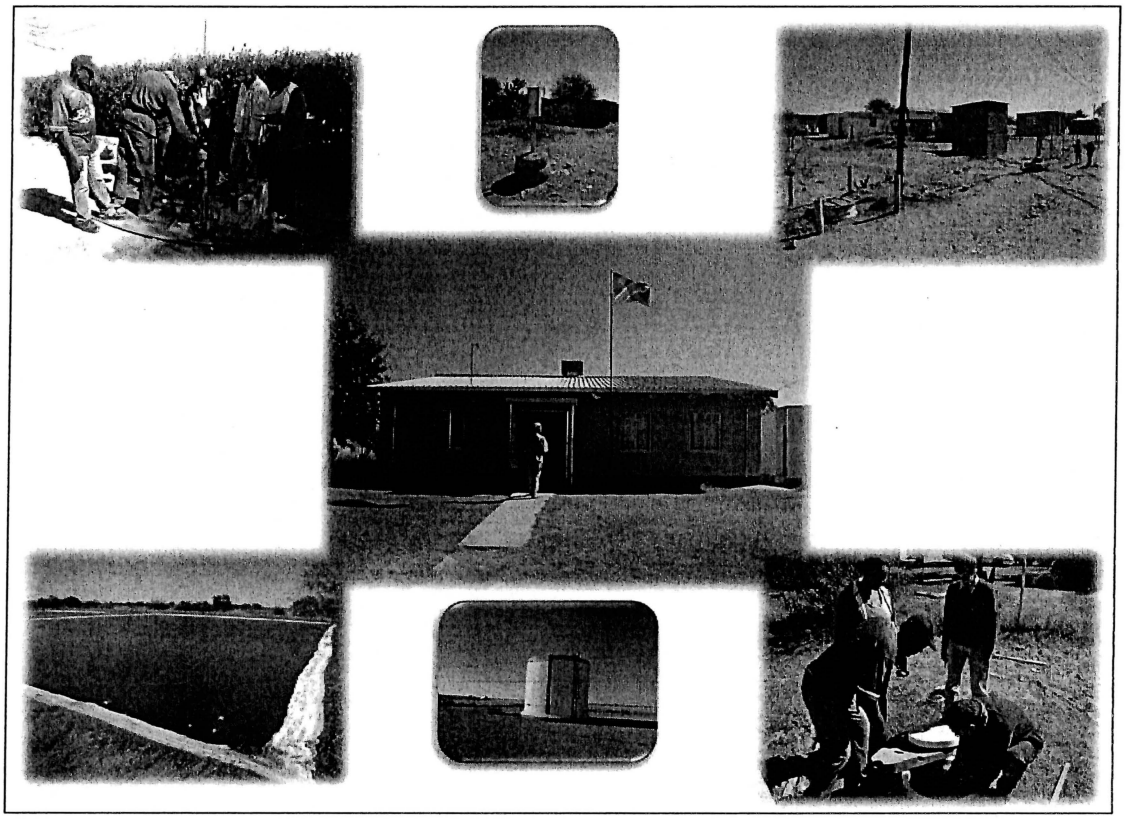
Application of Performance Support Team Approach Supporting Local Authorities to Improve Water Supply and Sanitation Management



Stampriet, Hardap Region

August 2011

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List of Abbreviations

CCPP	Calcium Carbonate Precipitation Potential
CEO	Chief Executive Officer
DRFN	Desert Research Foundation of Namibia
DWAF	Department of Water Affairs and Forestry
DWSSC	Directorate of Water Supply and Sanitation Coordination
E-CAP	Sustainable Use of Namibia's Natural Resources: Contributing towards Enhancing Capacity of future decision makers
Finstel	Financial system
HDPE	Higher Density Poly Ethelene
IWRMP	Integrated Water Resources Management Plan
LA	Local Authority
M & E	Monitoring and Evaluation
MAWF	Ministry of Agriculture Water and Forestry
MDG	Millennium Development Goals
MoHSS	Ministry of Health and Social Services
MRLGHRD	Ministry of Regional Local Government Housing and Rural Development
NamWater	Namibia Water Corporation
NPC	National Planning Commission
NRW	Non-revenue Water
NSS	National Sanitation Strategy
NWQG	Namibia Water Quality Guidelines
NWQS	Namibia Water Quality Standards
O & M	Operation and Management
OHS	Occupational Health and Safety
PPP	Public-Private Partnership
PST	Performance Support Team
RC	Regional Council
VC	Village Council
WASH	Water Sanitation and Hygiene
WATSAN	Water and Sanitation

Executive Summary

Guided by the National Sanitation Strategy (NSS) 2010 to 2015 (NSS 2009) and the Integrated Water Resources Management Plan for Namibia (IWRMP 2010), the Performance Support Team approach was applied in cooperation with Stampriet Village Council, Hardap Region, that serves a village of approximately 2835 residents. The village consist of two separate townships: Stampriet proper and Soetdoringlaagte, the latter provides housing to the poorer part of the community. Assessments were made of 1) water supply including consumption, infrastructure, metering, tariffs and credit control and 2) sanitation services with the focus on the vacuum system including planning, layout and installation; system operation and management and equipment availability. These assessments involved the Village Council CEO, staff and councillors and residents from both the formal and informal parts of Stampriet. Based on these assessments and discussions with relevant stakeholders, an Operational Plan supported by a monthly monitoring and evaluation system was established together with the VC staff and councillors.

Key results show that the majority of residents use small amounts of water. According to the records of the Village Council they sold more water than the bulk water supply provided for December 2009 to December 2010 calendar year. As it is impossible to sell more water than the system provides and this result may be attributed to incorrect bulk metering by NamWater or administrative or reading errors by the VC. Measured night flow of 1.9 m^3 per hour represents 32% of total volume of water provided by NamWater (52,000m^3) for 2010-2011 for Stampriet. Most conventional water meters are old and often dysfunctional while prepaid meters do not provide the VC with the expected revenue. The VC personnel estimated that two to three pipe bursts occur per month. It was not possible to determine if these pipe bursts occur on connection pipes to water meters or on the main reticulation of the town. The Village Council does not apply rising block tariffs. Stampriet currently owes NamWater N$21 706.02 and the outstanding debt of the residents owed to the Village Council is estimated as N$6.5 million.

The bucket system, the bush and "flying toilets" are used for sanitation in the informal settlement extension of Soetdoringlaagte. The vacuum sewer system functions in Soetdoringlaagte but less adequately in Stampriet proper. In addition to poor planning, layout and installation, current operation and management is inadequate including equipment required to do the management and maintenance.

Priorities for attention, according to stakeholders, including VC councilors and staff include: cost recovery, the vacuum system, maintenance, capacity building, water infrastructure, and pre-paid meters. Capacity to attend to these issues is limited although many of the staff members responsible are dedicated and resourceful despite insufficient information and equipment. The Performance Support Team approach can provide some of the necessary technical management support. Long-term recommendations are included in this report for the Village Council, Regional Council, Ministry of Regional and Local Government, Housing and Rural Development and Ministry of Health and Social Services to empower the Village Council in its endeavours to provide quality water supply and sanitation services to Stampriet village.

1. Introduction

Capacity Development was identified as the single most important element necessary for enabling Integrated Water Resources Management in Namibia (IWRMP 2010) and as one of four of the key strategic issues to be addressed in the National Sanitation Strategy (NSS) 2010 to 2015 (NSS 2009). Insufficient financial and technical management expertise, especially in local authorities and settlements, is hindering attainment of the Millennium Development Goals (MDGs). Authorities' inability to recover the costs of providing water and sanitation, high non-revenue water and limited management and technical skills, make efficient and effective delivery of proper services and maintenance of water supply and sanitation infrastructure very difficult in most urban areas including rapidly growing associated informal settlements.

This document reports on the diagnostic analysis and test of a direct, site-specific, hands-on mentoring support to Stampriet Local Authority (LA) by the E-CAP project, implemented by the Desert Research Foundation of Namibia with funding from the Finnish government. The approach uses a Public-Private Partnership (PPP) in the form of a Performance Support Team (PST) working directly with an under-resourced Local Authority (as elaborated in Namibia's IWRM Plan) refer to Annex 2 for the full PST description. The work of PSTs has contributed information and experience toward improving governance and management of water and wastewater resources in several local authorities in Namibia.

2. Description of Stampriet

Stampriet village is located in the Hardap region; 60 km east of Mariental, in the Hardap region of Namibia, 24°20' South and 18°24' East (as shown in Figure 1 & 2) along the Auob River banks (van der Merwe, 2001).

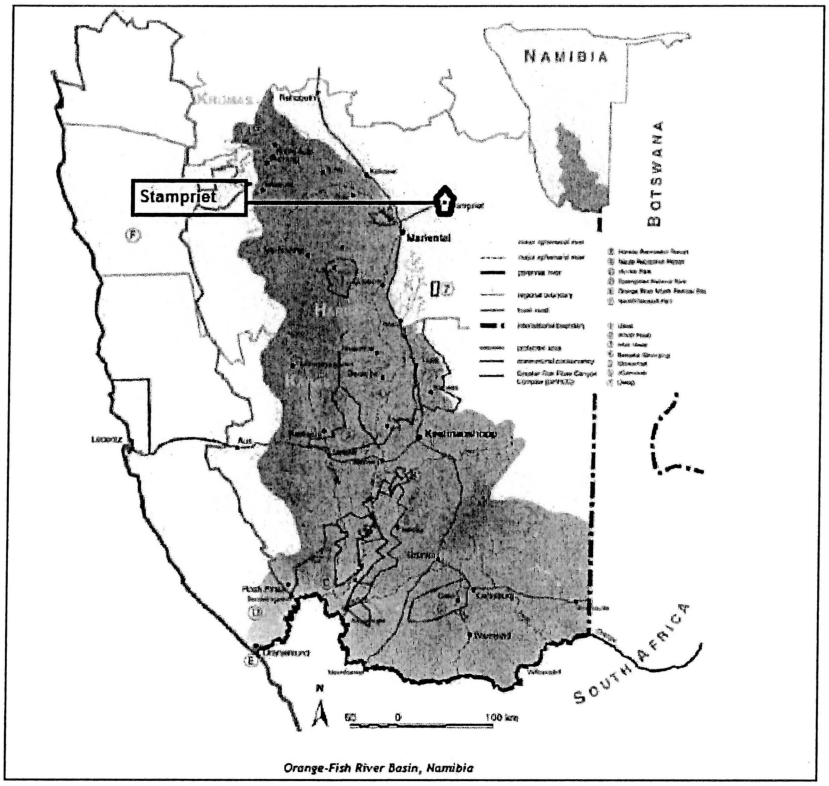


Figure 1: Map showing location of Stampriet in relation to the Orange-Fish River Basin

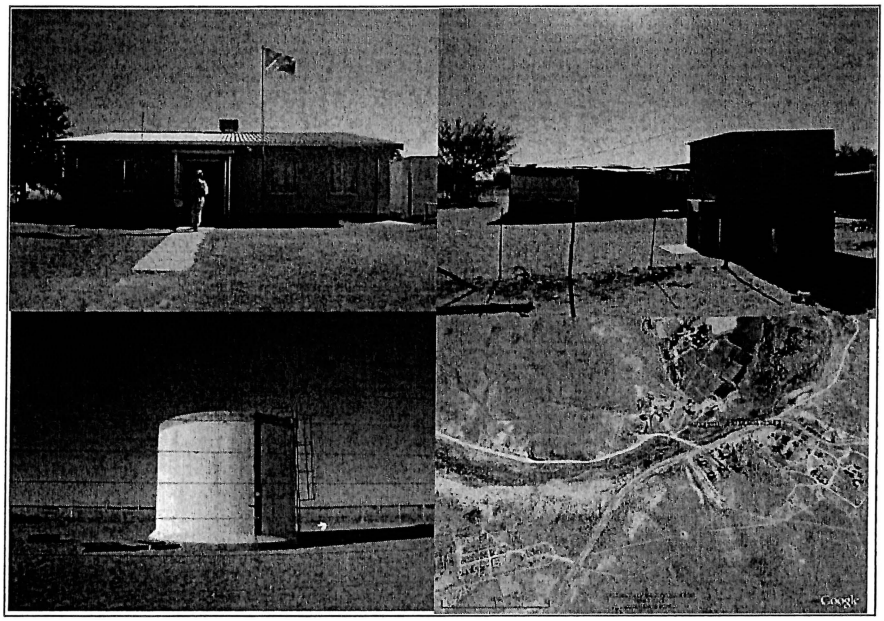


Figure 2: Stampriet Village Council offices, newly constructed toilets in the informal settlement NamWater reservoir and aerial photo of Stampriet.

Stampriet is a village, managed by a Village Council (VC) with 560 households of which 30 are in Stampriet proper, 155 in Soetdoringlaagte and 375 in Soetdoringlaagte informal settlement (Urban Dynamics, 2010). Stampriet has an estimated population of 2835 people. On average, the households consist of four members (Stampriet proper), five members (Soetdoringlaagte) and four members in Soetdoringlaagte informal settlement; see Figure 3 for the location of the different settlements. The Village Council staff, guided by elected councilors, are responsible for providing services to the population on behalf of the Government of Namibia.

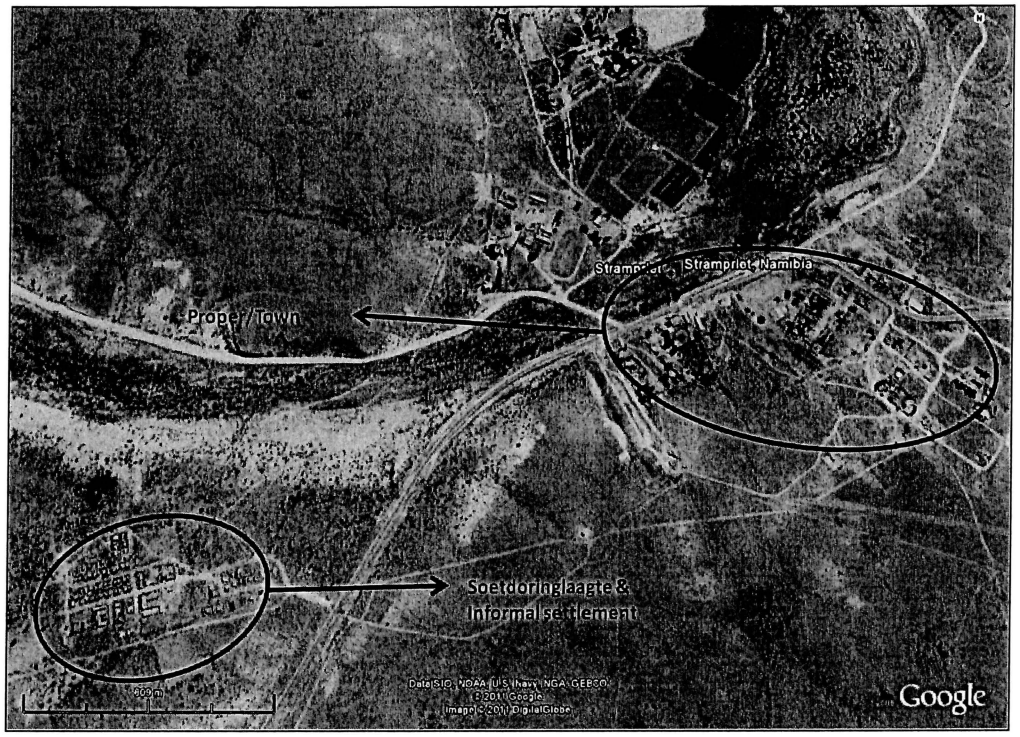


Figure 3: Location of Stampriet town and Soetdoringlaagte settlement and informal settlement

A socio-economic survey conducted by Urban Dynamics in 2010 found that 54% of households in Stampriet earn less than N$100.00/month thus minimising their ability to pay for services rendered by the Village Council. The majority of the population live in the informal settlement (Urban Dynamics, 2010). The housing structure in Stampriet proper is made of bricks, while housing in Soetdoringlaagte consists of bricks and corrugated iron shacks and the houses in the informal settlement are mainly built with corrugated iron.

3. Approach to assessment

3.1 Meetings, Site Inspections

The PST team held meetings in Stampriet from the 27th to the 29th of June 2011 with different representatives of the Village Council (acting Chief Executive Officer, technical, accountant, administrative staff and Village Councillors) for information sharing and to identify and discuss their specific challenges. The team also conducted site inspections to hear and observe the challenges facing the residents and the Village Council pertaining to water supply, sanitation and solid waste management (refer to Annex 3 for PST programme). This information was used to identify possible solutions to the recognised challenges. Following meetings and discussions with the different departments, the team including some of the council's staff conducted a familiarisation tour in the village. The sites visited included the bulk water users (e.g. schools and clinic), water supply systems (NamWater reservoir) and waste water systems (i.e. vacuum system and oxidation ponds). A survey on water supply and metering systems were conducted collecting relevant data from both conventional water meters and from bulk consumers such as the schools. The survey was done to determine the condition of the water meters, determine the accuracy of registration of water use at low flow conditions and to observe leakages at the meters or on premises.

4. Results

4.1 Water Supply

There are three boreholes supplying water to Stampriet operated by NamWater. Two of the boreholes, (WW139 and WW9113) have a yield of 16 and 25m³ respectively. Borehole WW139 is situated in the town and it supplies water directly to the reservoir on ground level located on a slight elevation on the southern boundary of town (NamWater, 2008). The second borehole (WW9113) is situated in Soetdoringlaagte. The water is pumped from the borehole in Soetdoringlaagte (WW9113) to a ground level reservoir supplying water to Soetdoringlaagte (NamWater, 2008). The third borehole, with unknown borehole number, supplies water for use by the community to water the cemetery.

The pumps of the boreholes (Saer NF95/22, Grundfos SB1410) distribute 14.9m³, which is almost equal to the yield of the borehole of 16m³. The borehole pumps only run approximately 49% of their maximum recommended time. The reservoirs are made of concrete with a volume of 150m³ each (NamWater, 2008).

The water quality supplied to Stampriet by NamWater was evaluated using the Namibia Water Quality Standard (NWQS) and the Namibia Quality Water Guidelines (NWQG) though the standards are not final or mandatory yet (Master plan for the central south, 2008). Nevertheless, the evaluation serves as an indication of how well the water in Stampriet complies with the standards. The 99 percentile for microbiological quality (13 samples) from 2006-2007 conformed to the NWQS and the NWQG. The 95 percentile for Calcium Carbonate Precipitation Potential (CCPP) of the water was 26 mg/L, which causes scaling in the distribution network and plumbing systems. The water is classified as hard (Master plan for the central south, 2008).

4.1.1 Consumption

The NamWater bulk supply to Stampriet calculated over a period of January 2009-December 2010, as well as the VC sales to consumers in Stampriet and Soetdoringlaagte are depicted in Figure 4. The VC sales illustrated in Figure 4 show how much water was sold by the VC in Stampriet and Soetdoringlaagte over a period of 12 months starting December 2009 up to December 2010. The total bulk supply represents the total system input over 12 months and was almost constant over a period of two years starting in January 2009 and ending in December 2010.

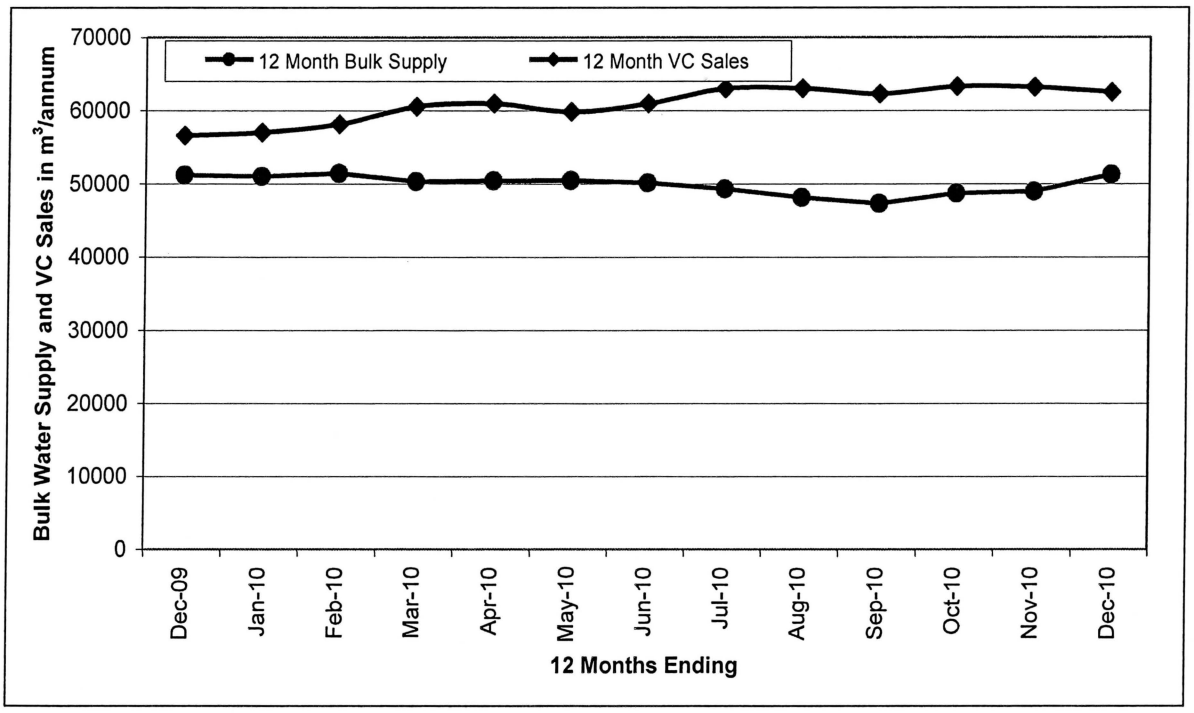


Figure 4: NamWater Bulk Supply to Stampriet

According to the information for the 2009 and 2010 calendar years presented in Figure 4, Stampriet sold more water than the volume provided by NamWater. This is impossible as even on new water reticulation systems there are some minor leakages and slow consumer meters. Reasons for this could be that the bulk supply is not metered correctly (meter drag on bulk supply meter) or as a result of administrative errors, or deliberate recording of higher meter readings by the VC to generate income. Pipe bursts introduce air in the pipelines and if not removed

through hydrants, it may cause meters to register air escaping through consumer taps instead of water, which also contributes to the sales.

The graphs in Figure 5 represent bulk supply from January to December for 2010-2011 calendar years. The bulk supply for the year 2010- 2011 is 52 000m^3. Only 39 723m^3 of the total metered supply was sold and this represents 24% non-revenue water for this period. It is assumed that a large percentage of non-revenue water may be attributed to but not limited to incorrect bulk and household meter readings, illegal connections and administrative losses in addition to the observed leakages. It is important to note that the Village Council has to pay NamWater for the non-revenue water.

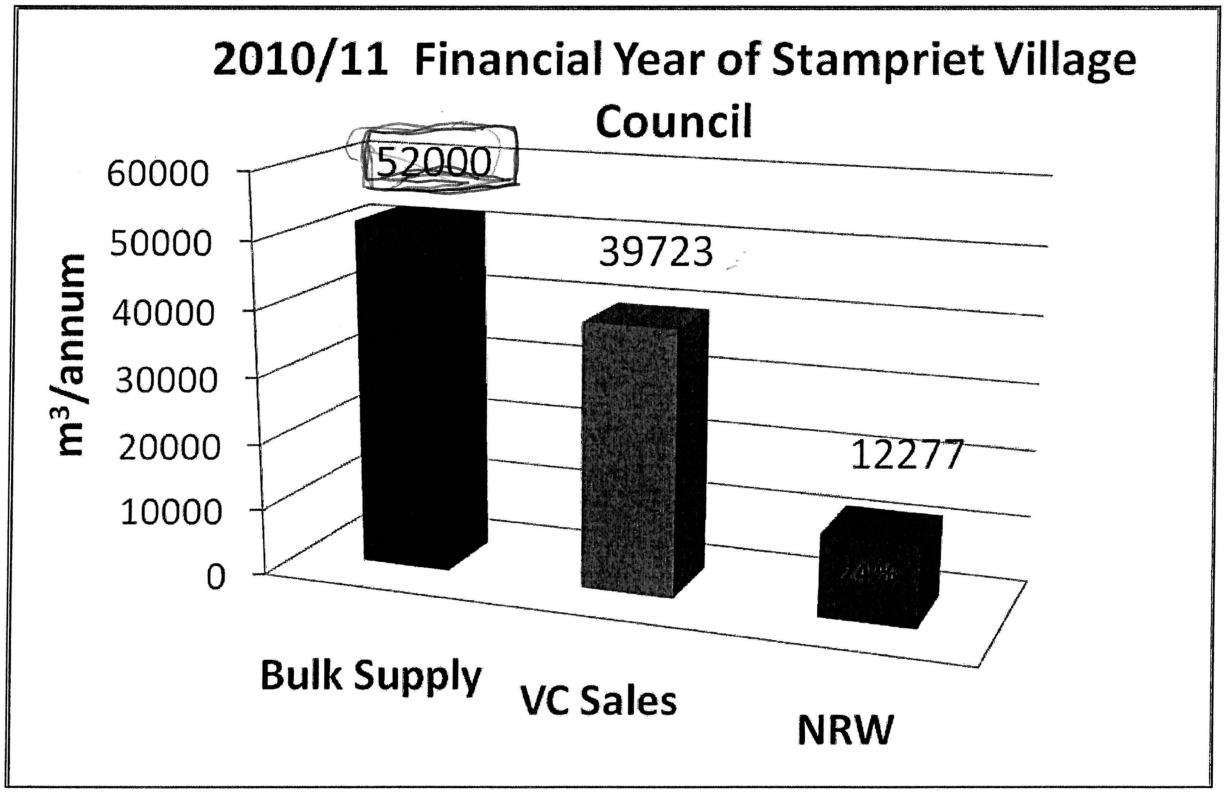


Figure 5: Stampriet Water Supply Analysis for 2010/2011

A customer profile was compiled for Stampriet Village Council for the year 2009/2010 based on meter readings from the council's meter book, for all metered customers of the council, including prepaid meters and standpipes. Figure 5 below presents the customer profile, showing the cumulative number of consumers and

cumulative monthly water consumption, developed by the PST team. The x-axis shows units of monthly consumption/consumer of all metered water consumers. This information indicates that 84% of the consumers use only 3% of the metered water consumption. The large number of consumers with very low consumption may be attributed to faulty water meters. The customer profile can guide the Council in establishing new tariff systems.

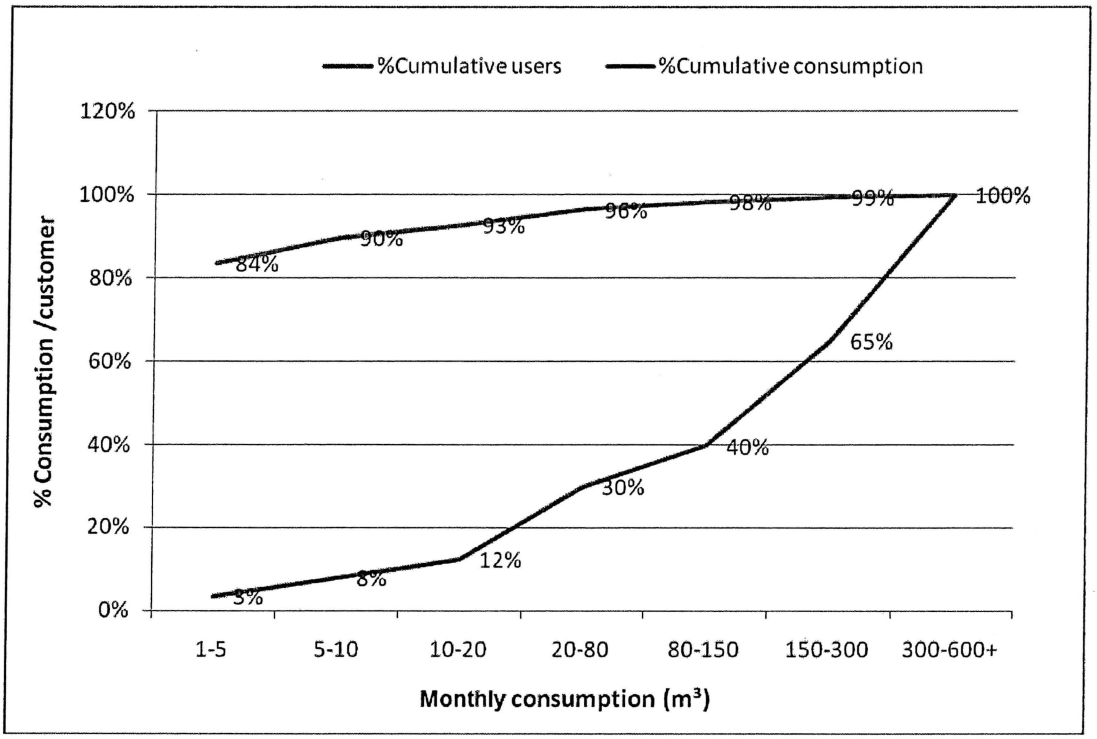


Figure 6: Stampriet Village Council Customer Profile for 2009/2010

Night flow measurements were conducted at NamWater's two water reservoirs which supply water to Stampriet proper and Soetdoringlaagte settlements. Recordings were made at five-minute intervals from 02:00am to 04:00am on one night only. The team looked for the lowest flow during 15 minutes over the two hours and assumed this was a representative night flow for Stampriet proper. The night flow of the reservoir that supplies water to Soetdoringlaagte was impossible to determine the bulk water meter was not working.

- The overall measured night flow was 1.9 m^3 per hour, or 16 556m^3/year, representing 32% of total volume of water provided by NamWater (52,000m^3) for 2010-2011 for Stampriet proper only. The majority of the night flow (1.87m^3) is from bulk water users including Jacob Soul Primary School, Stampriet Primary School (and hostel) Stampriet police station and the Post Office and businesses such as OK Grocer, Cape Agric and Indigo guesthouse.
- Normalised night flow is flow without bulk users. The obtained normalised night flow of 0.018m^3 per hour represents 0.44% of the total flow rate excluding leakages on the networks and other losses on premises excluding the listed institutions. From the survey conducted, the average pressure in Stampriet proper was 2 bar whereas for Soetdoringlaagte informal part it was 1.3 bar.
- The average daily flow for the entire village is 4.2 m^3 per hour.

4.1.2 Infrastructure (Pipeline Bursts)

The pipelines from the two boreholes to Soetdoringlaagte reservoir (WW9113) and the Town reservoir (WW139) are 1 833m long, 100mm diameter AC line and 334m long, 100mm diameter UPVC line respectively (NamWater, 2008). These two reservoirs are connected to each other with a 998m long, 150mm diameter AC pipeline.

In general the water supply infrastructure is poorly maintained in Stampriet.

- Parts of the infrastructure are in a poor condition due to ageing and sub-standard material of incorrect pressure rated pipes and inferior valves and hydrants.
- Higher Density Poly Ethelene (HDPE) pipes are used for most of the connections. In the residential areas 25mm HDPE pipes (Class 10) are installed. The Council uses the same pipes to replace broken or damaged connection pipes.
- On average, at least two to three pipe bursts are recorded per month from the connection and main lines. Many pipes are not buried deep enough in the soil (shallow) and are easily damaged, which contributes to the relative high number of pipe bursts.

- The Village Council does not have a maintenance workshop for repair or servicing of equipment except a storeroom where new and broken pipes, meters and valves are stored.

The Village Council experiences water interruptions for the whole village occasionally. During 2010, when one of the main pipes burst, water supply to the village was interrupted for one day while the pipe was replaced.

The Village Council does not have an as-built drawing of the water reticulation system. It is therefore difficult to record places where pipe bursts or leakages occur to establish the location and frequency of pipe bursts or connection pipe leakages. A pipe burst map is essential for identifying areas which require pipe replacement.

4.1.3 Meters (Prepaid and Conventional)

- Prepaid in-yard water meters

Prepaid in-yard water meters control the provision of water to individual households in parts of Stampriet. The users of prepaid in-yard water meters are issued with a token (card) to enable them to get water. In Stampriet, a new prepaid token costs N$145.00 while the water is charged at N$7.50/m³ to the consumers; the Village Council buys the water at N$6.93/m³ from NamWater. The minimum recharge for a token is N$5.00.

- A total of 58 prepaid in-yard water meters are installed in Soetdoringlaagte settlement.
- Community members that use the prepaid in-yard water meters complain about their ineffectiveness.
- An assessment of 15 dysfunctional individual prepaid in-yard water meters that had been discarded proved that the Village Council lost at least N$52,806.00 from these meters. This includes the capital cost per prepaid in-yard water meter, the income generated by the volume of water metered before being discarded,

and the amount paid to NamWater for the water consumed. No allowance was made for meter maintenance.

- Maintenance of prepaid in-yard water meters is very expensive and not done regularly in Stampriet. There is no record of the cost of individual meter maintenance. The batteries of the meters cause most problems.
- One new prepaid in-yard water meter costs N$3,635
- Real income per prepaid water meter is –N$3,520, this is the amount the Village Council loses per month (average income per water meter minus average cost per water meter) per water meter.

Due to costs and problems associated with in-yard prepaid meters, the Council is in the process of switching from prepaid meters to conventional meters.

A survey of 10% of the prepaid in-yard water meters from the Soetdoringlaagte settlement showed that the people using the prepaid in-yard water meters preferred conventional meters. During this survey, only one prepaid in-yard water meter was broken and there were no leaks detected on site. All the surveyed meters were galvanised and well protected.

The prepaid in-yard water meters are purchased from South Africa, thus the Village Council struggles with replacement parts for the meters once broken or if the battery requires replacement.

- Prepaid Communal Standpipe Meters

Eight prepaid communal standpipe meters were installed in Stampriet in 2000. One of the meters is now out of order. The communal standpipes currently in use are shared by several households. The council does not know the number of households per standpipe. The standpipes are erected in an individual's property or just outside the fence (see Figure.7).

As with the pre-paid in-yard water meters, the residents complained about the lack of reliability and ineffectiveness. There are approximately 375 households served by the communal standpipe water meters.

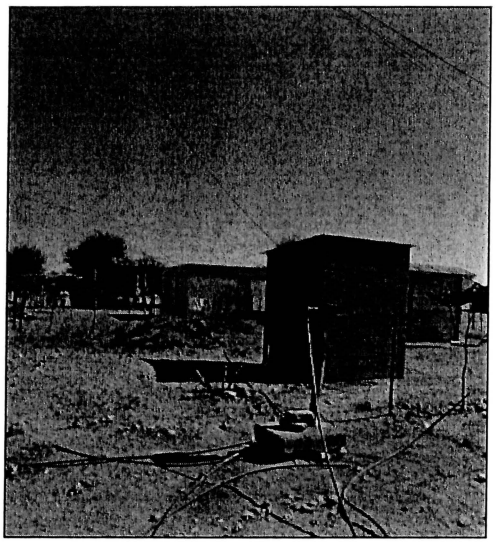


Figure 7: Communal standpipe in the informal settlement (Soetdoringlaagte extension) on the roadside with pipes connected

- Conventional Water Meters

Conventional water meters are used by households and all bulk water users such as the schools, the post office, businesses and the police station. There are 105 conventional water meters in the whole village: 60 in Soetdoringlaagte, 12 in Soetdoringlaagte informal and 33 in Stampriet proper. The conventional water meters used in Soetdoringlaagte informal settlement are mostly used for shebeen owners and other businesses. A survey of 8% of the conventional water meters indicated that all of the surveyed meters were properly working while 25% were either leaking or slow due to carbonate precipitation or algae growth. The expected lifetime of a meter in Stampriet is estimated to be 3 to 5 years or even shorter mainly as a result of the high carbonates and CCPP. Leakages on properties were detected, especially on the premises of government institutions (see Figure 8). Most meters are not properly maintained and not properly protected against damage or vandalism.



Figure 8: Leakage on a conventional meter on a private premise

The records of the metering system of the Village Council are not up to date and at times the meter readers make incorrect readings. This affects the income of the Village Council and makes it difficult for them to pay their NamWater bill.

There are nine privately owned boreholes in Stampriet and it is owned by relatively middle or high income consumers. The owners of private boreholes get operational licenses from the Ministry of Agriculture, Water and Forestry (MAWF). The boreholes are said to be on the council's land but the Council does not have any rights to the boreholes nor do they get income from the boreholes. It is questionable if Department of Water Affairs and Forestry (DWAF) will issue permits to persons who do not own the land and the PST team therefore suggested that the VC approach the licence Division in DWAF to verify the information.

4.1.4 Tariffs and credit control

The Stampriet Village Council recovers the cost of its services through collection of revenue using a comprehensive tariff system. Revenue is collected for refuse removal, sewerage, water supply and electricity supply. Credit control is carried out on an *ad hoc* basis, which confuses customers making them reluctant to pay for the services. In order for the council to recover its costs, the council collects debt from the owing consumers by deducting a certain amount of money from water payments

made. For every water payment made, the council deducts 17% of the total to repay outstanding debts. Despite these efforts the Village Council lacks appropriate credit control systems to maximize revenue collection. The water supply tariffs are summarized in Table 1.

Table 1: Water Supply Tariffs applied in Stampriet

Customer group	Basic (N$)	Volume (N$/m³)
Business & Institutional	200	7.50
Small Business	90	7.50
Residential	35	7.50
Pre-paid meters	None	7.50
Night soil removal per bucket	35	-
Refuse removal: Standard bin & Residential and business	35 140	- -

Replacement of a prepayment water meter token is N$145.00 and water reconnection, if it is cut off for non-payment, is N$110.00. The council also uses different tariffs for sewerage services for residential, and business. The basic monthly charges for residential and business are N$35.00 and N$90.00 respectively.

Stampriet does not apply rising block tariffs. The Stampriet Village Council was in arrears to NamWater to an amount of N$ 21 706.02 for the month of October 2010 which was still outstanding in June 2011. Meanwhile the consumers owe the Village Council approximately N$6.5 million (July 2011, Financial Statement) for service debt.

5. Sanitation Services

5.1 Bucket system

Whilst some households are connected to the vacuum system, some households (48 households, 4 in Soetdoringlaagte and 44 in Soetdoringlaagte informal settlement) use the bucket system. The remaining households in Soetdoringlaagte are connected to the vacuum sewer system while the households in Soetdoringlaagte informal settlement use open defecation (bush) and flying toilets (use of plastic bags for defecation, which are then thrown away) as a means of sanitation. The buckets are located inside a small building and they must be emptied manually, by burying the contents next to the building or carrying the waste to a distant excavation. This is difficult to do safely causing potential health hazards to the users even though they pay for this service. The Ministry of Regional and Local Government, Housing and Rural Development are constructing toilets in the informal settlements but they are not yet connected to the water-borne vacuum sewer system. These toilets are built on every erf in the informal settlement as seen in Figure 8.

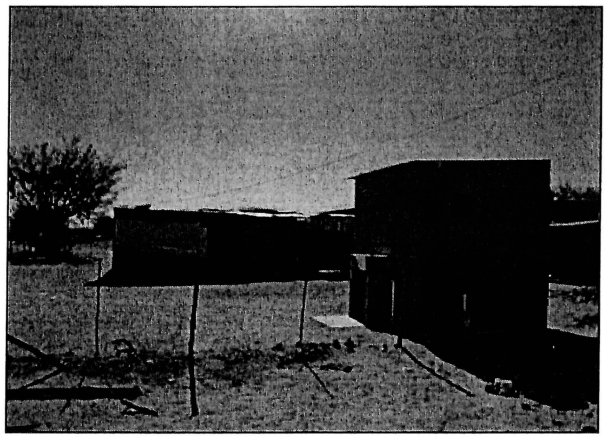


Figure 9: Newly constructed toilet on one plot in Soetdoringlaagte settlement of Stampriet

5.2 Vacuum system

During the PST visit, special attention was given to investigating the Vacuum Sewer System. The results of the three day assessment of the system are summarised below and expanded upon in Annex 4, with key challenges identified and elaborated.

It is interesting to note that the staff of the Village Council are knowledgeable about the sanitation systems they have in place even though they might not have sufficient capacity, tools or materials to deal with some of the problems they are faced with.

5.2.1 Planning, Layout and Installation

System dimensioning and vacuum station layout and planning were done by Roediger/ Bilfinger & Berger in Germany, and so were most of the component planning/ manufacturing of the system. Site layout and pipe network planning was done by WML Consulting Engineers, Windhoek, Namibia. Consumables and spares are provided by VACSEW Maintenance CC, Windhoek, Namibia. Refer to photo documentation in Annex 4 for a detailed assessment report on the Vacuum Sewer System. The PST is not aware of any discussion or agreement with the communities on the expected increase in costs for water to accommodate the upgraded vacuum system sanitation services.

5.2.2 System Management (Operation and Maintenance)

Operators are assigned on the day to day maintenance of the vacuum sewer system from the technical department. It was observed that there is a lack of technical personnel to operate the vacuum sewer system with no appropriate training and skills for operation and maintenance. Refer to annex 4 for a full detailed report on Operation and Maintenance of the vacuum system.

5.2.3 The Management Process

During the rapid assessment (Annex 4), it was found that the Stampriet technical office has only basic skilled management personnel and only basic skills available on-site. Up to date no records are kept with regard to monitoring and evaluation, no monitoring and evaluation of system operation are done and the system performance is unknown.

5.2.4 System Operation

Currently there are only two operators for the vacuum sewer system, whose normal duties are to be drivers for the VC. The two drivers are assigned with the operation and maintenance of the vacuum system on an *ad hoc* basis. These *ad hoc* jobs are described in Annex 4.

5.2.5 Inspection of sanitation systems

A village inspection was conducted from Monday to Wednesday, during the PST's visit to Stampriet to understand system constraints, human resource bottlenecks, people's experience and to note the quality of work done and any mutual influences observed. Refer to annex 4 for a detailed report on the findings.

5.2.6 Vacuum Station

The vacuum system was running 24hours a day and to capacity. Pump one was running constantly while pump three ran at 10 second intervals.Pump two was not operational and used too much oil. Refer to annex 4 for a detailed analysis of the vacuum station.

5.3 Oxidation ponds

Stampriet currently has four oxidation ponds in series which receive effluent pumped from the pump station serving as the sewage treatment method for the Village Council. Two of these ponds were constructed in 2008. The ponds are well fenced and far from residential areas. The ponds are all filled with water and the Village Council staff expect that once more houses are connected to the vacuum sewer system, the ponds will overflow and will require expansion. The ponds are also supposed to accommodate the waste from the sewer truck "honey sucker" which is used to collect waste from the bucket system. The collection sump/pipe at the pond is blocked and the waste removed from the bucket system by the sewer truck is emptied just on an open space near the oxidation ponds.

6. Analysis of gathered information and way forward

Initial results based on the information and statistics made available by the Village Council, and following the meetings, discussions, site inspections and community surveys, were presented and clarified to the Village Councillors. Based on the findings, the acting CEO, Local Authority staff and Village Councillors, as individual groups were asked to identify challenges deemed most important by them. These challenges were then listed on cards, clustered and prioritised by the group. Table 2 below summarises the challenges the Village Council is currently facing, ordered from highest to lowest priority.

Table 2: Summary of challenges identified by Stampriet Village Council staff and councillors facilitated by the PST team

Challenge cluster	Current problems/ procedures elaborated on cards
Cost recovery	-No debts and credit policy -Cost recovery difficult as a result of high unemployment -Debt collection -Repayment -Development of proper tariff system -Repayment and unemployment -Ring fence income for water -N$130/month for old debts and basics -Water payments -Water is the only income and community is poor -Income generation and control policy expenditure - High unemployment - People cut off from water take from neighbours
Vacuum system	-Maintenance -Lack of knowledge on vacuum system -Want ventilation in toilets
Maintenance	- Vehicles and maintenance expensive -Finstel information management -Drain machine maintenance -Data availability -Insufficient tools to maintain the system -Info management
Capacity building	-Lack of training -Lack of capacity building -Lack of office equipment -Staff shortage

	-Lack of technical skills -Problem with implementation -Lack of user education for use of toilets and vacuum system
Water infrastructure	-Suspect high water distribution losses -Frequent water pipe bursts -Bust pipe repairs and fix -Boreholes on private property cause less revenue -Water lost through illegal connections -Boreholes on council land -Residents want conventional meter on every plot -Need hydrants for fire extinguishing -Inferior material for new toilets by MRLGHRD -Inadequate doors on every toilet -Auob river flow damages infrastructure
Development	-No erven available to sell -Sports field not up to standard -Need investors and businesses to lower employment -Business attraction -Want income generating projects -Town situated central, very strategic for business -Old age home -VC does things halfway e.g. community hall not completed
Prepaid	-Meters replacements -Effectiveness of the prepaid metering system -Prepaid not good -Struggling with replacement parts of prepaid meters
Waste	-Waste removal -Bucket system -Dumping sites not well controlled and operated
Communication	-Transparency -Communication with VC

The final step of the analysis involved the compilation of an Plan of Operation to address the most important issues identified by the residents as well as the Village Council staff and councillors (Annex 5). The Operational Plan is being used as a guideline for actions to be taken and as the basis for monthly monitoring and evaluation of the implementation. Implementation of this Plan of Operation is being supported by members of the PST as needed and reviewed on a monthly basis (Annex 6).

6.1 Training needs

The Stampriet Village Council has 13 employees in different departments. There is an acting CEO, one Human Resource and administrative officer, one artisan, one accountant, one clerical assistant, a secretary, a cleaner, a driver, two operators and four labourers. The Village Council does not have enough people in the technical department with the right competencies.

Most of the technical operations are not computerised and are recorded manually except the financial and administrative operations. The Village Council lacks training in all the departments due to financial constraints.

7. Conclusions and recommendations

7.1 General overview

As indicated in the introduction, capacity development was identified as the single most important element necessary for enabling Integrated Water Resources Management in Namibia (IWRMP 2010) and as one of four of the key strategic issues to be addressed in the National Sanitation Strategy (NSS) 2010 to 2015 (NSS 2009). This was confirmed to be the situation in Stampriet Village Council as well. Capacity in terms of financial and technical management is particularly limited. The inability to recover costs, high non-revenue water and limited management and technical skills were particularly noticeable.

The Performance Support Team worked closely with the Village Council staff, councillors and the community to assess water consumption, water infrastructure, water meters and tariffs and credit control. In terms of sewage, the bucket systems and vacuum sewer systems were investigated. The findings and recommendations are included in this main document. The Village Council staff and councillors developed a Plan of Operation (Annex 5) based on the findings of the PST activities. A monitoring format (Annex 6) was derived from the Plan of Operation and to be implemented by the CEO and the Village Council.

It is recommended, based on this report, that the Plan of Operation is addressed and ongoing monitoring implemented. A further review of the situation, implementation of the Plan of Operation and the perceptions of the community should be undertaken within six months time. A credit control policy should be developed taking into consideration the social aspects such as unemployment and low-income of some families.

7.2 Lessons learnt and long term suggestions for stakeholders involved

7.2.1 Village Council

Lessons Learnt	Future Suggestions
Capacity development	
1. Key staff appointments not based on capacity (knowledge, skills and attitudes)	Develop job descriptions indicating capacity requirements (knowledge, skills and attitudes) to guide hiring process
2. Staff have received little relevant training for their positions	Develop training programme, especially for financial and technical management staff
3. PST approach provides hands-on, targeted support to VC staff	Continue interactions with PST to empower VC staff and other involved stakeholders
Management programme	
4. Staff not aware of priority requirements and responsibilities but carry on day to day	Develop programme of assignments and supervision for technical and financial management with relevant targets
5. VC not aware of established indicators	Review and apply indicators elaborated in national policies
6. Documentation of financial procedures and obligations would support assorted staff involved in financial management	Document financial management programme and actions to support M&E
7. Documentation on site and in the office is needed to guide and record O&M actions and requirements	Document technical management programme and actions to support M&E
Communication	
8. Residents have little understanding of tariffs, implications of the vacuum system or village planning	Establish programme of regular consultation with stakeholders
9. Rate payers confused by tariff requirements and arrangements for	Regularly and prominently display notices of import and interest to

payments	stakeholders
10. Experiences gained elsewhere in Namibia not available nor applied	Regularly exchange information with other LAs through regional and national WATSAN

7.2.2 Regional Council

Lessons Learnt	Future Suggestions
Advisory role	
1. Village Council left to make own arrangements with developers & consultants	RC develop advisory capacity to assist VCs with understanding and implementing negotiations, agreements, interactions and follow-ups
2. No regionally relevant solutions for water supply, tariffs or sanitation systems are recommended to VCs for consideration	RC, through regional WATSAN, compile suite of appropriate solutions for VCs and LAs in region and keep up to date
3. Financial implications of various recommended/ imposed technical solutions not clear to VCs	RC, through regional WATSAN, develop a programme to advise VCs and LAs on financial implications of technical solutions
4. Information and experiences from other VCs in region is not synthesised, made available or disseminated	RC assemble, review, synthesise and disseminate information and experiences from VCs and LAs in region
Capacity building	
5. Financial and technical capacity is limited	RC initiate and facilitate series of training programmes based on realities, needs and experiences of region
6. VC has little or no knowledge or understanding of experiences of other VCs in region	RC ensure that regional WATSAN serves as platform for exchange of knowledge, skills and attitudes amongst VCs and LAs in region
Knowledge base	

7. Up-to-date baseline surveys supporting water supply and sanitation provision in the region are non-existent	RC undertake and update relevant baseline surveys focused on water supply and sanitation provision in the region
8. Alternative sanitation options are not known or encouraged	RC collaborate with DWSSC to identify, test and promote suite of appropriate alternative sanitation options for region

7.2.3 MRLGHRD

Lessons Learnt	Future Suggestions
Advisory role	
1. Village Council informed of technical solutions and funding provided without discussion with VC, stakeholders or others involved	MRLGHRD should engage in preliminary discussions with VC and stakeholders, providing full information concerning implications of technical solutions
2. Village Council left to undertake own negotiations with contractors and service providers imposed by Ministry	MRLGHRD should support VC to undertake negotiations and help monitor performance of contractors and service providers
3. Village Council not empowered to make own decisions or negotiate as stakeholders	MRLGHRD should include VC to be full partner of negotiations and decision making
4. Village Council not informed of national policy or legislation related to water supply and sanitation	MRLGHRD must ensure that VC is fully informed of national policy and legislation and changes as they occur
Project sustainability	
5. VC doesn't have funding to support vacuum system as required	MRLGHRD must assist VC to budget and find funds for infrastructure maintenance before final decisions for installation are made
6. VC doesn't have capacity to maintain and renew infrastructure timeously	MRLGHRD must assist VC to budget for and negotiate funds for maintenance and

	replacement
7. Storage space and workshop facilities are inadequate to operate and maintain infrastructure	MRLGHRD should ensure that funding for, *inter alia*, storage and workshop facilities for O&M are integrated into funding grants/ negotiations

7.2.4 MoHSS

Lessons Learnt	Future Suggestions
Advisory role	
1. Village Council informed of technical solutions without information on or understanding of health and hygiene implications	MoHSS should engage in preliminary participatory discussions with VC and stakeholders, providing full health and hygiene information concerning implications of technical solutions
2. Village Council left to undertake own negotiations with technical contractors and service providers imposed by Ministry	MoHSS should support VC to undertake negotiations and ensure inclusion of health and hygiene while monitoring performance of contractors and service providers in this respect
3. Village Council not aware of nor involved in health and hygiene elements of programmes	MOHSS should initiate and include VC in widely targeted initiative on awareness raising and implementation of health and hygiene programme (schools, clinics to general public)
4. Village Council not informed of national policy or legislation related to health and hygiene	MoHSS must ensure that VC is fully informed of national policy and legislation and changes as they occur
Project sustainability	
5. VC doesn't have funding to support vacuum system as required nor associated health and hygiene measures	MoHSS must assist VC to budget and find funds for infrastructure maintenance, including associated health and hygiene measures, before final decisions for

	installation are made
6. VC doesn't have capacity to maintain water supply and sanitation infrastructure in hygienic condition	MoHSS must assist VC to budget for and negotiate funds for ongoing maintenance
Communication	
8. Residents have little understanding of health and hygiene issues	MoHSS to establish dynamic programme of regular consultation with all stakeholders ranging from VC staff to town residents
10. Experiences gained elsewhere in Namibia not available nor applied	MoHSS regularly facilitate exchange of information with other LAs, directly and through regional and national WATSAN
Knowledge base	
7. Up-to-date baseline surveys supporting health and hygiene related to water supply and sanitation provision in the region are non-existent	MoHSS undertake and update relevant baseline surveys focused on health and hygiene related to water supply and sanitation provision in the region
8. Alternative sanitation options are not known or encouraged	MoHSS collaborate with DWSSC to identify, test and promote suite of appropriate alternative sanitation options, elaborating their health and hygiene elements, for region