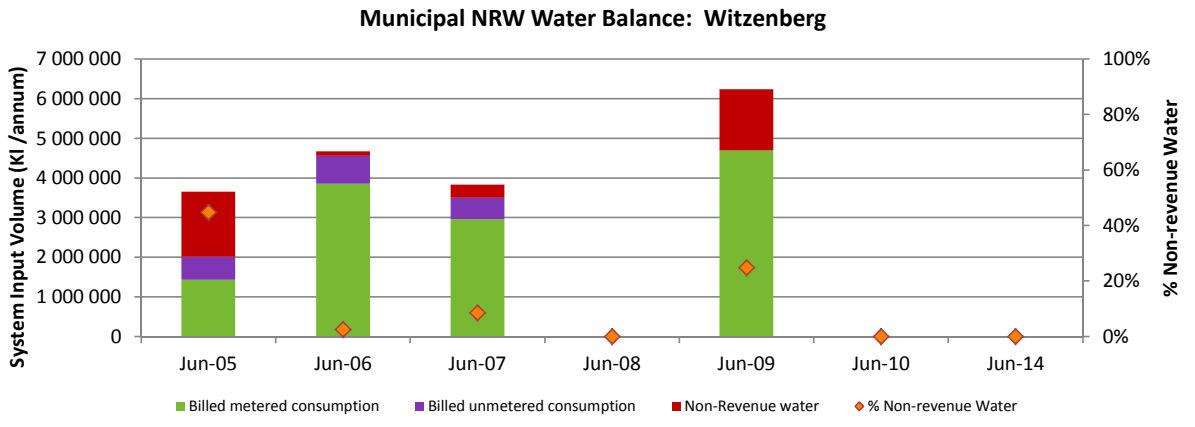

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | DC02 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 681 211 | 695 067 | 699 234 | 718 811 | 723 114 | 751 436 | 0 |
| | Households | | 169 477 | 172 921 | 173 963 | 178 836 | 179 914 | 186 918 | 0 |
| | Connections - metered | | 121 210 | 123 675 | 124 416 | 127 899 | 128 665 | 158 158 | 0 |
| | Connections - Unmetered | | 7 042 | 7 185 | 7 229 | 7 431 | 7 476 | 9 384 | 0 |
| | Length of mains (km) | | 2 565 | 2 617 | 2 633 | 2 707 | 2 723 | 3 298 | 0 |
| | System input volume | kl/annum | 48 260 602 | 48 655 214 | 50 985 085 | 32 794 706 | 61 364 715 | 30 807 514 | 0 |
| | Billed metered consumption | kl/annum | 34 018 899 | 35 501 362 | 36 169 585 | 23 735 969 | 41 681 762 | 25 717 025 | 0 |
| | Billed unmetered consumption | kl/annum | 4 387 248 | 3 410 663 | 3 346 620 | 1 187 082 | 913 949 | 223 765 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 38 406 147 | 38 912 025 | 39 516 205 | 24 923 051 | 42 595 711 | 25 940 790 | 0 |
| | Non-Revenue water | kl/annum | 9 854 455 | 9 743 189 | 11 468 880 | 7 871 655 | 18 769 004 | 4 866 724 | 0 |
| | Water Losses | kl/annum | 9 854 455 | 9 743 189 | 11 468 880 | 7 871 655 | 18 769 004 | 4 866 724 | 0 |
| | % Non-revenue water | | 20.4% | 20.0% | 22.5% | 24.0% | 30.6% | 15.8% | No data |
| | % Water Losses | | 20.4% | 20.0% | 22.5% | 24.0% | 30.6% | 15.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 194 | 192 | 200 | 125 | 232 | 112 | No data |
| | Input: m³ / household / month | | 24 | 23 | 24 | 15 | 28 | 14 | No data |
| | Billed : Litres / capita / day | | 154 | 153 | 155 | 95 | 161 | 95 | No data |
| | Billed : m³ / household / month | | 19 | 19 | 19 | 12 | 20 | 12 | No data |
| | % Population growth | | | 2.03% | 0.60% | 2.80% | 0.60% | 3.92% | |
| | % Water demand growth | | | 0.82% | 4.79% | -35.68% | 87.12% | -49.80% | |
| Source of information | | | | | | | | | |



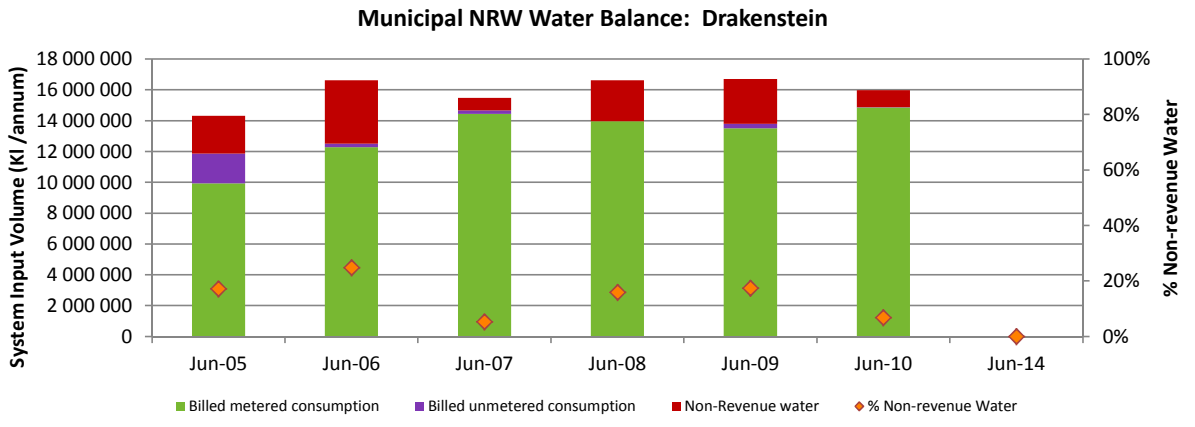

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC022 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | Witzenberg | | | | | | | | B3 |
| Settlements | BELLA VISTA, CERES, WOLSELEY | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 92 163 | 94 039 | 94 602 | 97 250 | 97 835 | 101 594 | |
| | Households | | 22 480 | 22 936 | 23 075 | 23 720 | 23 862 | 24 779 | |
| | Connections - metered | | ~~21 025~~ | ~~21 452~~ | ~~21 581~~ | 22 185 | ~~22 318~~ | ~~23 176~~ | |
| | Connections - Unmetered | | ~~1 500~~ | ~~1 531~~ | ~~1 540~~ | 1 583 | ~~1 592~~ | ~~1 654~~ | |
| | Length of mains (km) | | ~~450~~ | ~~460~~ | ~~462~~ | ~~475~~ | ~~478~~ | ~~497~~ | |
| | System input volume | kl/annum | 3 652 445 | 4 671 402 | 3 829 562 | | 6 234 396 | | |
| | Billed metered consumption | kl/annum | 1 435 102 | 3 854 219 | 2 958 237 | | 4 691 539 | | |
| | Billed unmetered consumption | kl/annum | 581 354 | 702 288 | 543 811 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 016 456 | 4 556 507 | 3 502 048 | 0 | 4 691 539 | 0 | 0 |
| | Non-Revenue water | kl/annum | 1 635 989 | 114 895 | 327 514 | 0 | 1 542 857 | 0 | 0 |
| | Water Losses | kl/annum | 1 635 989 | 114 895 | 327 514 | 0 | 1 542 857 | 0 | 0 |
| | % Non-revenue water | | 44.8% | 2.5% | 8.6% | No data | 24.7% | No data | No data |
| | % Water Losses | | 44.8% | 2.5% | 8.6% | No data | 24.7% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 109 | 136 | 111 | No data | 175 | No data | No data |
| | Input: m³ / household / month | | 14 | 17 | 14 | No data | 22 | No data | No data |
| | Billed : Litres / capita / day | | 60 | 133 | 101 | No data | 131 | No data | No data |
| | Billed : m³ / household / month | | 7 | 17 | 13 | No data | 16 | No data | No data |
| | % Population growth | | | 2.04% | 0.60% | 2.80% | 0.60% | 3.84% | |
| | % Water demand growth | | | 27.90% | -18.02% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC023 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | Drakenstein | | | | | | | | B1 |
| Settlements | MBEKWENI, PAARL, WELLINGTON | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 209 651 | 213 914 | 215 197 | 221 222 | 222 548 | 232 469 | |
| | Households | | 50 270 | 51 292 | 51 601 | 53 044 | 53 364 | 55 745 | |
| | Connections - metered | | ~~46 582~~ | ~~47 529~~ | ~~47 814~~ | 49 153 | ~~49 448~~ | ~~51 652~~ | |
| | Connections - Unmetered | | ~~2 140~~ | ~~2 183~~ | ~~2 197~~ | 2 258 | ~~2 272~~ | ~~2 373~~ | |
| | Length of mains (km) | | ~~974~~ | ~~994~~ | ~~1 000~~ | ~~1 028~~ | ~~1 034~~ | ~~1 080~~ | |
| | System input volume | kl/annum | 14 322 861 | 16 617 409 | 15 473 966 | ~~16 624 094~~ | 16 714 593 | 15 975 000 | |
| | Billed metered consumption | kl/annum | 9 928 824 | 12 283 938 | 14 433 204 | ~~13 973 743~~ | 13 514 281 | 14 852 000 | |
| | Billed unmetered consumption | kl/annum | 1 935 360 | 218 208 | 227 784 | | 284 343 | 32 000 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 11 864 184 | 12 502 146 | 14 660 988 | 13 973 743 | 13 798 624 | 14 884 000 | 0 |
| | Non-Revenue water | kl/annum | 2 458 677 | 4 115 263 | 812 978 | 2 650 351 | 2 915 969 | 1 091 000 | 0 |
| | Water Losses | kl/annum | 2 458 677 | 4 115 263 | 812 978 | 2 650 351 | 2 915 969 | 1 091 000 | 0 |
| | % Non-revenue water | | 17.2% | 24.8% | 5.3% | 15.9% | 17.4% | 6.8% | No data |
| | % Water Losses | | 17.2% | 24.8% | 5.3% | 15.9% | 17.4% | 6.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 187 | 213 | 197 | 206 | 206 | 188 | No data |
| | Input: m³ / household / month | | 24 | 27 | 25 | 26 | 26 | 24 | No data |
| | Billed : Litres / capita / day | | 155 | 160 | 187 | 173 | 170 | 175 | No data |
| | Billed : m³ / household / month | | 20 | 20 | 24 | 22 | 22 | 22 | No data |
| | % Population growth | | | 2.03% | 0.60% | 2.80% | 0.60% | 4.46% | |
| | % Water demand growth | | | 16.02% | -6.88% | 7.43% | 0.54% | -4.42% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS Municipality | |




Comments

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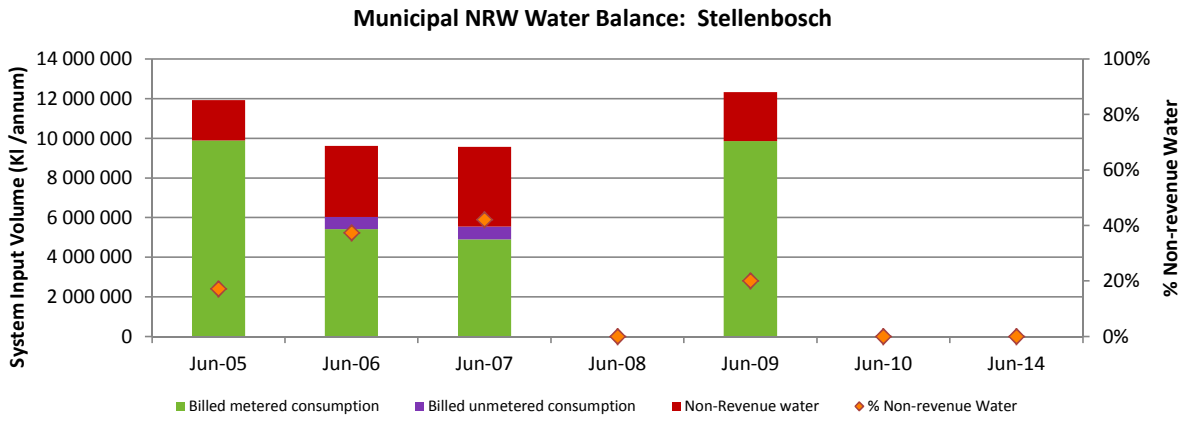
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC024 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | Stellenbosch | | | | | | | | B1 |
| Settlements | CLOETESVILLE, STELLENBOSCH, GROENDAL, KAYA MANDI | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 129 213 | 131 842 | 132 633 | 136 347 | 137 163 | 142 030 | |
| | Households | | 33 124 | 33 799 | 34 002 | 34 954 | 35 165 | 36 412 | |
| | Connections - metered | | ~~29 924~~ | ~~30 533~~ | ~~30 716~~ | 31 576 | ~~31 765~~ | ~~32 892~~ | |
| | Connections - Unmetered | | ~~2 519~~ | ~~2 570~~ | ~~2 586~~ | 2 658 | ~~2 674~~ | ~~2 769~~ | |
| | Length of mains (km) | | ~~649~~ | ~~662~~ | ~~666~~ | ~~685~~ | ~~689~~ | ~~713~~ | |
| | System input volume | kl/annum | 11 931 000 | 9 608 843 | 9 571 524 | | 12 335 345 | | |
| | Billed metered consumption | kl/annum | 9 890 000 | 5 418 214 | 4 898 480 | | 9 866 904 | | |
| | Billed unmetered consumption | kl/annum | 0 | 604 728 | 642 456 | | 0 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 9 890 000 | 6 022 942 | 5 540 936 | 0 | 9 866 904 | 0 | 0 |
| | Non-Revenue water | kl/annum | 2 041 000 | 3 585 901 | 4 030 588 | 0 | 2 468 441 | 0 | 0 |
| | Water Losses | kl/annum | 2 041 000 | 3 585 901 | 4 030 588 | 0 | 2 468 441 | 0 | 0 |
| | % Non-revenue water | | 17.1% | 37.3% | 42.1% | No data | 20.0% | No data | No data |
| | % Water Losses | | 17.1% | 37.3% | 42.1% | No data | 20.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 253 | 200 | 198 | No data | 246 | No data | No data |
| | Input: m³ / household / month | | 30 | 24 | 23 | No data | 29 | No data | No data |
| | Billed : Litres / capita / day | | 210 | 125 | 114 | No data | 197 | No data | No data |
| | Billed : m³ / household / month | | 25 | 15 | 14 | No data | 23 | No data | No data |
| | % Population growth | | | 2.03% | 0.60% | 2.80% | 0.60% | 3.55% | |
| | % Water demand growth | | | -19.46% | -0.39% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |




Comments

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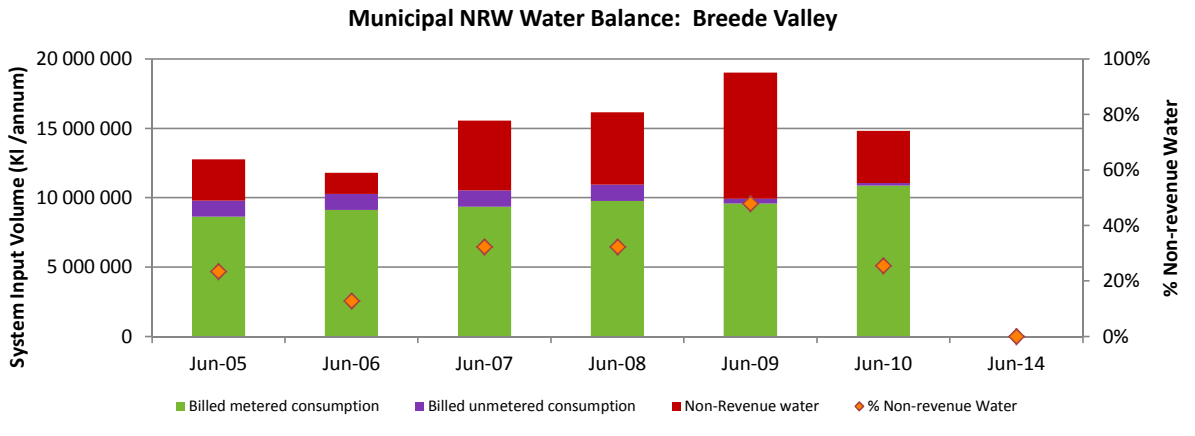
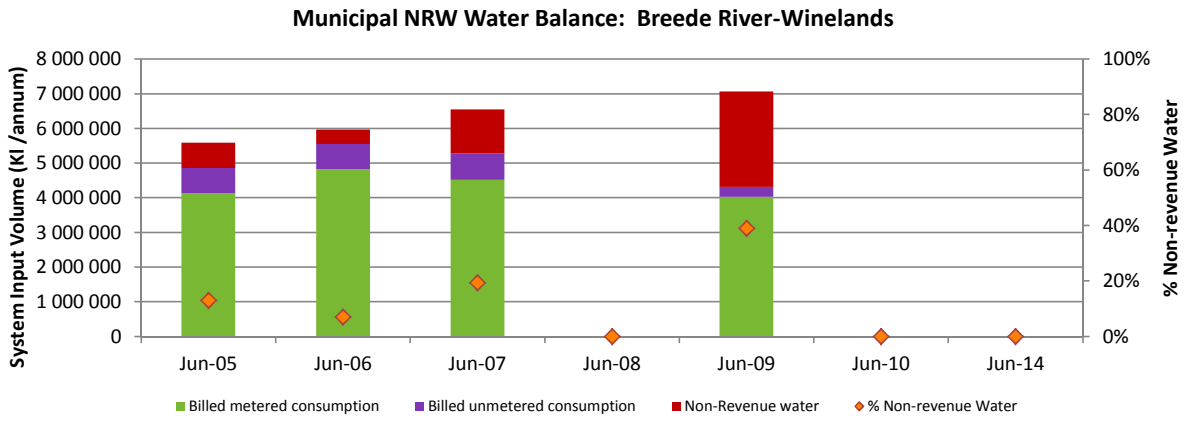
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC025 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | Breede Valley | | | | | | | | B2 |
| Settlements | DE DOORNS, WORCESTER, ZWELETEMBA | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 159 844 | 163 097 | 164 076 | 168 671 | 169 678 | 176 795 | |
| | Households | | 39 189 | 39 984 | 40 224 | 41 354 | 41 602 | 43 343 | |
| | Connections - metered | | | | | | | 24 607 | |
| | Connections - Unmetered | | | | | | | 1 625 | |
| | Length of mains (km) | | | | | | | 472 | |
| | System input volume | kl/annum | 12 771 000 | 11 788 000 | 15 563 590 | ~~16 170 612~~ | 19 012 041 | 14 832 514 | |
| | Billed metered consumption | kl/annum | 8 640 000 | 9 123 011 | 9 360 177 | ~~9 762 226~~ | 9 585 519 | 10 865 025 | |
| | Billed unmetered consumption | kl/annum | 1 140 000 | 1 152 838 | 1 172 069 | ~~1 187 082~~ | 336 032 | 191 765 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 9 780 000 | 10 275 849 | 10 532 246 | 10 949 308 | 9 921 551 | 11 056 790 | 0 |
| | Non-Revenue water | kl/annum | 2 991 000 | 1 512 151 | 5 031 344 | 5 221 304 | 9 090 490 | 3 775 724 | 0 |
| | Water Losses | kl/annum | 2 991 000 | 1 512 151 | 5 031 344 | 5 221 304 | 9 090 490 | 3 775 724 | 0 |
| | % Non-revenue water | | 23.4% | 12.8% | 32.3% | 32.3% | 47.8% | 25.5% | No data |
| | % Water Losses | | 23.4% | 12.8% | 32.3% | 32.3% | 47.8% | 25.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 219 | 198 | 260 | 263 | 307 | 230 | No data |
| | Input: m³ / household / month | | 27 | 25 | 32 | 33 | 38 | 29 | No data |
| | Billed : Litres / capita / day | | 168 | 173 | 176 | 178 | 160 | 171 | No data |
| | Billed : m³ / household / month | | 21 | 21 | 22 | 22 | 20 | 21 | No data |
| | % Population growth | | | 2.04% | 0.60% | 2.80% | 0.60% | 4.19% | |
| | % Water demand growth | | | -7.70% | 32.03% | 3.90% | 17.57% | -21.98% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC026 | | | | | | | | Yes |
| District Municipality | Cape Winelands | | | | | | | | Category |
| Municipality | Breede River-Winelands | | | | | | | | B3 |
| Settlements | ASHBURY, MONTAGU, ROBERTSON | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 90 340 | 92 175 | 92 726 | 95 321 | 95 890 | 98 548 | |
| | Households | | 24 414 | 24 910 | 25 061 | 25 764 | 25 921 | 26 639 | |
| | Connections - metered | | ~~23 679~~ | ~~24 160~~ | ~~24 305~~ | 24 985 | ~~25 134~~ | ~~25 831~~ | |
| | Connections - Unmetered | | ~~883~~ | ~~901~~ | ~~907~~ | 932 | ~~938~~ | ~~964~~ | |
| | Length of mains (km) | | ~~491~~ | ~~501~~ | ~~504~~ | ~~518~~ | ~~521~~ | ~~536~~ | |
| | System input volume | kl/annum | 5 583 296 | 5 969 560 | 6 546 443 | | 7 068 340 | | |
| | Billed metered consumption | kl/annum | 4 124 973 | 4 821 980 | 4 519 487 | | 4 023 519 | | |
| | Billed unmetered consumption | kl/annum | 730 534 | 732 601 | 760 500 | | 293 574 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 855 507 | 5 554 581 | 5 279 987 | 0 | 4 317 093 | 0 | 0 |
| | Non-Revenue water | kl/annum | 727 789 | 414 979 | 1 266 456 | 0 | 2 751 247 | 0 | 0 |
| | Water Losses | kl/annum | 727 789 | 414 979 | 1 266 456 | 0 | 2 751 247 | 0 | 0 |
| | % Non-revenue water | | 13.0% | 7.0% | 19.3% | No data | 38.9% | No data | No data |
| | % Water Losses | | 13.0% | 7.0% | 19.3% | No data | 38.9% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 169 | 177 | 193 | No data | 202 | No data | No data |
| | Input: m³ / household / month | | 19 | 20 | 22 | No data | 23 | No data | No data |
| | Billed : Litres / capita / day | | 147 | 165 | 156 | No data | 123 | No data | No data |
| | Billed : m³ / household / month | | 17 | 19 | 18 | No data | 14 | No data | No data |
| | % Population growth | | | 2.03% | 0.60% | 2.80% | 0.60% | 2.77% | |
| | % Water demand growth | | | 6.92% | 9.66% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |




Comments

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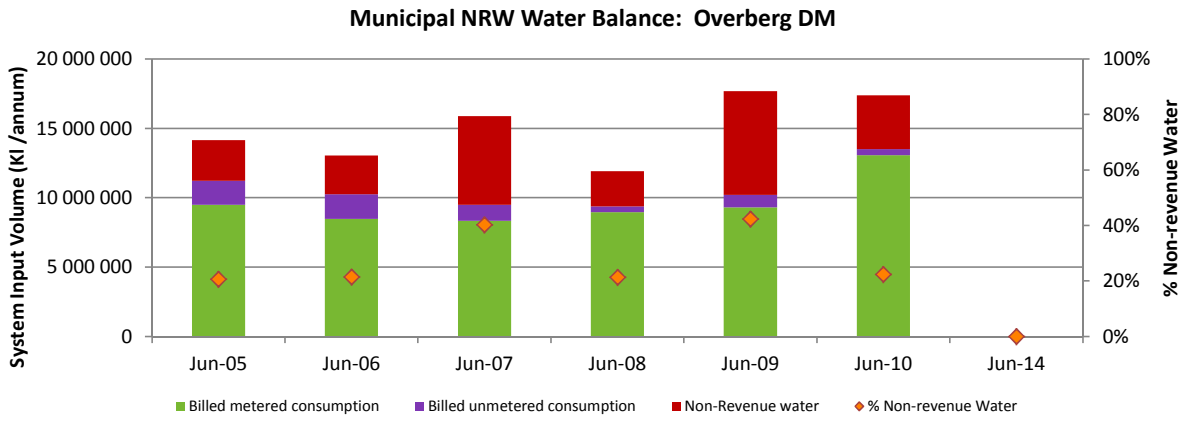
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | DC03 | | | | | | | | Yes |
| District Municipality | Overberg | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 228 445 | 235 384 | 236 800 | 243 433 | 244 893 | 253 494 | 0 |
| | Households | | 66 935 | 68 972 | 69 386 | 71 328 | 71 753 | 74 325 | 0 |
| | Connections - metered | | 0 | 0 | 0 | 0 | 25 989 | 64 047 | 0 |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Length of mains (km) | | 0 | 0 | 123 | 810 | 812 | 1 341 | 0 |
| | System input volume | kl/annum | 14 154 476 | 13 050 111 | 15 878 267 | 11 916 331 | 17 682 708 | 17 395 567 | 0 |
| | Billed metered consumption | kl/annum | 9 491 655 | 8 486 592 | 8 346 483 | 8 962 064 | 9 301 096 | 13 071 932 | 0 |
| | Billed unmetered consumption | kl/annum | 1 741 138 | 1 770 314 | 1 134 595 | 411 816 | 894 317 | 432 340 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 11 232 793 | 10 256 906 | 9 481 078 | 9 373 880 | 10 195 413 | 13 504 272 | 0 |
| | Non-Revenue water | kl/annum | 2 921 683 | 2 793 205 | 6 397 189 | 2 542 451 | 7 487 295 | 3 891 295 | 0 |
| | Water Losses | kl/annum | 2 921 683 | 2 793 205 | 6 397 189 | 2 542 451 | 7 487 295 | 3 891 295 | 0 |
| | % Non-revenue water | | 20.6% | 21.4% | 40.3% | 21.3% | 42.3% | 22.4% | No data |
| | % Water Losses | | 20.6% | 21.4% | 40.3% | 21.3% | 42.3% | 22.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 170 | 152 | 184 | 134 | 198 | 188 | No data |
| | Input: m³ / household / month | | 18 | 16 | 19 | 14 | 21 | 20 | No data |
| | Billed : Litres / capita / day | | 135 | 119 | 110 | 105 | 114 | 146 | No data |
| | Billed : m³ / household / month | | 14 | 12 | 11 | 11 | 12 | 15 | No data |
| | % Population growth | | | 3.04% | 0.60% | 2.80% | 0.60% | 3.51% | |
| | % Water demand growth | | | -7.80% | 21.67% | -24.95% | 48.39% | -1.62% | |
| Source of information | | | | | | | | | |




Comments

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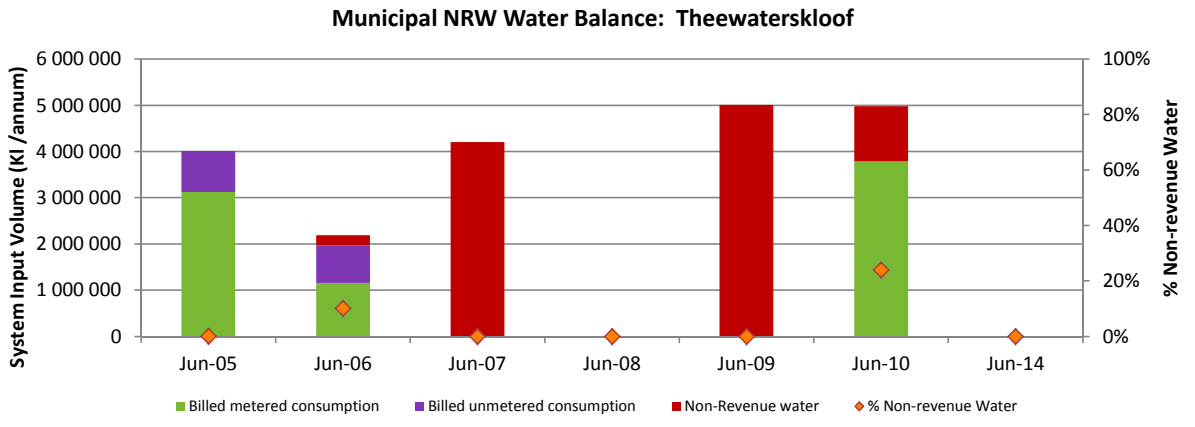
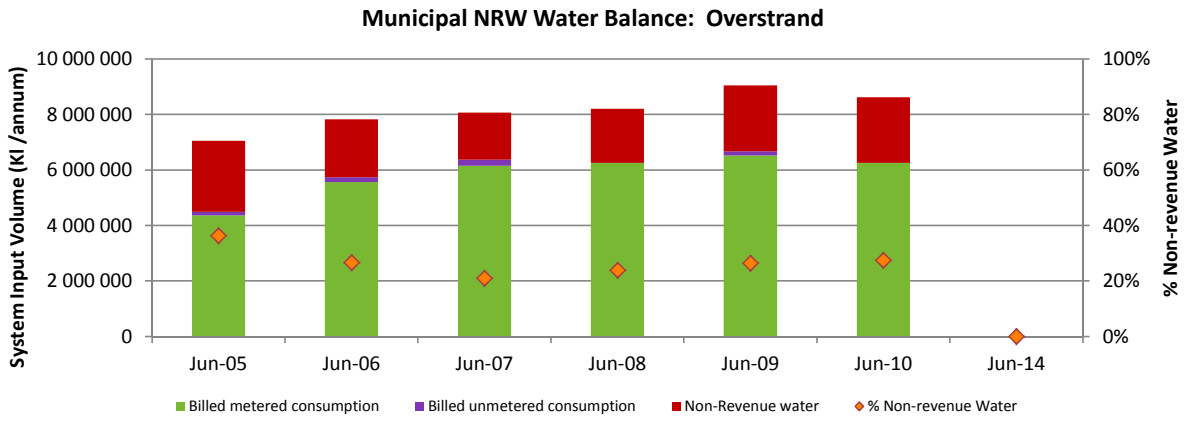
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC031 | | | | | | | | Yes |
| District Municipality | Overberg | | | | | | | | Category |
| Municipality | Theewaterskloof | | | | | | | | B3 |
| Settlements | BERGSIG, CALEDON, GRABOUW | | | | | | | | Target |
| Year ending | | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 104 164 | 107 330 | 107 974 | 110 997 | 111 662 | 115 549 | |
| | Households | | 27 032 | 27 850 | 28 019 | 28 801 | 28 973 | 29 980 | |
| | Connections - metered | | | | | | | 29 980 | |
| | Connections - Unmetered | | | | | | | 0 | |
| | Length of mains (km) | | | | | | | 282 | |
| | System input volume | kl/annum | 4 002 913 | 2 192 191 | 4 203 893 | | 5 010 298 | 4 983 352 | |
| | Billed metered consumption | kl/annum | 3 125 354 | 1 154 703 | 0 | | | 3 790 089 | |
| | Billed unmetered consumption | kl/annum | 876 528 | 816 552 | 0 | | | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 001 882 | 1 971 255 | 0 | 0 | 0 | 3 790 089 | 0 |
| | Non-Revenue water | kl/annum | 1 031 | 220 936 | 4 203 893 | 0 | 5 010 298 | 1 193 263 | 0 |
| | Water Losses | kl/annum | 1 031 | 220 936 | 4 203 893 | 0 | 5 010 298 | 1 193 263 | 0 |
| | % Non-revenue water | | 0.0% | 10.1% | No data | No data | No data | 23.9% | No data |
| | % Water Losses | | 0.0% | 10.1% | 100.0% | No data | 100.0% | 23.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 105 | 56 | 107 | No data | 123 | 118 | No data |
| | Input: m³ / household / month | | 12 | 7 | 13 | No data | 14 | 14 | No data |
| | Billed : Litres / capita / day | | 105 | 50 | No data | No data | No data | 90 | No data |
| | Billed : m³ / household / month | | 12 | 6 | No data | No data | No data | 11 | No data |
| | % Population growth | | | 3.04% | 0.60% | 2.80% | 0.60% | 3.48% | |
| | % Water demand growth | | | -45.24% | 91.77% | | #DIV/0! | -0.54% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



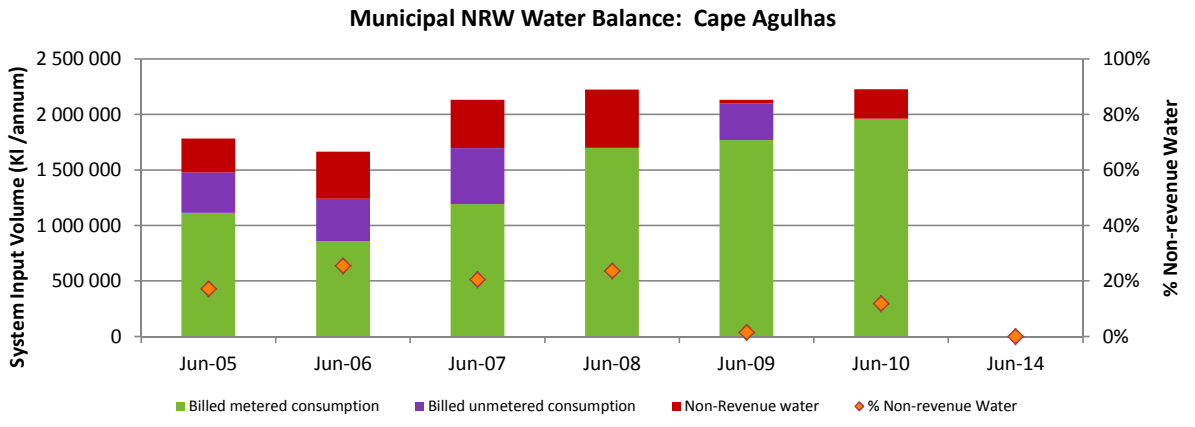

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC032 | | | | | | | | Yes |
| District Municipality | Overberg | | | | | | | | Category |
| Municipality | Overstrand | | | | | | | | B2 |
| Settlements | HERMANUS | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 64 332 | 66 285 | 66 684 | 68 553 | 68 965 | 72 179 | |
| | Households | | 22 597 | 23 289 | 23 429 | 24 083 | 24 225 | 25 353 | |
| | Connections - metered | | | | | | 25 989 | 26 034 | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | | 687 | 687 | 708 | |
| | System input volume | kl/annum | 7 049 000 | 7 832 000 | 8 068 000 | 8 210 931 | 9 054 890 | 8 628 803 | |
| | Billed metered consumption | kl/annum | 4 367 942 | 5 560 626 | 6 152 460 | 6 255 764 | 6 521 193 | 6 262 242 | |
| | Billed unmetered consumption | kl/annum | 122 720 | 181 728 | 220 483 | 0 | 148 080 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 4 490 662 | 5 742 354 | 6 372 943 | 6 255 764 | 6 669 273 | 6 262 242 | 0 |
| | Non-Revenue water | kl/annum | 2 558 338 | 2 089 646 | 1 695 057 | 1 955 167 | 2 385 617 | 2 366 561 | 0 |
| | Water Losses | kl/annum | 2 558 338 | 2 089 646 | 1 695 057 | 1 955 167 | 2 385 617 | 2 366 561 | 0 |
| | % Non-revenue water | | 36.3% | 26.7% | 21.0% | 23.8% | 26.3% | 27.4% | No data |
| | % Water Losses | | 36.3% | 26.7% | 21.0% | 23.8% | 26.3% | 27.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 300 | 324 | 331 | 328 | 360 | 328 | No data |
| | Input: m³ / household / month | | 26 | 28 | 29 | 28 | 31 | 28 | No data |
| | Billed : Litres / capita / day | | 191 | 237 | 262 | 250 | 265 | 238 | No data |
| | Billed : m³ / household / month | | 17 | 21 | 23 | 22 | 23 | 21 | No data |
| | % Population growth | | | 3.04% | 0.60% | 2.80% | 0.60% | 4.66% | |
| | % Water demand growth | | | 11.11% | 3.01% | 1.77% | 10.28% | -4.71% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS RPMS | DWA NIS | |



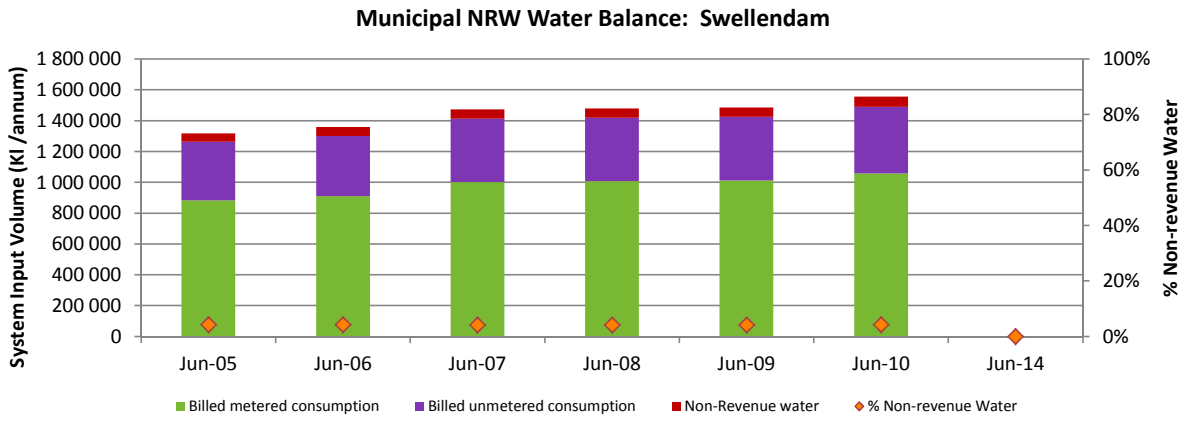

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC033 | | | | | | | | Yes |
| District Municipality | Overberg | | | | | | | | Category |
| Municipality | Cape Agulhas | | | | | | | | B3 |
| Settlements | BREDASDORP, CITRUSDAL | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 28 950 | 29 829 | 30 010 | 30 851 | 31 037 | 32 186 | |
| | Households | | 8 604 | 8 866 | 8 918 | 9 170 | 9 225 | 9 565 | |
| | Connections - metered | | | | | | | 8 033 | |
| | Connections - Unmetered | | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Length of mains (km) | | | | | | | 226 | |
| | System input volume | kl/annum | 1 784 169 | 1 666 750 | 2 134 057 | 2 226 151 | 2 131 340 | 2 227 178 | |
| | Billed metered consumption | kl/annum | 1 114 842 | 860 420 | 1 191 741 | 1 699 322 | 1 768 275 | 1 962 435 | |
| | Billed unmetered consumption | kl/annum | 362 869 | 381 290 | 504 216 | 0 | 332 520 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 477 711 | 1 241 710 | 1 695 957 | 1 699 322 | 2 100 795 | 1 962 435 | 0 |
| | Non-Revenue water | kl/annum | 306 458 | 425 040 | 438 100 | 526 829 | 30 545 | 264 743 | 0 |
| | Water Losses | kl/annum | 306 458 | 425 040 | 438 100 | 526 829 | 30 545 | 264 743 | 0 |
| | % Non-revenue water | | 17.2% | 25.5% | 20.5% | 23.7% | 1.4% | 11.9% | No data |
| | % Water Losses | | 17.2% | 25.5% | 20.5% | 23.7% | 1.4% | 11.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 169 | 153 | 195 | 198 | 188 | 190 | No data |
| | Input: m³ / household / month | | 17 | 16 | 20 | 20 | 19 | 19 | No data |
| | Billed : Litres / capita / day | | 140 | 114 | 155 | 151 | 185 | 167 | No data |
| | Billed : m³ / household / month | | 14 | 12 | 16 | 15 | 19 | 17 | No data |
| | % Population growth | | | 3.04% | 0.61% | 2.80% | 0.60% | 3.70% | |
| | % Water demand growth | | | -6.58% | 28.04% | 4.32% | -4.26% | 4.50% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



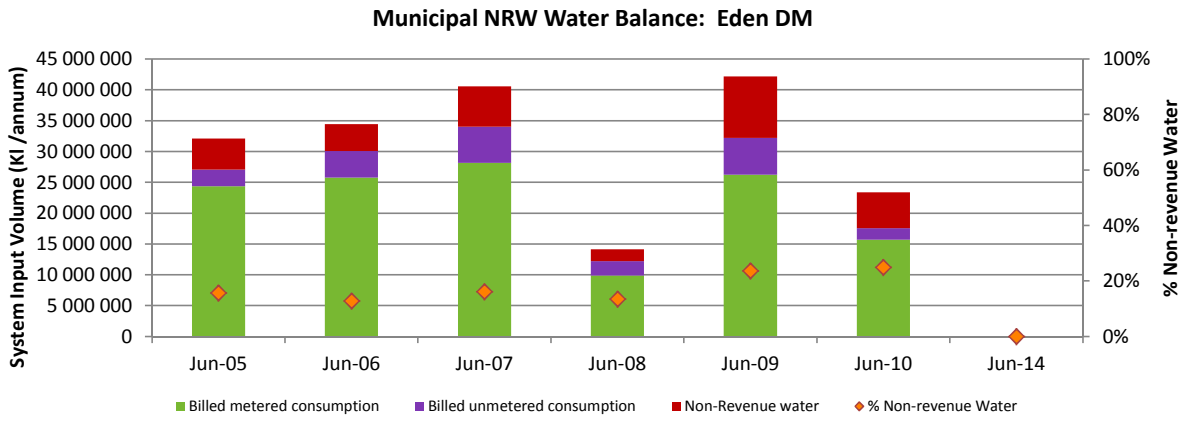

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC034 | | | | | | | | Yes |
| District Municipality | Overberg | | | | | | | | Category |
| Municipality | Swellendam | | | | | | | | B3 |
| Settlements | RAILTON, SWELLENDAM | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 30 999 | 31 940 | 32 132 | 33 032 | 33 229 | 33 580 | |
| | Households | | 8 702 | 8 967 | 9 020 | 9 274 | 9 330 | 9 427 | |
| | Connections - metered | | | | | | | | |
| | Connections - Unmetered | | | | | | | | |
| | Length of mains (km) | | | | 123 | 123 | 125 | 125 | |
| | System input volume | kl/annum | 1 318 394 | 1 359 170 | 1 472 317 | 1 479 249 | 1 486 180 | 1 556 234 | |
| | Billed metered consumption | kl/annum | 883 517 | 910 843 | 1 002 282 | 1 006 978 | 1 011 628 | 1 057 166 | |
| | Billed unmetered consumption | kl/annum | 379 021 | 390 744 | 409 896 | 411 816 | 413 717 | 432 340 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 262 538 | 1 301 587 | 1 412 178 | 1 418 794 | 1 425 345 | 1 489 506 | 0 |
| | Non-Revenue water | kl/annum | 55 856 | 57 583 | 60 139 | 60 455 | 60 835 | 66 728 | 0 |
| | Water Losses | kl/annum | 55 856 | 57 583 | 60 139 | 60 455 | 60 835 | 66 728 | 0 |
| | % Non-revenue water | | 4.2% | 4.2% | 4.1% | 4.1% | 4.1% | 4.3% | No data |
| | % Water Losses | | 4.2% | 4.2% | 4.1% | 4.1% | 4.1% | 4.3% | No data |
| Key performance indicators | Input : Litres / capita / day | | 117 | 117 | 126 | 123 | 123 | 127 | No data |
| | Input: m³ / household / month | | 13 | 13 | 14 | 13 | 13 | 14 | No data |
| | Billed : Litres / capita / day | | 112 | 112 | 120 | 118 | 118 | 122 | No data |
| | Billed : m³ / household / month | | 12 | 12 | 13 | 13 | 13 | 13 | No data |
| | % Population growth | | | 3.04% | 0.60% | 2.80% | 0.60% | 1.06% | |
| | % Water demand growth | | | 3.09% | 8.32% | 0.47% | 0.47% | 4.71% | |
| Source of information | | | DWA NIS | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



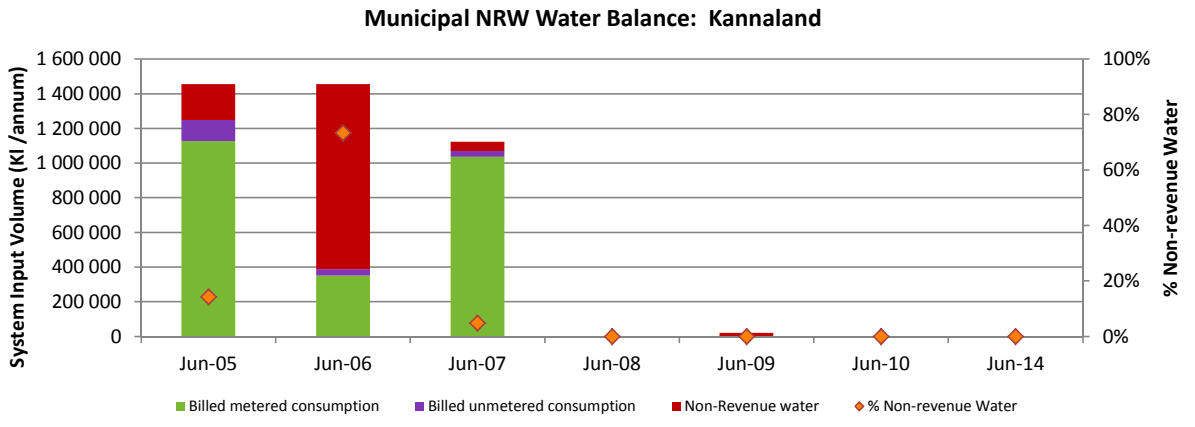

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | DC04 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 487 974 | 499 349 | 502 351 | 516 416 | 519 514 | 533 178 | 0 |
| | Households | | 134 913 | 138 050 | 138 863 | 142 765 | 143 612 | 147 479 | 0 |
| | Connections - metered | | 92 564 | 94 722 | 95 291 | 97 958 | 107 793 | 445 924 | 0 |
| | Connections - Unmetered | | 7 202 | 7 370 | 7 413 | 7 621 | 7 666 | 8 028 | 0 |
| | Length of mains (km) | | 1 995 | 2 042 | 2 054 | 2 424 | 2 438 | 3 238 | 0 |
| | System input volume | kl/annum | 32 080 570 | 34 461 211 | 40 577 723 | 14 134 199 | 42 189 676 | 23 383 245 | 0 |
| | Billed metered consumption | kl/annum | 24 352 004 | 25 784 106 | 28 161 857 | 9 868 389 | 26 211 063 | 15 695 816 | 0 |
| | Billed unmetered consumption | kl/annum | 2 712 645 | 4 276 894 | 5 861 387 | 2 359 570 | 5 992 955 | 1 869 027 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 27 064 649 | 30 061 000 | 34 023 244 | 12 227 959 | 32 204 018 | 17 564 843 | 0 |
| | Non-Revenue water | kl/annum | 5 015 921 | 4 400 211 | 6 554 479 | 1 906 240 | 9 985 658 | 5 818 402 | 0 |
| | Water Losses | kl/annum | 5 015 921 | 4 400 211 | 6 554 479 | 1 906 240 | 9 985 658 | 5 818 402 | 0 |
| | % Non-revenue water | | 15.6% | 12.8% | 16.2% | 13.5% | 23.7% | 24.9% | No data |
| | % Water Losses | | 15.6% | 12.8% | 16.2% | 13.5% | 23.7% | 24.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 180 | 189 | 221 | 75 | 222 | 120 | No data |
| | Input: m³ / household / month | | 20 | 21 | 24 | 8 | 24 | 13 | No data |
| | Billed : Litres / capita / day | | 152 | 165 | 186 | 65 | 170 | 90 | No data |
| | Billed : m³ / household / month | | 17 | 18 | 20 | 7 | 19 | 10 | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.80% | 0.60% | 2.63% | |
| | % Water demand growth | | | 7.42% | 17.75% | -65.17% | 198.49% | -44.58% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



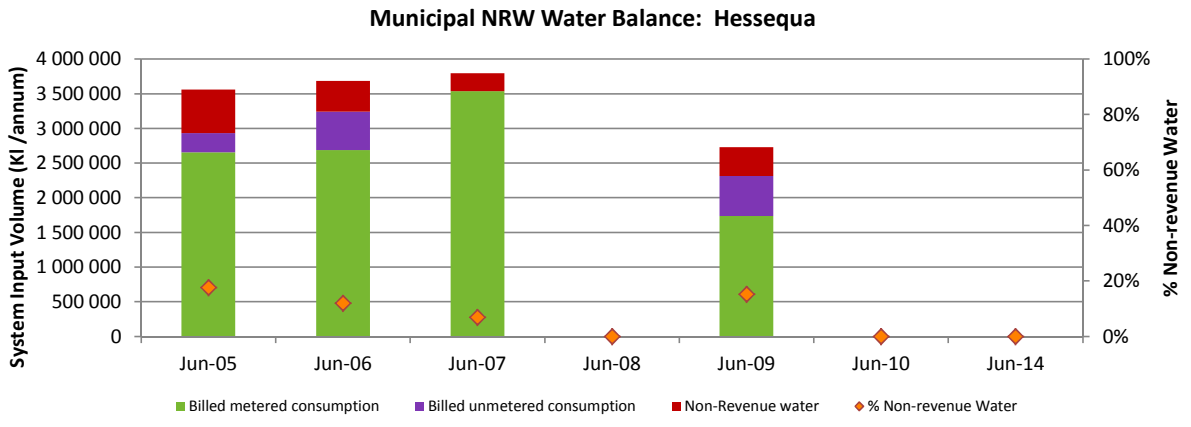

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC041 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Kannaland | | | | | | | | B3 |
| Settlements | Ladismith | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 26 279 | 26 890 | 27 054 | 27 817 | 27 985 | 28 118 | |
| | Households | | 6 986 | 7 146 | 7 187 | 7 393 | 7 436 | 7 470 | |
| | Connections - metered | | ~~6 415~~ | ~~6 564~~ | ~~6 604~~ | 6 790 | ~~6 831~~ | ~~6 863~~ | |
| | Connections - Unmetered | | ~~611~~ | ~~625~~ | ~~629~~ | 647 | ~~651~~ | ~~654~~ | |
| | Length of mains (km) | | ~~141~~ | ~~144~~ | ~~145~~ | ~~149~~ | ~~150~~ | ~~150~~ | |
| | System input volume | kl/annum | 1 455 659 | 1 455 659 | 1 123 319 | | 20 387 | | |
| | Billed metered consumption | kl/annum | 1 126 217 | 351 674 | 1 035 592 | | | | |
| | Billed unmetered consumption | kl/annum | 122 400 | 36 468 | 34 236 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 248 617 | 388 142 | 1 069 828 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 207 042 | 1 067 517 | 53 491 | 0 | 20 387 | 0 | 0 |
| | Water Losses | kl/annum | 207 042 | 1 067 517 | 53 491 | 0 | 20 387 | 0 | 0 |
| | % Non-revenue water | | 14.2% | 73.3% | 4.8% | No data | No data | No data | No data |
| | % Water Losses | | 14.2% | 73.3% | 4.8% | No data | 100.0% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 152 | 148 | 114 | No data | 2 | No data | No data |
| | Input: m³ / household / month | | 17 | 17 | 13 | No data | 0 | No data | No data |
| | Billed : Litres / capita / day | | 130 | 40 | 108 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 15 | 5 | 12 | No data | No data | No data | No data |
| | % Population growth | | | 2.33% | 0.61% | 2.82% | 0.60% | 0.48% | |
| | % Water demand growth | | | 0.00% | -22.83% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS | DWA NIS | |



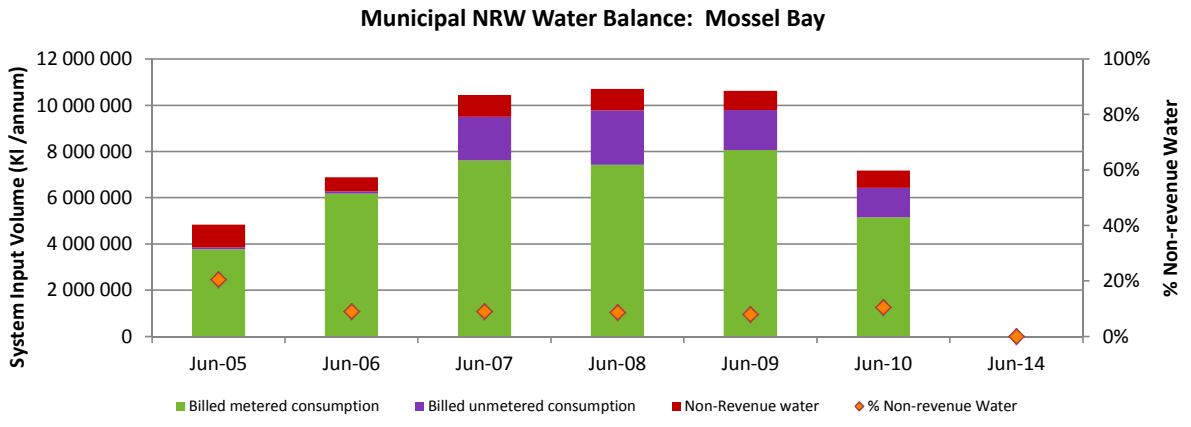

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC042 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Hessequa | | | | | | | | B3 |
| Settlements | RIVERSDALE | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 48 444 | 49 574 | 49 869 | 51 263 | 51 568 | 53 418 | |
| | Households | | 14 420 | 14 758 | 14 845 | 15 260 | 15 352 | 15 902 | |
| | Connections - metered | | ~~13 905~~ | ~~14 229~~ | ~~14 314~~ | 14 714 | ~~14 802~~ | ~~15 333~~ | |
| | Connections - Unmetered | | ~~601~~ | ~~615~~ | ~~619~~ | 636 | ~~640~~ | ~~663~~ | |
| | Length of mains (km) | | ~~290~~ | ~~297~~ | ~~299~~ | ~~307~~ | ~~309~~ | ~~320~~ | |
| | System input volume | kl/annum | 3 560 154 | 3 684 287 | 3 797 423 | | 2 730 000 | | |
| | Billed metered consumption | kl/annum | 2 656 900 | 2 685 540 | 3 537 361 | | 1 736 960 | | |
| | Billed unmetered consumption | kl/annum | 277 200 | 557 983 | 0 | | 578 781 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 934 100 | 3 243 523 | 3 537 361 | 0 | 2 315 741 | 0 | 0 |
| | Non-Revenue water | kl/annum | 626 054 | 440 764 | 260 062 | 0 | 414 259 | 0 | 0 |
| | Water Losses | kl/annum | 626 054 | 440 764 | 260 062 | 0 | 414 259 | 0 | 0 |
| | % Non-revenue water | | 17.6% | 12.0% | 6.8% | No data | 15.2% | No data | No data |
| | % Water Losses | | 17.6% | 12.0% | 6.8% | No data | 15.2% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 201 | 204 | 209 | No data | 145 | No data | No data |
| | Input: m³ / household / month | | 21 | 21 | 21 | No data | 15 | No data | No data |
| | Billed : Litres / capita / day | | 166 | 179 | 194 | No data | 123 | No data | No data |
| | Billed : m³ / household / month | | 17 | 18 | 20 | No data | 13 | No data | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.80% | 0.59% | 3.59% | |
| | % Water demand growth | | | 3.49% | 3.07% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |




Comments

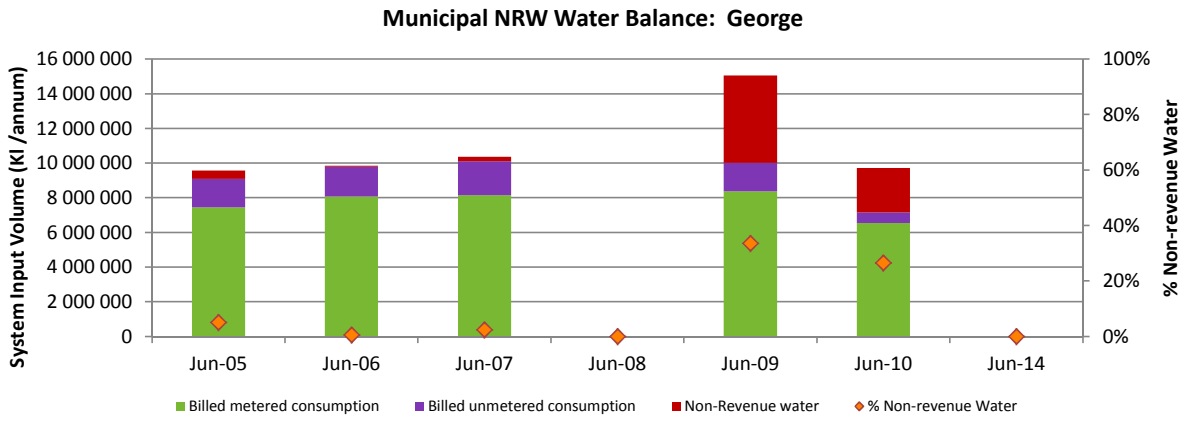
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC043 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Mossel Bay | | | | | | | | B2 |
| Settlements | KWANONQABA, MOSSEL BAY | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 79 151 | 80 999 | 81 488 | 83 772 | 84 275 | 86 810 | |
| | Households | | 23 330 | 23 870 | 24 013 | 24 690 | 24 837 | 25 582 | |
| | Connections - metered | | | | | | | 335 348 | |
| | Connections - Unmetered | | | | | | | 200 | |
| | Length of mains (km) | | | | | | | 741 | |
| | System input volume | kl/annum | 4 842 574 | 6 890 140 | 10 438 382 | 10 703 773 | 10 630 000 | 7 182 655 | |
| | Billed metered consumption | kl/annum | 3 766 588 | 6 181 249 | 7 614 104 | 7 426 089 | 8 060 000 | 5 156 615 | |
| | Billed unmetered consumption | kl/annum | 83 754 | 88 779 | 1 890 479 | 2 359 570 | 1 730 000 | 1 272 703 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 3 850 342 | 6 270 028 | 9 504 583 | 9 785 659 | 9 790 000 | 6 429 318 | 0 |
| | Non-Revenue water | kl/annum | 992 232 | 620 112 | 933 799 | 918 114 | 840 000 | 753 337 | 0 |
| | Water Losses | kl/annum | 992 232 | 620 112 | 933 799 | 918 114 | 840 000 | 753 337 | 0 |
| | % Non-revenue water | | 20.5% | 9.0% | 8.9% | 8.6% | 7.9% | 10.5% | No data |
| | % Water Losses | | 20.5% | 9.0% | 8.9% | 8.6% | 7.9% | 10.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 168 | 233 | 351 | 350 | 346 | 227 | No data |
| | Input: m³ / household / month | | 17 | 24 | 36 | 36 | 36 | 23 | No data |
| | Billed : Litres / capita / day | | 133 | 212 | 320 | 320 | 318 | 203 | No data |
| | Billed : m³ / household / month | | 14 | 22 | 33 | 33 | 33 | 21 | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.80% | 0.60% | 3.01% | |
| | % Water demand growth | | | 42.28% | 51.50% | 2.54% | -0.69% | -32.43% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS Municipality | DWA NIS Municipality | DWA NIS RPMS | DWA NIS Municipality | |




**Comments**

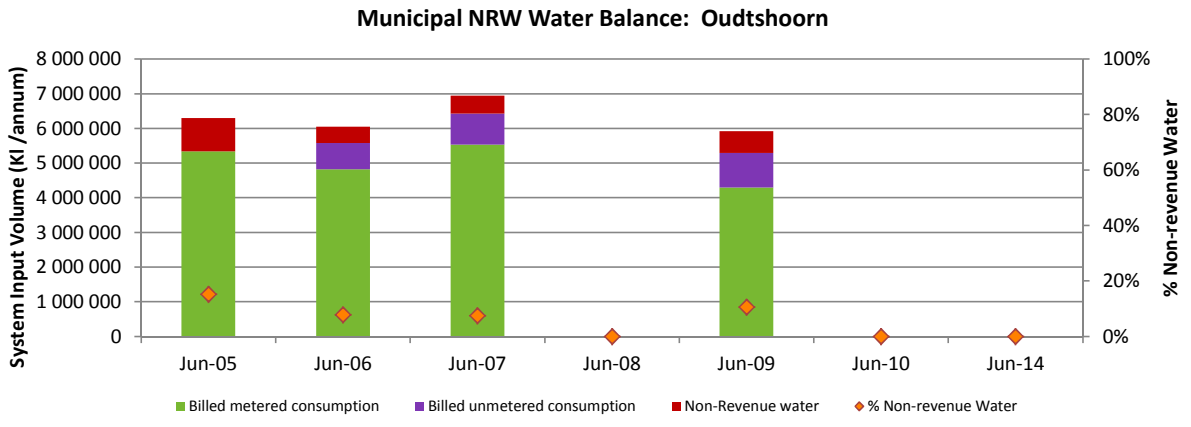
The demand dropped in 2009/10 due to the severe drought in the area.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC044 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | George | | | | | | | | B1 |
| Settlements | CONVILLE, GEORGE, THEMBALETHU | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 151 299 | 154 828 | 155 761 | 160 125 | 161 088 | 167 815 | |
| | Households | | 41 680 | 42 651 | 42 905 | 44 111 | 44 375 | 46 229 | |
| | Connections - metered | | 38 014 | 38 901 | 39 136 | 40 232 | 40 474 | 42 164 | |
| | Connections - Unmetered | | 2 306 | 2 360 | 2 374 | 2 441 | 2 456 | 2 558 | |
| | Length of mains (km) | | 806 | 825 | 830 | 853 | 859 | 894 | |
| | System input volume | kl/annum | 9 571 290 | 9 850 717 | 10 358 000 | | 15 050 000 | 9 725 100 | |
| | Billed metered consumption | kl/annum | 7 453 534 | 8 073 168 | 8 152 851 | | 8 368 348 | 6 548 078 | |
| | Billed unmetered consumption | kl/annum | 1 633 680 | 1 723 752 | 1 959 192 | | 1 639 014 | 596 324 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 9 087 214 | 9 796 920 | 10 112 043 | 0 | 10 007 362 | 7 144 402 | 0 |
| | Non-Revenue water | kl/annum | 484 076 | 53 797 | 245 957 | 0 | 5 042 638 | 2 580 698 | 0 |
| | Water Losses | kl/annum | 484 076 | 53 797 | 245 957 | 0 | 5 042 638 | 2 580 698 | 0 |
| | % Non-revenue water | | 5.1% | 0.5% | 2.4% | No data | 33.5% | 26.5% | No data |
| | % Water Losses | | 5.1% | 0.5% | 2.4% | No data | 33.5% | 26.5% | No data |
| Key performance indicators | Input : Litres / capita / day | | 173 | 174 | 182 | No data | 256 | 159 | No data |
| | Input: m³ / household / month | | 19 | 19 | 20 | No data | 28 | 18 | No data |
| | Billed : Litres / capita / day | | 165 | 173 | 178 | No data | 170 | 117 | No data |
| | Billed : m³ / household / month | | 18 | 19 | 20 | No data | 19 | 13 | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.80% | 0.60% | 4.18% | |
| | % Water demand growth | | | 2.92% | 5.15% | | #DIV/0! | -35.38% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



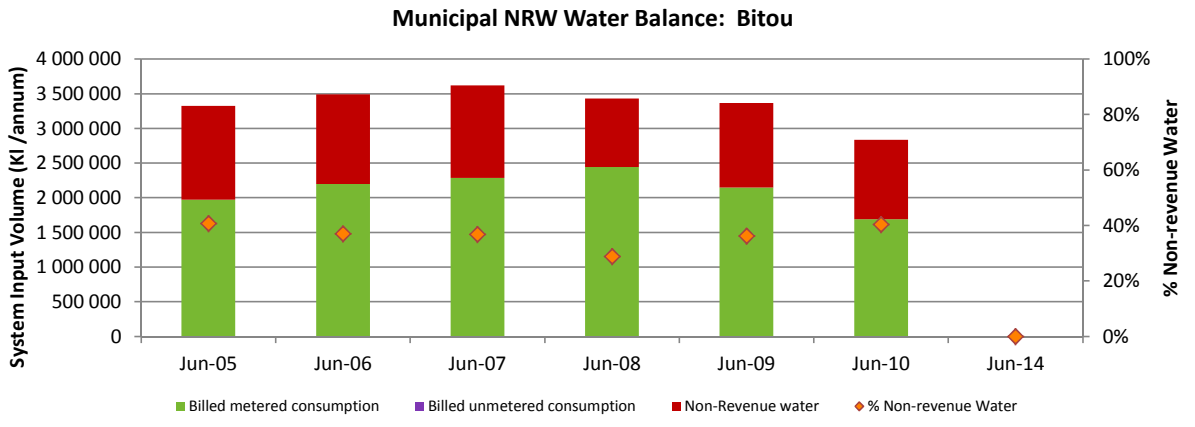

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC045 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Oudtshoorn | | | | | | | | B2 |
| Settlements | Oudtshoorn | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 91 777 | 93 917 | 94 482 | 97 122 | 97 705 | 98 413 | |
| | Households | | 20 619 | 21 102 | 21 222 | 21 817 | 21 940 | 22 087 | |
| | Connections - metered | | ~~19 096~~ | ~~19 541~~ | ~~19 659~~ | 20 208 | ~~20 329~~ | ~~20 477~~ | |
| | Connections - Unmetered | | ~~1 580~~ | ~~1 617~~ | ~~1 626~~ | 1 672 | ~~1 681~~ | ~~1 693~~ | |
| | Length of mains (km) | | ~~414~~ | ~~423~~ | ~~426~~ | ~~438~~ | ~~440~~ | ~~443~~ | |
| | System input volume | kl/annum | 6 295 000 | 6 045 210 | 6 947 744 | | 5 920 436 | | |
| | Billed metered consumption | kl/annum | 5 341 000 | 4 820 369 | 5 533 710 | | 4 298 746 | | |
| | Billed unmetered consumption | kl/annum | 0 | 753 912 | 897 480 | | 995 160 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 5 341 000 | 5 574 281 | 6 431 190 | 0 | 5 293 906 | 0 | 0 |
| | Non-Revenue water | kl/annum | 954 000 | 470 929 | 516 554 | 0 | 626 530 | 0 | 0 |
| | Water Losses | kl/annum | 954 000 | 470 929 | 516 554 | 0 | 626 530 | 0 | 0 |
| | % Non-revenue water | | 15.2% | 7.8% | 7.4% | No data | 10.6% | No data | No data |
| | % Water Losses | | 15.2% | 7.8% | 7.4% | No data | 10.6% | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 188 | 176 | 201 | No data | 166 | No data | No data |
| | Input: m³ / household / month | | 25 | 24 | 27 | No data | 22 | No data | No data |
| | Billed : Litres / capita / day | | 159 | 163 | 186 | No data | 148 | No data | No data |
| | Billed : m³ / household / month | | 22 | 22 | 25 | No data | 20 | No data | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.79% | 0.60% | 0.72% | |
| | % Water demand growth | | | -3.97% | 14.93% | | #DIV/0! | | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



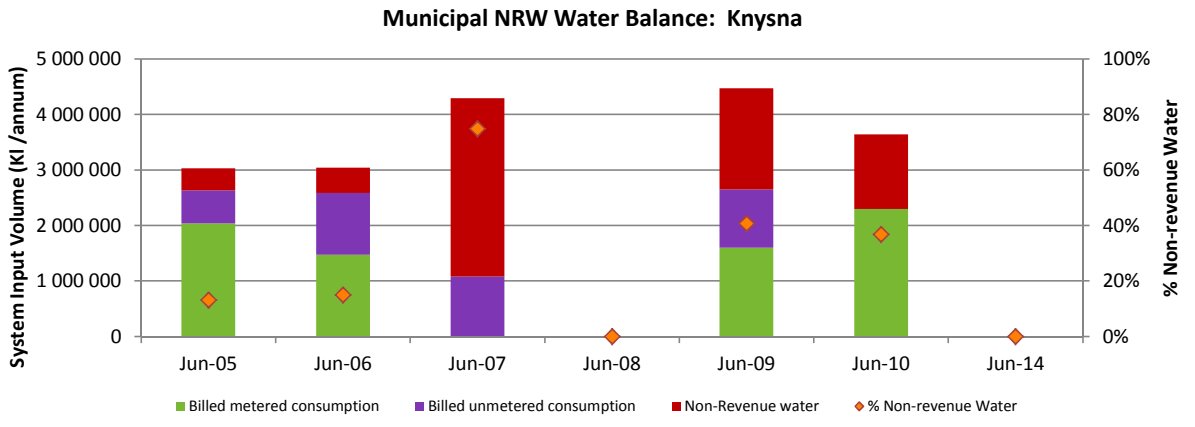

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC047 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Bitou | | | | | | | | B3 |
| Settlements | Greater Plettenberg Bay, JEFFREY'S BAY, HUMANSDORP | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 34 069 | 34 859 | 35 068 | 36 051 | 36 268 | 37 402 | |
| | Households | | 10 744 | 10 989 | 11 050 | 11 363 | 11 429 | 11 790 | |
| | Connections - metered | | | | | | 9 248 | 9 477 | |
| | Connections - Unmetered | | | | | | 0 | 0 | |
| | Length of mains (km) | | | | | 312 | 314 | 319 | |
| | System input volume | kl/annum | 3 324 348 | 3 490 566 | 3 618 805 | 3 430 426 | 3 366 312 | 2 835 490 | |
| | Billed metered consumption | kl/annum | 1 970 135 | 2 200 174 | 2 288 239 | 2 442 300 | 2 147 330 | 1 691 123 | |
| | Billed unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 1 970 135 | 2 200 174 | 2 288 239 | 2 442 300 | 2 147 330 | 1 691 123 | 0 |
| | Non-Revenue water | kl/annum | 1 354 213 | 1 290 392 | 1 330 566 | 988 126 | 1 218 982 | 1 144 367 | 0 |
| | Water Losses | kl/annum | 1 354 213 | 1 290 392 | 1 330 566 | 988 126 | 1 218 982 | 1 144 367 | 0 |
| | % Non-revenue water | | 40.7% | 37.0% | 36.8% | 28.8% | 36.2% | 40.4% | No data |
| | % Water Losses | | 40.7% | 37.0% | 36.8% | 28.8% | 36.2% | 40.4% | No data |
| Key performance indicators | Input : Litres / capita / day | | 267 | 274 | 283 | 261 | 254 | 208 | No data |
| | Input: m³ / household / month | | 26 | 26 | 27 | 25 | 25 | 20 | No data |
| | Billed : Litres / capita / day | | 158 | 173 | 179 | 186 | 162 | 124 | No data |
| | Billed : m³ / household / month | | 15 | 17 | 17 | 18 | 16 | 12 | No data |
| | % Population growth | | | 2.32% | 0.60% | 2.80% | 0.60% | 3.13% | |
| | % Water demand growth | | | 5.00% | 3.67% | -5.21% | -1.87% | -15.77% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



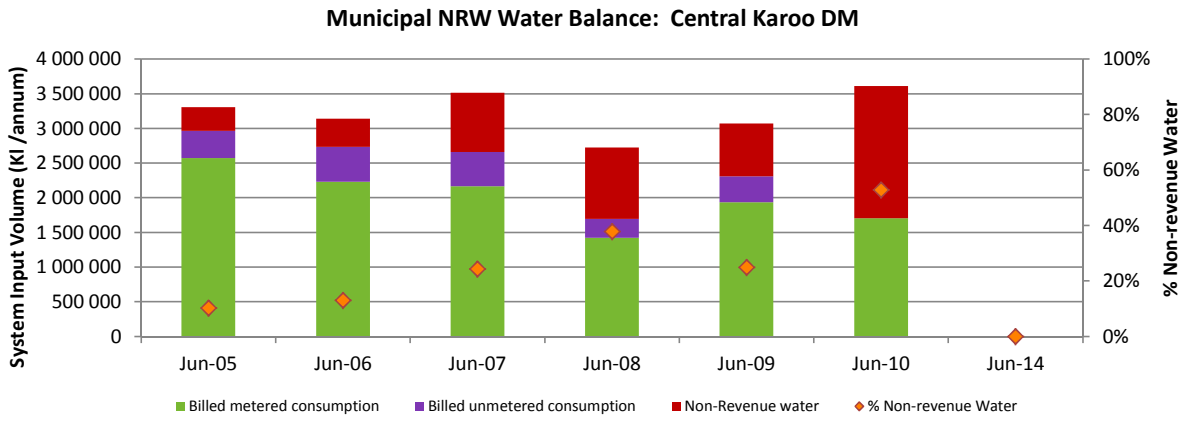

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC048 | | | | | | | | Yes |
| District Municipality | Eden | | | | | | | | Category |
| Municipality | Knysna | | | | | | | | B2 |
| Settlements | SEDGEFIELD, KNYSNA | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 56 955 | 58 282 | 58 629 | 60 266 | 60 625 | 61 202 | |
| | Households | | 17 134 | 17 534 | 17 641 | 18 131 | 18 243 | 18 419 | |
| | Connections - metered | | ~~15 134~~ | ~~15 487~~ | ~~15 579~~ | 16 014 | ~~16 109~~ | ~~16 263~~ | |
| | Connections - Unmetered | | ~~2 103~~ | ~~2 152~~ | ~~2 165~~ | 2 225 | ~~2 239~~ | ~~2 260~~ | |
| | Length of mains (km) | | ~~345~~ | ~~353~~ | ~~355~~ | ~~365~~ | ~~367~~ | ~~370~~ | |
| | System input volume | kl/annum | 3 031 545 | 3 044 632 | 4 294 050 | | 4 472 541 | 3 640 000 | |
| | Billed metered consumption | kl/annum | 2 037 630 | 1 471 932 | 0 | | 1 599 679 | 2 300 000 | |
| | Billed unmetered consumption | kl/annum | 595 611 | 1 116 000 | 1 080 000 | | 1 050 000 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 633 241 | 2 587 932 | 1 080 000 | 0 | 2 649 679 | 2 300 000 | 0 |
| | Non-Revenue water | kl/annum | 398 304 | 456 700 | 3 214 050 | 0 | 1 822 862 | 1 340 000 | 0 |
| | Water Losses | kl/annum | 398 304 | 456 700 | 3 214 050 | 0 | 1 822 862 | 1 340 000 | 0 |
| | % Non-revenue water | | 13.1% | 15.0% | 74.8% | No data | 40.8% | 36.8% | No data |
| | % Water Losses | | 13.1% | 15.0% | 74.8% | No data | 40.8% | 36.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 146 | 143 | 201 | No data | 202 | 163 | No data |
| | Input: m³ / household / month | | 15 | 14 | 20 | No data | 20 | 16 | No data |
| | Billed : Litres / capita / day | | 127 | 122 | 50 | No data | 120 | 103 | No data |
| | Billed : m³ / household / month | | 13 | 12 | 5 | No data | 12 | 10 | No data |
| | % Population growth | | | 2.33% | 0.60% | 2.79% | 0.60% | 0.95% | |
| | % Water demand growth | | | 0.43% | 41.04% | | #DIV/0! | -18.61% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS | |



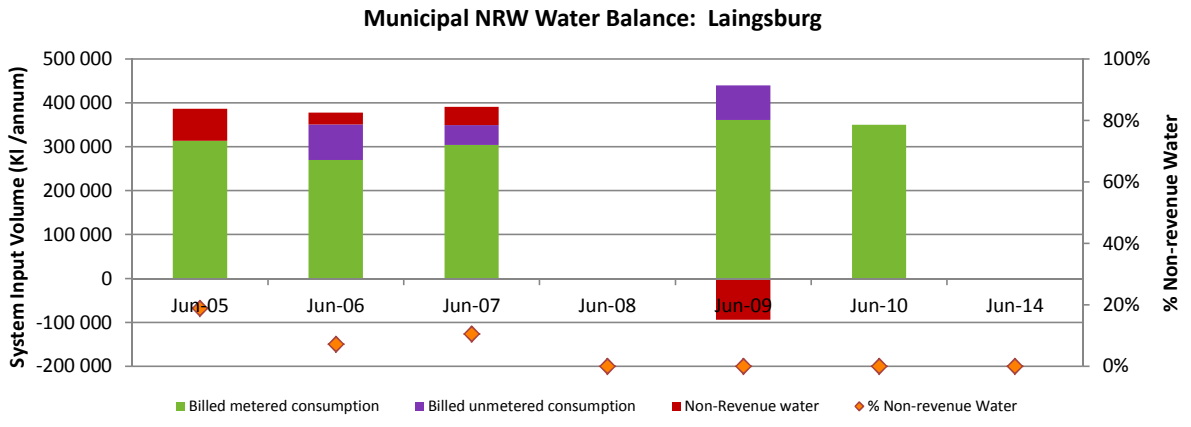

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | DC05 | | | | | | | | Yes |
| District Municipality | Central Karoo | | | | | | | | Category |
| Municipality | | | | | | | | | C1 |
| Settlements | | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 59 147 | 60 051 | 60 407 | 62 085 | 62 451 | 63 831 | 0 |
| | Households | | 15 391 | 15 629 | 15 712 | 16 168 | 16 257 | 16 614 | 0 |
| | Connections - metered | | 4 887 | 4 961 | 4 990 | 5 128 | 5 158 | 14 906 | 0 |
| | Connections - Unmetered | | 255 | 259 | 260 | 268 | 269 | 272 | 0 |
| | Length of mains (km) | | 103 | 104 | 105 | 108 | 109 | 280 | 0 |
| | System input volume | kl/annum | 3 305 807 | 3 141 320 | 3 513 489 | 2 725 814 | 3 071 962 | 3 611 000 | 0 |
| | Billed metered consumption | kl/annum | 2 570 469 | 2 229 530 | 2 167 152 | 1 423 351 | 1 932 889 | 1 704 000 | 0 |
| | Billed unmetered consumption | kl/annum | 395 749 | 504 111 | 491 788 | 270 214 | 375 088 | 0 | 0 |
| | Unbilled metered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Unbilled unmetered consumption | kl/annum | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Balance Calculations | Revenue water | kl/annum | 2 966 218 | 2 733 641 | 2 658 940 | 1 693 565 | 2 307 977 | 1 704 000 | 0 |
| | Non-Revenue water | kl/annum | 339 589 | 407 679 | 854 549 | 1 032 249 | 763 985 | 1 907 000 | 0 |
| | Water Losses | kl/annum | 339 589 | 407 679 | 854 549 | 1 032 249 | 763 985 | 1 907 000 | 0 |
| | % Non-revenue water | | 10.3% | 13.0% | 24.3% | 37.9% | 24.9% | 52.8% | No data |
| | % Water Losses | | 10.3% | 13.0% | 24.3% | 37.9% | 24.9% | 52.8% | No data |
| Key performance indicators | Input : Litres / capita / day | | 153 | 143 | 159 | 120 | 135 | 155 | No data |
| | Input: m³ / household / month | | 18 | 17 | 19 | 14 | 16 | 18 | No data |
| | Billed : Litres / capita / day | | 137 | 125 | 121 | 75 | 101 | 73 | No data |
| | Billed : m³ / household / month | | 16 | 15 | 14 | 9 | 12 | 9 | No data |
| | % Population growth | | | 1.53% | 0.59% | 2.78% | 0.59% | 2.21% | |
| | % Water demand growth | | | -4.98% | 11.85% | -22.42% | 12.70% | 17.55% | |
| Source of information | | | | | | | | | |



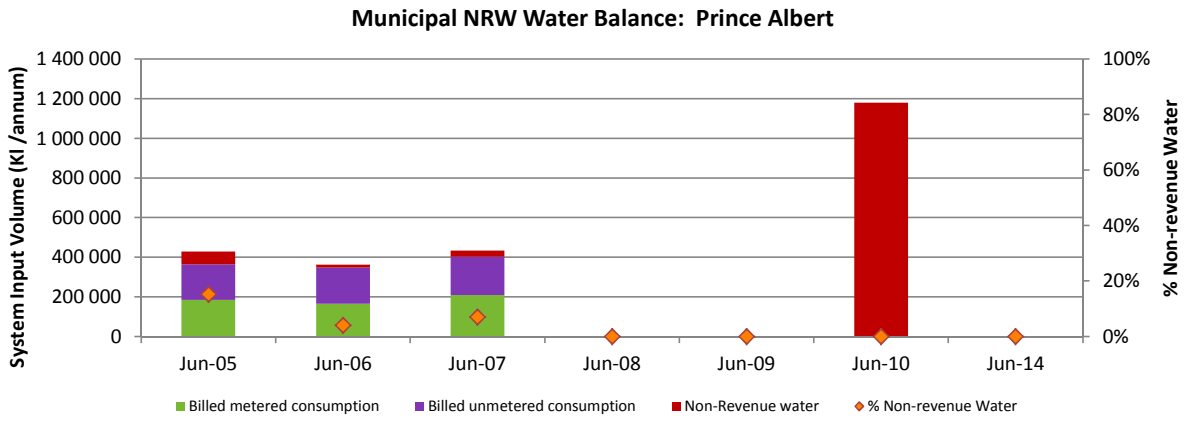

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC051 | | | | | | | | Yes |
| District Municipality | Central Karoo | | | | | | | | Category |
| Municipality | Laingsburg | | | | | | | | B3 |
| Settlements | Laingsburg | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 7 279 | 7 387 | 7 430 | 7 631 | 7 676 | 7 629 | |
| | Households | | 2 197 | 2 231 | 2 240 | 2 308 | 2 321 | 2 307 | |
| | Connections - metered | | ~~2 099~~ | ~~2 131~~ | ~~2 143~~ | 2 201 | ~~2 214~~ | ~~2 200~~ | |
| | Connections - Unmetered | | ~~115~~ | ~~117~~ | ~~117~~ | 121 | ~~122~~ | ~~121~~ | |
| | Length of mains (km) | | ~~44~~ | ~~45~~ | ~~45~~ | ~~46~~ | ~~47~~ | ~~46~~ | |
| | System input volume | kl/annum | 387 000 | 378 000 | 390 750 | | 346 362 | 350 000 | |
| | Billed metered consumption | kl/annum | 314 000 | 270 072 | 304 000 | | 360 999 | 350 000 | |
| | Billed unmetered consumption | kl/annum | 0 | 80 928 | 45 648 | | 79 272 | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 314 000 | 351 000 | 349 648 | 0 | 440 271 | 350 000 | 0 |
| | Non-Revenue water | kl/annum | 73 000 | 27 000 | 41 102 | 0 | -93 909 | 0 | 0 |
| | Water Losses | kl/annum | 73 000 | 27 000 | 41 102 | 0 | -93 909 | 0 | 0 |
| | % Non-revenue water | | 18.9% | 7.1% | 10.5% | No data | Check data | Check data | No data |
| | % Water Losses | | 18.9% | 7.1% | 10.5% | No data | Check data | No data | No data |
| Key performance indicators | Input : Litres / capita / day | | 146 | 140 | 144 | No data | 124 | 126 | No data |
| | Input: m³ / household / month | | 15 | 14 | 15 | No data | 12 | 13 | No data |
| | Billed : Litres / capita / day | | 118 | 130 | 129 | No data | 157 | 126 | No data |
| | Billed : m³ / household / month | | 12 | 13 | 13 | No data | 16 | 13 | No data |
| | % Population growth | | | 1.48% | 0.58% | 2.71% | 0.59% | -0.61% | |
| | % Water demand growth | | | -2.33% | 3.37% | | #DIV/0! | 1.05% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS StatsSA | DWA NIS RPMS | |



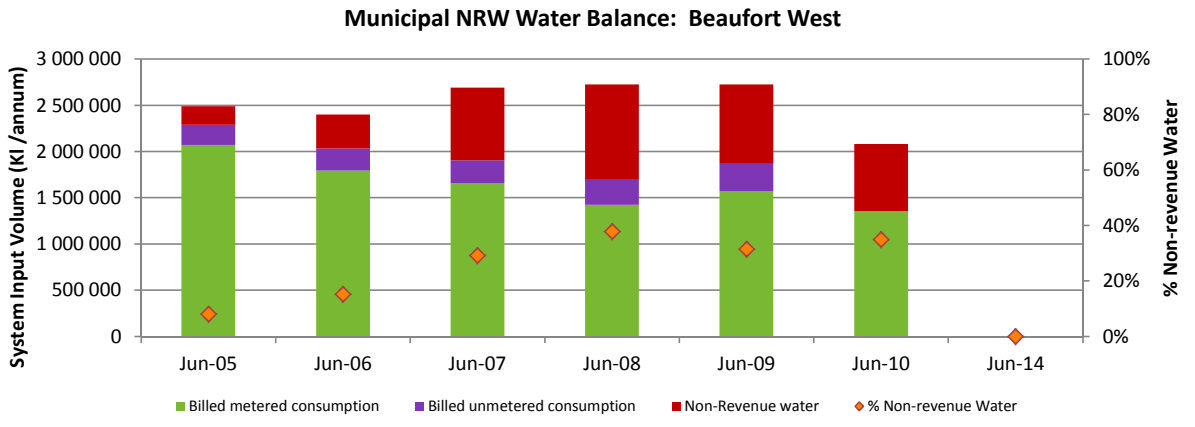

Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC052 | | | | | | | | Yes |
| District Municipality | Central Karoo | | | | | | | | Category |
| Municipality | Prince Albert | | | | | | | | B3 |
| Settlements | Prins Albert | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 11 446 | 11 622 | 11 691 | 12 019 | 12 089 | 12 353 | |
| | Households | | 2 906 | 2 949 | 2 965 | 3 056 | 3 072 | 3 140 | |
| | Connections - metered | | ~~2 787~~ | ~~2 830~~ | ~~2 847~~ | 2 927 | ~~2 944~~ | ~~3 008~~ | |
| | Connections - Unmetered | | ~~140~~ | ~~142~~ | ~~143~~ | 147 | ~~148~~ | ~~151~~ | |
| | Length of mains (km) | | ~~59~~ | ~~59~~ | ~~60~~ | ~~61~~ | ~~62~~ | ~~63~~ | |
| | System input volume | kl/annum | 428 034 | 362 441 | 433 416 | | | 1 180 000 | |
| | Billed metered consumption | kl/annum | 185 320 | 165 029 | 208 244 | | | | |
| | Billed unmetered consumption | kl/annum | 177 877 | 182 919 | 194 644 | | | | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 363 197 | 347 948 | 402 888 | 0 | 0 | 0 | 0 |
| | Non-Revenue water | kl/annum | 64 837 | 14 493 | 30 528 | 0 | 0 | 1 180 000 | 0 |
| | Water Losses | kl/annum | 64 837 | 14 493 | 30 528 | 0 | 0 | 1 180 000 | 0 |
| | % Non-revenue water | | 15.1% | 4.0% | 7.0% | No data | No data | No data | No data |
| | % Water Losses | | 15.1% | 4.0% | 7.0% | No data | No data | 100.0% | No data |
| Key performance indicators | Input : Litres / capita / day | | 102 | 85 | 102 | No data | No data | 262 | No data |
| | Input: m³ / household / month | | 12 | 10 | 12 | No data | No data | 31 | No data |
| | Billed : Litres / capita / day | | 87 | 82 | 94 | No data | No data | No data | No data |
| | Billed : m³ / household / month | | 10 | 10 | 11 | No data | No data | No data | No data |
| | % Population growth | | | 1.54% | 0.59% | 2.81% | 0.58% | 2.18% | |
| | % Water demand growth | | | -15.32% | 19.58% | | | #DIV/0! | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS | DWA NIS RPMS | |




Comments

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Province | Western Cape | | | | | | | | WSA |
| Municipal Code | WC053 | | | | | | | | Yes |
| District Municipality | Central Karoo | | | | | | | | Category |
| Municipality | Beaufort West | | | | | | | | B3 |
| Settlements | BEAUFORT WEST, WELDDRIF | | | | | | | | Target |
| | Year ending | | Jun-05 | Jun-06 | Jun-07 | Jun-08 | Jun-09 | Jun-10 | Jun-14 |
| Input Data | Population | | 40 422 | 41 042 | 41 286 | 42 435 | 42 686 | 43 849 | |
| | Households | | 10 288 | 10 449 | 10 507 | 10 804 | 10 864 | 11 167 | |
| | Connections - metered | | | | | | | 9 697 | |
| | Connections - Unmetered | | | | | | | 0 | |
| | Length of mains (km) | | | | | | | 170 | |
| | System input volume | kl/annum | 2 490 773 | 2 400 879 | 2 689 323 | ~~2 725 814~~ | 2 725 600 | 2 081 000 | |
| | Billed metered consumption | kl/annum | 2 071 149 | 1 794 429 | 1 654 908 | ~~1 423 351~~ | 1 571 890 | 1 354 000 | |
| | Billed unmetered consumption | kl/annum | 217 872 | 240 264 | 251 496 | ~~270 214~~ | 295 816 | 0 | |
| | Unbilled metered consumption | kl/annum | | | | | | | |
| | Unbilled unmetered consumption | kl/annum | | | | | | | |
| Water Balance Calculations | Revenue water | kl/annum | 2 289 021 | 2 034 693 | 1 906 404 | 1 693 565 | 1 867 706 | 1 354 000 | 0 |
| | Non-Revenue water | kl/annum | 201 752 | 366 186 | 782 919 | 1 032 249 | 857 894 | 727 000 | 0 |
| | Water Losses | kl/annum | 201 752 | 366 186 | 782 919 | 1 032 249 | 857 894 | 727 000 | 0 |
| | % Non-revenue water | | 8.1% | 15.3% | 29.1% | 37.9% | 31.5% | 34.9% | No data |
| | % Water Losses | | 8.1% | 15.3% | 29.1% | 37.9% | 31.5% | 34.9% | No data |
| Key performance indicators | Input : Litres / capita / day | | 169 | 160 | 178 | 176 | 175 | 130 | No data |
| | Input: m³ / household / month | | 20 | 19 | 21 | 21 | 21 | 16 | No data |
| | Billed : Litres / capita / day | | 155 | 136 | 127 | 109 | 120 | 85 | No data |
| | Billed : m³ / household / month | | 19 | 16 | 15 | 13 | 14 | 10 | No data |
| | % Population growth | | | 1.53% | 0.59% | 2.78% | 0.59% | 2.72% | |
| | % Water demand growth | | | -3.61% | 12.01% | 1.36% | -0.01% | -23.65% | |
| Source of information | | | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS StatsSA | DWA NIS | DWA NIS RPMS | DWA NIS Municipality | |




Comments

# APPENDIX C:
# WC/WDM SCORE CARD

# Municipal Scorecard for Assessing the Potential for WC/WDM Efforts in Municipalities

**August 2010, Version 2.3**

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

wrp
A Miya Group Company

WATER RESEARCH COMMISSION

## Basic Information

Name of Municipality/ Water Service Provider: _____

Additional details (if required): _____ Assessment Year: _____

## Contact Details

Scorecard completed by

Name: _____ E-mail: _____

Tel: _____ Fax: _____

| 1. Development of Standard Water Balance | Score |
|---|---|
| *WSA has developed reliable water balance and results indicate UAW/NRW at less than 20%* | 4 |
| *WSA has developed reliable water balance and results indicate UAW/NRW at 20% to 40%* | 3 |
| *WSA has developed reliable water balance and results indicate UAW/NRW at more than 40%* | 2 |
| *WSA has no water balance but is currently developing one* | 1 |
| *WSA has no water balance* | 0 |

| 2. Pressurised Supply to all consumers 100% of time | Score |
|---|---|
| *WSA maintains a pressurised supply to all areas within the water distribution network all of the time at a minimum of 20m pressure* | 4 |
| *WSA maintains a pressurised supply to all areas within the water distribution network however pressure drops below 10m in certain areas* | 3 |
| *Small isolated sections of the network experience intermittent supply* | 2 |
| *Many sections of the network experience intermittent supply* | 1 |
| *The entire network experiences intermittent supply* | 0 |

| 3. Residential Metering System | Score |
|---|---|
| *More than 98% of all connections are metered and billed.* | 4 |
| *75% and 98% of all connections are metered and billed* | 3 |
| *50 -75% of connections are metered and billed* | 2 |
| *Less than 50% of connections are metered and billed* | 1 |
| *No metering takes place* | 0 |

| 4. Non Residential Meters (Commercial, Industrial and Institutional) | Score |
|---|---|
| *More than 98% of all non-residential connections, including fire supply connections, are metered and billed based on metered use* | 4 |
| *75% to 98% of all non-residential connections, including fire supply connections, are metered and billed based on metered use* | 3 |
| *50 - 75% of non-residential connections, including fire supply connections, are metered and billed based on metered use* | 2 |
| *Less than 50% of non residential connections, including fire supply connections, are metered and billed based on metered use* | 1 |
| *No non-residential metering takes place* | 0 |

| 5. Effective Billing System & Informative Billing | Score |
|---|---|
| *WSA produces informative billing to all customers based on meter readings* | 4 |
| *WSA produces informative billing to most customers based on meter readings* | 3 |
| *WSA produces informative billing to only some customers based on meter readings* | 2 |
| *WSA has an uninformative billing system in place* | 1 |
| *WSA has no billing system in place* | 0 |

| 6. Network (Leakage) Complaints System | Score |
|---|---|
| *Efficient reporting system in place (90% of reported leaks are repaired within 24 hours)* | 4 |
| *Efficient reporting system in place (90% of reported leaks are repaired within 48 hours)* | 3 |
| *Leakage reporting system in place although response times need to be improved* | 2 |
| *Leakage reporting system in place but few if any field response teams available to undertake repairs* | 1 |
| *No leakage reporting system in place and no plans to create one* | 0 |

| *7. Billing and Metering Complaint System* | Score |
|---|---|
| *Efficient reporting system for metering and billing problems in place (90% dealt within 14 days)* | 4 |
| *Efficient reporting system for metering and billing problems in place (90% dealt with within one month)* | 3 |
| *Metering and billing problem reporting system in place response times need to be improved* | 2 |
| *Metering and billing problem reporting system in place but very poor response time with many problems never resolved* | 1 |
| *No Metering and billing problem reporting system in place* | 0 |

| *8. Asset Register for water Reticulation System* | Score |
|---|---|
| *WSA has a comprehensive and accurate asset register in place which is available digitally* | 4 |
| *WSA has a partially completed accurate asset register in place* | 3 |
| *WSA has a poor asset register in place* | 2 |
| *WSA is in the process of developing an asset register* | 1 |
| *WSA has no asset register in place and no immediate intention of generating one* | 0 |

| *9. Asset Managemeknt - Capital Works* | Score |
|---|---|
| *2% or more of the value of the water network is invested annually into new capital works related to the existing infrastructure* | 4 |
| *1% - 2% of the value of the water network is invested annually into new capital works related to the existing infrastructure* | 3 |
| *Less than 1% of the value of the water network is invested annually into new capital works related to the existing infrastructure* | 2 |
| *No estimate of asset value of water supply system is available but WSA feels that sufficient budget is spent on new Capital Works* | 1 |
| *No estimate of asset value of water supply system is available and WSA feels that insufficient budget is spent on new Capital Works* | 0 |

| 10. Asset Management - Operations and Maintenance | Score |
|---|---|
| *2% or more of the value of the water network is invested annually into the maintenance of the existing infrastructure* | 4 |
| *1% - 2% of the value of the water network is invested annually into the maintenance of the existing infrastructure* | 3 |
| *Less than 1% of the value of the water network is invested annually into the maintenance of the existing infrastructure* | 2 |
| *No estimate of asset value of water supply system is available but WSA feels that sufficient budget is spent on operations and maintenance* | 1 |
| *No estimate of asset value of water supply system is available but WSA feels that insufficient budget is spent on operations and maintenance* | 0 |

| 11. Dedicated WDM Support | Score |
|---|---|
| *Efficient WDM Section in place with sufficient resources* | 4 |
| *WDM section in place requires some resources and capacity building* | 3 |
| *WDM section in place. Major resources and capacity building required* | 2 |
| *No WDM section currently in place, although it is in process of being created* | 1 |
| *No WDM Section and no intention to create WDM section* | 0 |

| 12. Active Leakage Control | Score |
|---|---|
| *Active leakage detection and repair undertaken continuously with average sweep time of 12 months or less* | 4 |
| *Active leakage detection and repair undertaken continuously with average sweep time of 48 months or less* | 3 |
| *Active leakage detection and repair is undertaken on an add-hoc basis* | 2 |
| *No active leakage is currently undertaken, however, the WSA intends to initiate such measures* | 1 |
| *No active leakage detection is undertaken and the WSA has no intention to conduct such measures* | 0 |

| 13. Effective Sectorisation | Score |
|---|---|
| *Reticulation network has been sectorised and is checked regularly to maintain discrete zones* | 4 |
| *Reticulation network has been sectorised but is not checked regularly to ensure discrete zones* | 3 |
| *Only portions of the reticulation network have been sectorised* | 2 |
| *Few if any zones have been created but plans are in place to sectorise the system* | 1 |
| *No sectorisation has been undertaken and no plans are in place to implement such measures* | 0 |

| 14. Effective Bulk Meter Management | Score |
|---|---|
| *All bulk water sources to the WSA are metered by the WSA using some form of check metering( either permanent or temporary)* | 4 |
| *All bulk water sources to the WSA are metered by the Bulk water supplier or by the WSA* | 3 |
| *Few bulk water meters are operational* | 2 |
| *No Bulk Metering in place, however, WSA has plans to install bulk meters* | 1 |
| *No Bulk metering in place and no plans for such meters have been made* | 0 |

| 15. Effective Zone Meter Management and Assessment of minimum | Score |
|---|---|
| *All inlet points to discrete zones are metered and accurate with Minimum Night Flows logged and analysed on a regular basis* | 4 |
| *All inlet points to discrete zones are metered and accurate but no Minimum Night Flow analyses are undertaken* | 3 |
| *All inlet points to discrete zones are metered but many are broken or considered to be inaccurate* | 2 |
| *Zone inputs are currently not metered although the WSA has planned to install meters on all zone inlets* | 1 |
| *No accurate zone metering is in place and there are no plans to introduce such measures* | 0 |

| 16. Pressure Management and Maintenance of Pressure Reducing Valves | Score |
|---|---|
| *Reticulation is comprehensively sectorised into pressure zones which are all discrete. All PRV's are maintained under maintenance schedule* | 4 |
| *Reticulation is comprehensively sectorised into pressure zones which are all discrete. PRV's are only maintained when problems become apparent* | 3 |
| *Reticulation is sectorised in pressure zones but the zones are not verified and little or no maintenance is undertaken on the PRV's* | 2 |
| *WSA intend to introduce pressure zones and the use of PRV's to manage system pressures* | 1 |
| *No Discrete pressure zones and no PRV maintenance* | 0 |

| 17. As-built Drawings of Bulk and Reticulation Infrastructure | Score |
|---|---|
| *Accurate as-built drawings for all reticulation are available digitally* | 4 |
| *As-built drawings available digitally for the majority of the network and available in hard copy for the remainder of the network* | 3 |
| *A mixture of digital and hard copy as-built drawings available for the majority of the network but many problems are known to exist with the data quality* | 2 |
| *Only some hard copy as-built drawings are available for portions of the network* | 1 |
| *No as-built drawings available* | 0 |

| 18. Schematic Layout of Water Infrastructure | Score |
|---|---|
| *An up-to date and detailed schematic of the whole bulk reticulation network is available* | 4 |
| *A detailed schematic of the bulk reticulation network is available but is known to be outdated and/or inaccurate* | 3 |
| *Only a rough schematic of the bulk reticulation network is available which is known to be inaccurate and/or outdated* | 2 |
| *No schematic of the bulk reticulation is available although the WSA is planning to develop such a schematic* | 1 |
| *No schematic of the bulk reticulation is available and the WSA has no plans to develop such a schematic* | 0 |

| 19. Regulations and By-laws | Score |
|---|---|
| *Regulations and By- laws are in place which address WDM issues and some form of enforcement is undertaken* | 4 |
| *Regulations and By-laws are in place which address WDM issues but are not enforced* | 3 |
| *Regulations and By-laws are in place but do not address WDM issues* | 2 |
| *There are no By-laws in place but SA is intending to introduce such measures* | 1 |
| *There are no By-laws in place and WSA has no plans to introduce them* | 0 |

| 20. Tariffs | Score |
|---|---|
| *WSA has rising block tariffs in place that encourage water use efficiency* | 4 |
| *WSA has rising block tariffs in place but they do not encourage water use efficiency sufficiently* | 3 |
| *WSA has single water tariff in place* | 2 |
| *WSA has a declining block tariff in place* | 1 |
| *WSA does not know what tariff structure is in place* | 0 |

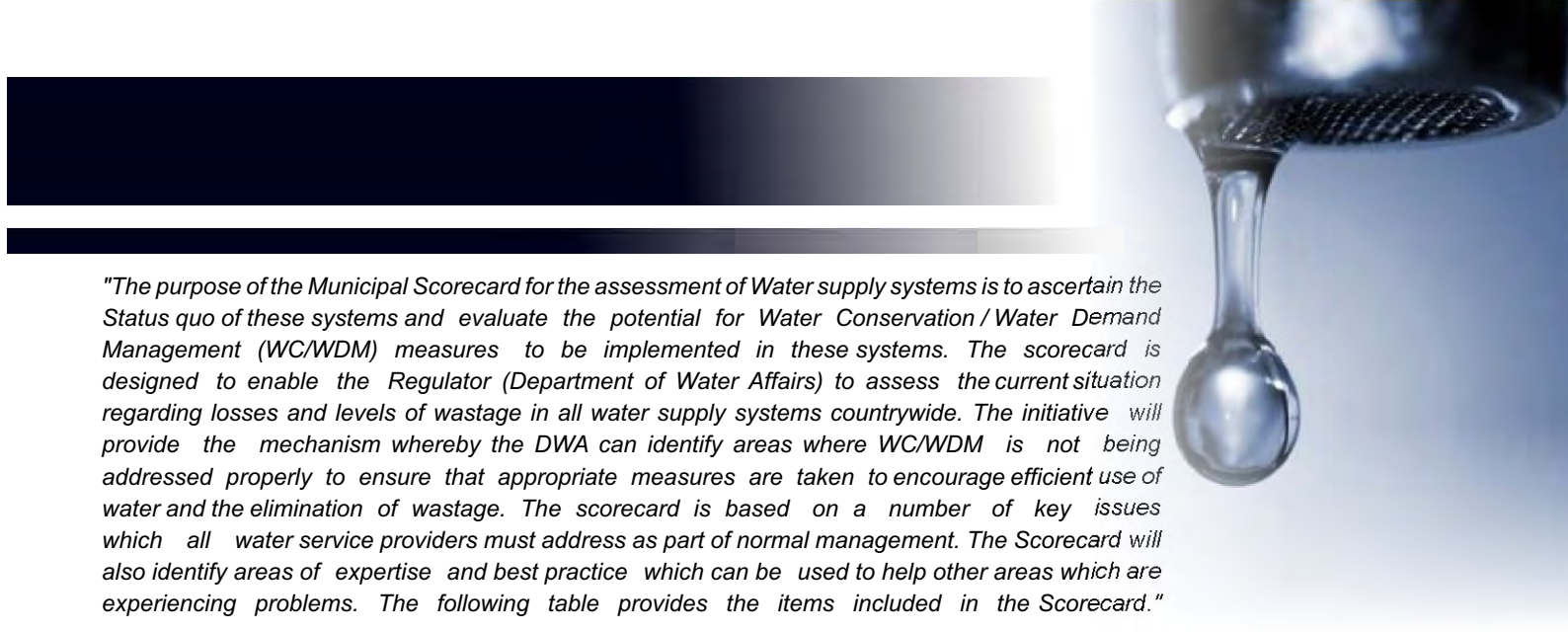
| 21. Technical Support to Customers | Score |
|---|---|
| *The WSA actively engages with customers and offers technical support on WDM to both domestic as well as commercial/industrial customers* | 4 |
| *The WSA offers technical support on WDM to large consumers on a pro-active basis* | 3 |
| *The WSA only offers technical support on WDM on a reactive basis* | 2 |
| *The WSA currently offers no technical support but plans to introduce a support mechanism* | 1 |
| *The WSA has no plans to offer technical support on WDM measures to any customer* | 0 |

| 22. Removal of Unlawful Connections | Score |
|---|---|
| *The WSA actively monitors and removes all unlawful connections* | 4 |
| *The WSA selectively monitors and removes unlawful connections* | 3 |
| *The WSA monitors unlawful connections but has no policy for removal* | 2 |
| *The WSA plans to introduce measures to tackle unlawful connections* | 1 |
| *The WSA has no plans to deal with unlawful connections* | 0 |

| 23. Community Awareness and Education Programmes | Score |
|---|---|
| *WSA is actively involved in conducting workshops on water conservation within the communities with a dedicated team* | 4 |
| *WSA is involved in conducting workshops on water conservation within the communities however no dedicated team exists* | 3 |
| *WSA has very little involvement with workshops on water conservation within the communities* | 2 |
| *WSA currently does not conduct workshops on water conservation within the communities, however these interventions are proposed* | 1 |
| *WSA currently does not conduct workshops on water conservation within the communities* | 0 |

| 24. Schools Awareness and Education Programmes | Score |
|---|---|
| *WSA is actively involved in conducting workshops on water conservation within the schools with a dedicated team* | 4 |
| *WSA is involved in conducting workshops on water conservation within the schools however no dedicated team exists* | 3 |
| *WSA has very little involvement with workshops on water conservation within the schools* | 2 |
| *WSA currently does not conduct workshops on water conservation within the schools, however these interventions are proposed* | 1 |
| *WSA currently does not conduct workshops on water conservation within the schools* | 0 |

| 25. Newspaper & radio articles plus posters and leaflets for distribution | Score |
|---|---|
| *WSA runs regular adds in newspapers and/or radio and has library of posters and leaflets for public distribution* | 4 |
| *WSA runs occasional adds in newspapers and/or radio and has library of posters and leaflets for public distribution* | 3 |
| *WSA has library of posters and leaflets for public distribution but does not advertise in newspapers or radio* | 2 |
| *WSA has some leaflets and/or posters and intends to strengthen its capacity to promote WC/WDM in the community* | 1 |
| *WSA does not advertise in newspapers or radio and has no posters or leaflets on WC/WDM* | 0 |



*"The purpose of the Municipal Scorecard for the assessment of Water supply systems is to ascertain the Status quo of these systems and evaluate the potential for Water Conservation / Water Demand Management (WC/WDM) measures to be implemented in these systems. The scorecard is designed to enable the Regulator (Department of Water Affairs) to assess the current situation regarding losses and levels of wastage in all water supply systems countrywide. The initiative will provide the mechanism whereby the DWA can identify areas where WC/WDM is not being addressed properly to ensure that appropriate measures are taken to encourage efficient use of water and the elimination of wastage. The scorecard is based on a number of key issues which all water service providers must address as part of normal management. The Scorecard will also identify areas of expertise and best practice which can be used to help other areas which are experiencing problems. The following table provides the items included in the Scorecard."*

**Name of Municipality/ Water Service Provider:** _____

| Item No. | Description | Points |
|---|---|---|
| 1. | *Development of Standard Water Balance* | |
| 2. | *Pressurised supply to all consumers 100% of time* | |
| 3. | *Residential Metering System* | |
| 4. | *Non Residential Meters (Commercial, Industrial and Institutional)* | |
| 5. | *Effective Billing System & Informative Billing* | |
| 6. | *Network (Leakage) Complaints System* | |
| 7. | *Billing and Metering Complaints System* | |
| 8. | *Asset Register of Water Reticulation System* | |
| 9. | *Asset Management - Capital Works* | |
| 10. | *Asset Management - Operations and Maintenance* | |
| 11. | *Dedicated WDM support* | |
| 12. | *Active Leakage Control* | |
| 13. | *Effective Sectorisation* | |
| 14. | *Effective Bulk Meter Management* | |
| 15. | *Effective Zone Meter Management and Assessment of Minimum Night Flows* | |
| 16. | *Pressure Management and Maintenance of Pressure Reducing Valves* | |
| 17. | *As-Built Drawings of Bulk and Reticulation Infrastructure* | |
| 18. | *Schematic Layout of Water Infrastructure* | |
| 19. | *Regulations and By-Laws* | |
| 20. | *Tariffs* | |
| 21. | *Technical Support to Customers* | |
| 22. | *Removal of Unlawful Connections* | |
| 23. | *Community Awareness and Education Programmes* | |
| 24. | *Schools Awareness and Education Programmes* | |
| 25. | *Newspaper & radio articles plus posters and leaflets for distribution* | |

**Total:**