



Mier Bulk Water Supply



Social Criteria and Social Component for the IRS of the Regional Bulk Infrastructure Grant (RBIG)

1st draft report

12 August 2014

Acknowledgments

Contributing persons are listed in footnotes.

Drafted by:

Adeline Squires

Settlement Planning Services

Cell: 0837010190

Fax: 086-5156971

Email: adelines@intekom.co.za



Prepared for:

Malcolm du Plessis

BVi Consulting Engineers

7 Murray Avenue, Box 1155, Upington, 8801

Tel: 054-337660 Fax: 054-3376699

Email: malcolmdp@bvinc.co.za



Disclaimer

Setplan makes no guarantee of any kind, expressed or implied, with respect to data illustrated and information in this report, and shall not be held liable in any event for any incidental or consequential damage resulting from its use.

This study was funded by the Mier Municipality. The Mier Municipality assumes no responsibility for the content of the research study reported in this publication or for the opinions or statements of fact expressed in the report. The mention of trade names for commercial products does not constitute or imply approval or endorsement of the Municipality.

This report is presented solely for informational purposes.

Copyright

Copyright © 2014 by Mier Municipality

ALL RIGHTS RESERVED

No part of this publication may be copied, reproduced or otherwise utilized without permission.

Content

1	INTRODUCTION	1
1.1	Background	1
1.2	Scope of the study	1
1.3	The study area	1
	<i>Kalahari East water supply scheme</i>	<i>1</i>
	<i>Kalahari West.....</i>	<i>2</i>
2	METHODOLOGY OF THE STUDY.....	2
3	SOCIAL CRITERIA.....	3
3.1	Number of households and people to be uplifted to basic and higher service levels 3	
	<i>Factors determining population size and affecting growth</i>	<i>3</i>
	<i>Population size.....</i>	<i>6</i>
3.2	Basic and higher service levels	11
3.3	Number of poor households to be served	12
	<i>Poverty and household income</i>	<i>12</i>
	<i>Indigent households</i>	<i>14</i>
3.4	Estimated number of jobs to be created.....	15
3.5	Affordability of the proposed water tariffs.....	15
	<i>Water tariffs</i>	<i>15</i>
	<i>Affordability of domestic consumers</i>	<i>16</i>
	<i>Affordability of FBW.....</i>	<i>18</i>
	<i>Affordability of the proposed tariffs.....</i>	<i>18</i>
3.6	Contribution towards poverty eradication, social upliftment and health.....	18
3.7	Number of associated services benefiting	20
3.8	Socio-political support for the proposed development	22
	<i>IDP and WSP alignment</i>	<i>22</i>
4	CONCLUSION	27

Acronyms

AADD	Average annual daily demand
BEE	Black economic empowerment
CHC	Community health centre
CPI	Consumer price index
DM	District municipality
DWA	Department of Water Affairs
EMIS	Education management information system
EPWP	Expanded public works programme
ES	Equitable share
FBS	Free basic services
FBW	Free basic water
GDP	Gross domestic product
GVA	Gross value added
Ha	Hectare
HH	Household
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
IDP	Integrated development plan
IRS	Implementation readiness study
kℓ	Kilolitre = 1 000ℓ = 1 m ³
Km	Kilometre
KwH	Kilowatt hours
ℓ	Litre
ℓ/c/d	Litres per capita per day
ℓ/day	Litres per day
LM	Local municipality
m ³ /a	Cubic meters per annum
m ⁶ /m ³ /a	Million cubic meters per annum
Mℓ	Mega litre = 1 000kℓ = 1 000m ³
MTEF	Medium term expenditure framework
p.a.	Per annum
p.m.	Per month
PGDS	Provincial Growth and Development Strategy
PICC	Presidential infrastructure coordinating commission
RBIG	Regional bulk infrastructure grant
RDP	Reconstruction and Development Programme
SDF	Spatial development framework
SMME	Small, Medium and Micro Enterprise
UDS	Urine diversion sanitation
VIP	Ventilated improved pit
WSA	Water services authority
WSDP	Water services development plan
WSP	Water services provider
WUA	Water user association
WTW	Water treatment works
WWTW	Waste water treatment works

1 INTRODUCTION

BVi has been appointed to prepare the Implementation Ready Study (IRS) for the bulk water supply infrastructure delivering water to the towns of Mier Municipality and to Haaksteen Pan. Setplan has been approached to assist in preparing sections of the IRS.

The purpose of the study is to apply for funding for the implementation of the project from the regional bulk infrastructure grant (RBIG) programme. Setplan has been requested to prepare the social criteria section and social component for Phase 1 of the Implementation Readiness Study (IRS), and thereafter another five sections required for the IRS.

1.1 Background

The study concerns the municipality of Mier, located in the northern part of the ZF Mgcawu District.

The project aims to extend the bulk water supply to Mier from the Vaalgamagara pipeline because of the difficulties in supplying sufficient potable water to communities and livestock.

1.2 Scope of the study

The project requires an implementation ready study for the Regional Bulk Infrastructure Grant Programme. This report addresses the social criteria, and determines the social component for the purposes of the RBIG application. The scope of the study is further detailed in Section 3 of this report.

1.3 The study area

The Mier local municipality area consists of several small settlements which includes Rietfontein, Philandersbron, Loubos, Klein Mier, Groot Mier, Welkom, Askham, Noenieput and Swartkopdam. Part of the Kgalagadi Transfrontier Park, a large wildlife reserve and conservation area in southern Africa, lies in the Mier area too.

It is the north-western extension the Kalahari East water supply scheme, which is the focus of this study. Phase 1 of the scheme entails water delivery to Groot Mier, Klein Mier, Loubos, Rietfontein, Philandersbron, Andriesvale and Askham. Phase 2 will address Welkom. Noenieput is part of Phase 5 of the scheme.¹

Kalahari East water supply scheme

This water supply scheme provides water mainly to stock farms as well as for human use, Bo-Plaas school and the Kheis Gronde. It is operated by the Kalahari East Water User Association.²

Water is sourced from the Vaal Gamagara pipeline.

¹ Personal communication with Mr M du Plessis, BVI, on 31 July 2014.

² BVI (2011) Feasibility study - North-western extension of the Kalahari East water supply scheme. P 26-27.

Figure 1. Kalahari East water supply area³

Kalahari West

The Kalahari West water supply scheme, completed in 1985, supplies water to stock farms, eight small towns in the Mier area, three border control posts, and Tweerivieren in the Kalagadi Transfrontier Park. Water is abstracted from the Orange River, to a reservoir 25 km north-west of Upington, from where it gravitates to the Kalahari West service area. It is operated by the Kalahari West Water User Association. There are no possibilities to extend this scheme.⁴

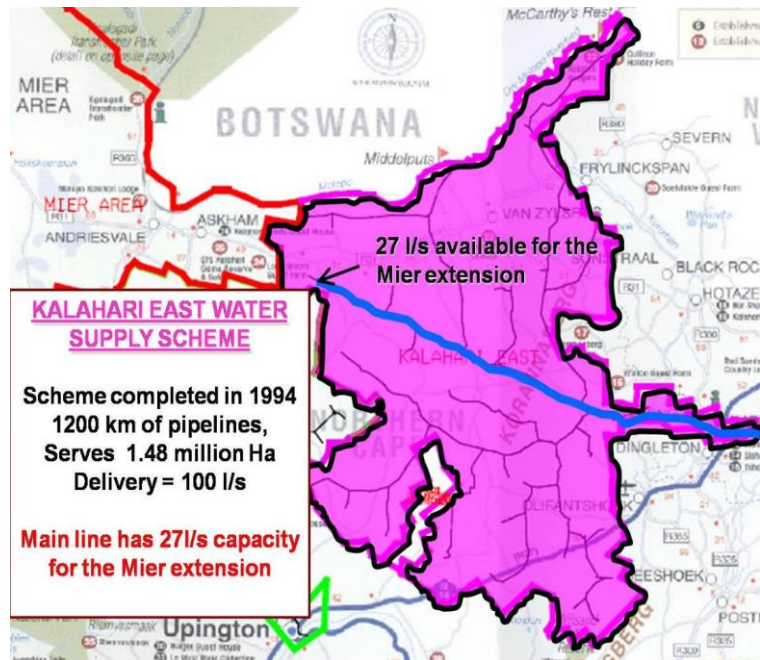
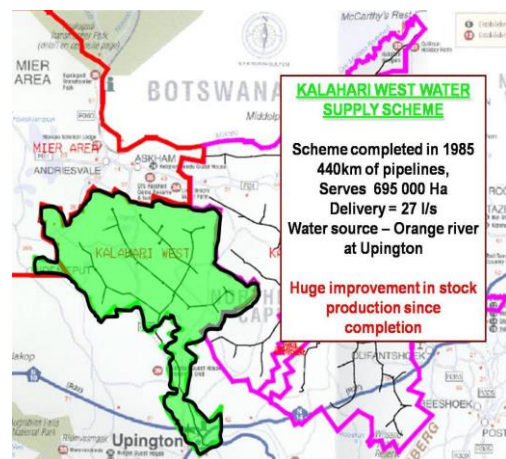


Figure 2. Kalahari West water supply area⁵

2 METHODOLOGY OF THE STUDY

This report is based on quantitative and qualitative data obtained from secondary and primary sources. Secondary sources referred to include:

- Engineering and technical reports of Mier water supply
- Statistics South Africa's population censuses and surveys
- Municipal documents such as the IDP, SDF, Annual Report, Annual Financial Statement, budgets, and WSDP
- Dept. of Water Affairs' reports including guidelines, frameworks, Blue and Green Drop reports
- Relevant published reports



Primary information is obtained from persons referred in footnotes.

This review has been drafted so that Section 3 can be copied directly into the main IRS report.

³ BVI (2011) Feasibility study - North-western extension of the Kalahari East water supply scheme. P 24-25.

⁴ BVI (2011) Feasibility study - North-western extension of the Kalahari East water supply scheme. P 24-25.

⁵ BVI (2011) Feasibility study - North-western extension of the Kalahari East water supply scheme. P 24.

3 SOCIAL CRITERIA

The north-west extension of the Kalahari East water supply scheme requires an implementation ready study for the Regional Bulk Infrastructure Grant Programme. This report addresses the social criteria, which according to the TOR includes:⁶

- (a) Number of households to receive basic and higher levels of service
- (b) Number of indigent households to be served and the social cost
- (c) Number of associated services benefiting e.g. schools, clinics and communal facilities
- (d) Number of jobs to be created per category i.e. temporary and permanent
- (e) Affordability of proposed water tariffs
- (f) Contribution toward poverty eradication, social upliftment and health improvement
- (g) Socio-political support for the proposed development options

3.1 Number of households and people to be uplifted to basic and higher service levels

The social criteria section of the RBIG application needs to report on the number of persons for which the project caters. This section, based on secondary data, sets out a most likely population estimate for Mier until the year 2035 to most accurately determine the future water demand.

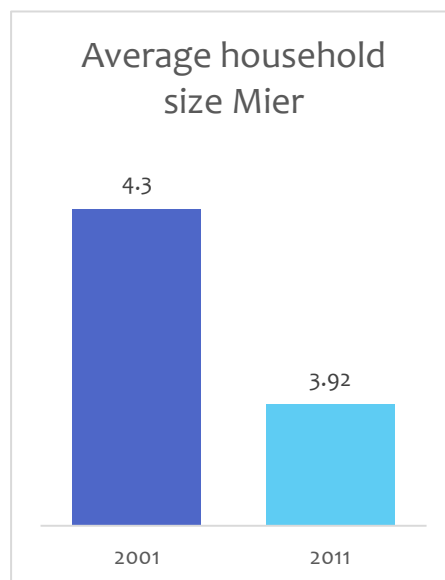
Factors determining population size and affecting growth

Household size

The average household size assists in determining population size from dwelling and erven counts. The average household size for Mier are shown in the adjacent figure. It illustrates that the household size of Mier decreased during the 2000s from 4.30 to 3.92 in 2011.

Figure 3. Mier average household size⁷

In 2011, the largest average household size was recorded at Philandersbron (5.00), while the smallest average was recorded at Mier non-urban (2.77).



⁶ Dept. of Water Affairs (2011) Water services regional bulk infrastructure programme – Framework for implementation. Version V10, January 2011. P.28.

⁷ Data source: StatsSA Censuses 2011, and 2001.

Table 1. Average household size in Mier, 2011⁸

	Households	Persons	Average household size
Kalahari Gemsbok National Park	93	354	3.81
Mier NU	651	1 803	2.77
Mier	105	381	3.63
Loubos	141	642	4.55
Klein Mier	108	450	4.17
Rietfontein	471	2 295	4.87
Philandersbron	216	1 080	5.00
Total	1 785	7 002	3.92

Table 2. Household size distributions in Mier, 2011⁹

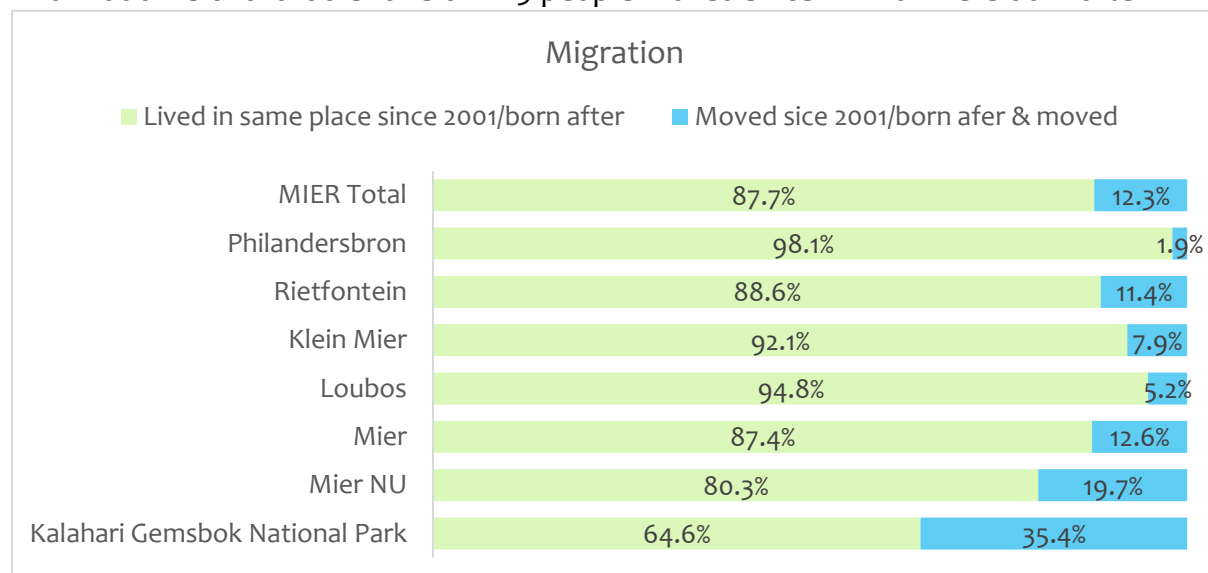
Household size	Households	%
1	372	20.8%
2	333	18.7%
3	258	14.5%
4	270	15.1%
5	195	10.9%
6	120	6.7%
7	96	5.4%
8	48	2.7%
9	39	2.2%
10+	48	2.7%
Total	1 785	100.0%

The Balelapa Household Profiling survey of the Northern Cape reports a higher average household size of 4.30 for Mier with a maximum household size of 18. This report states that 4.2% of households have 10 or more members,¹⁰ while StatsSA puts it at 2.7%.

Migration

Migration, together with fertility and mortality, is an aspect of population change. The people of the Northern Cape are relatively immobile and tend to stay in the same place for their lifetime. In 2011, 87.6% of Mier's population had been there at least since 2001 or were born later and had not moved, which implies that its population is less mobile than that of the Northern Cape (83.2%) overall and that of South Africa (average of 81.1%).

The table below shows the extent of in-migration into Mier since 2001; out-migration information is unavailable. Overall 825 people moved since 2001 or were born after 2001



and moved there. Kalahari Gemsbok National Park was the main recipient of this migration, followed by the non-urban areas of Mier.

Figure 4. Migration within and to Mier between 2001 and 2011 or born after 2001 and moved

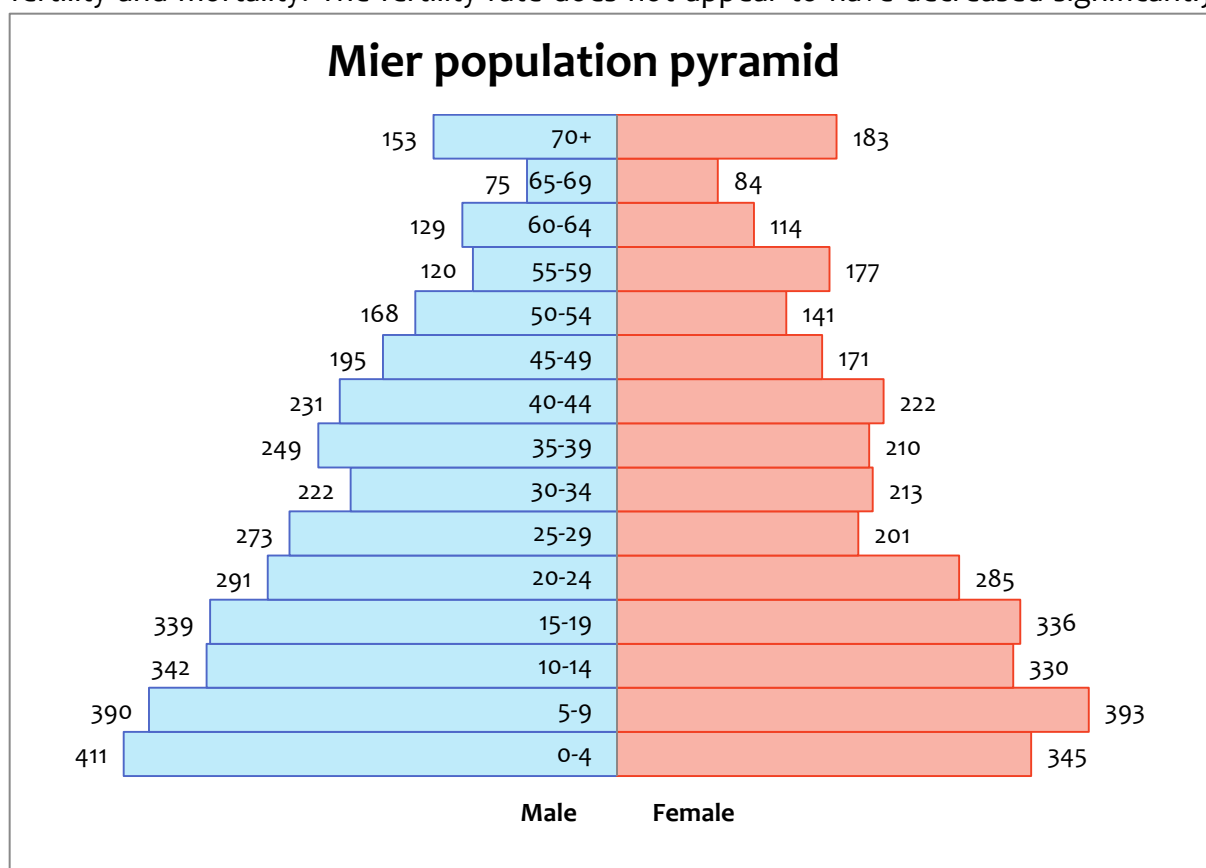
Table 3. 2011 Population living in the current location since October 2001¹¹

Migration	Number			%	
	Lived in same place since 2001/born after	Moved since 2001/born after & moved	Total	Lived in same place since 2001/born after	Moved since 2001/born after & moved
Kalahari Gemsbok National Park	159	87	246	64.6%	35.4%
Mier NU	1 440	354	1 794	80.3%	19.7%
Mier	333	48	381	87.4%	12.6%
Loubos	606	33	639	94.8%	5.2%
Klein Mier	417	36	453	92.1%	7.9%
Rietfontein	1 857	240	2 097	88.6%	11.4%
Philandersbron	1 059	21	1 080	98.1%	1.9%
MIER Total	5 871	825	6 696	87.7%	12.3%

A decline in migration into the province is predicted. The 2011 Census indicated a net out-migration of 69 527 persons from the Northern Cape and an in-migration of 62 792 resulting in a net migration of -6 735.¹² Mier Municipality, with few strong pull-factors is unlikely to attract immigrants from other parts of the Northern Cape and beyond. However, the events of the land speed record at Haaksteen Pan may bring some permanent relocation and opportunities to the area.

Demographic structure

Population growth is determined by migration and natural growth, which is a function of fertility and mortality. The fertility rate does not appear to have decreased significantly



because the youngest age group of 0 to 9 year olds is the broadest age categories and the population structure shows a pyramidal shape, which is associated to a growing population. However, it narrows in the age categories 20-40 years, which reflects the need for young adults to migrate from Mier to places of higher learning and where job opportunities may be more abundant.

Figure 5. Age and sex of the Mier population¹³

It is estimated that natural growth will increase in the Northern Cape in the near future because:

- Although fertility rates will decrease from 2.97 in 2001 to 2.65 at end 2016,¹⁴ it remains higher than replacement rate of 2.2%. A UN report, states that the South African fertility rate will reduce from a current 2.40 to 2.18 by 2025.¹⁵
- Life expectancy at birth of Northern Cape males will increase to 54.9 years and females to 60.1 years in 2016.¹⁶ South African life expectancy will increase from a current 57.1 years to 59.0 years in 2025, with decreasing infant and child mortality contributing to this.¹⁷

Population size

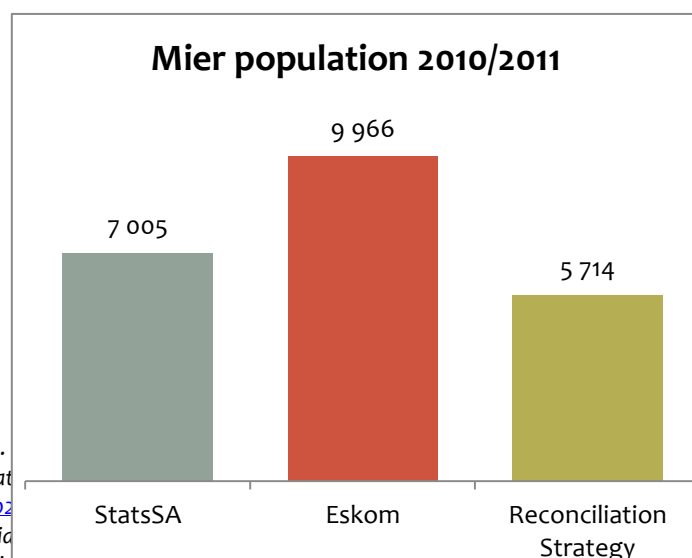
Population size in 2010 and 2011

The 2011 Census recorded that there were 7 005 persons in Mier, while the Reconciliation Studies put the 2010 population at 5 714 and estimates from the Eskom spot count at 9 966.

To validate the official data from StatsSA, data from Eskom was consulted.

Based on Eskom's 2010 structure counts¹⁸, assuming that all structures are dwellings, and applying an average household size of 3.92, a total of 9 966 persons results. This is a higher population estimate than that of the 2011 Census (7 005).

Figure 6. Mier's population 2010/11 estimates by StatsSA, Eskom and the DWAS reconciliation studies



¹³ Date source: StatsSA Census 2011. Interactive data.

¹⁴ Statistics South Africa. Mid-year population estimates 2013. P0302. [Online]. Available: <http://www.statssa.gov.za/publications/P0302/P03022013.pdf> [cited 11 August 2013]

¹⁵ United Nations, Department of Economic and Social Affairs, Population Division (2013). World Population Prospects: The 2012 Revision, Highlights and Advance Tables. Working Paper No. ESA/P/WP.228. [Online]. Available: http://esa.un.org/unpd/wpp/Documentation/pdf/WPP2012_HIGHLIGHTS.pdf [cited 11 August 2013] P 77.

¹⁶ Statistics South Africa. Mid-year population estimates 2013. P0302. [Online]. Available: <http://www.statssa.gov.za/publications/P0302/P03022013.pdf> [cited 11 August 2013]

¹⁷ United Nations, Department of Economic and Social Affairs, Population Division (2013). World Population Prospects: The 2012 Revision, Highlights and Advance Tables. Working Paper No. ESA/P/WP.228. [Online]. Available: http://esa.un.org/unpd/wpp/Documentation/pdf/WPP2012_HIGHLIGHTS.pdf [cited 11 August 2013] P 77.

¹⁸ Data sources: Eskom Spot Data, 2010

Table 4. Population and households of Mier 1996-2011¹⁹

MIER	Number				Annual growth rate		
	1996	2001	2010	2011	1996-2001	2001-2011	1996-2011
Population	6 272	7 210	9 966	7 005	2.83%	-0.29%	0.74%
Households	947	1 676	2 536	1 782	12.09%	0.62%	4.30%

¹⁹ Data Source: StatsSA Censuses 1996, 2001, 2011; Eskom Spot Data 2010.

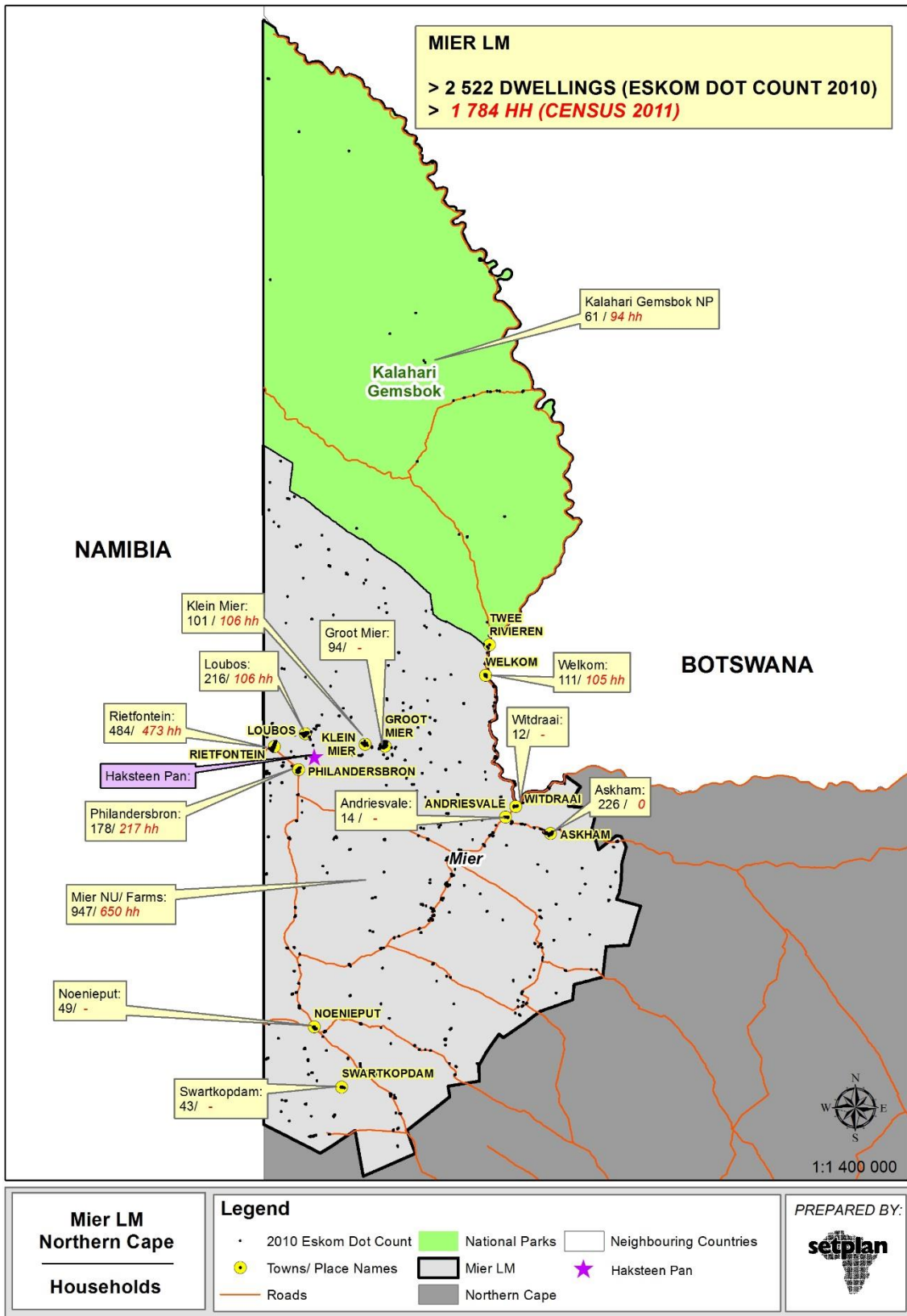


Figure 7. Map detailing households in Mier by Census 2011 and Eskom dwelling spot count

Historical population trends

Historical trends show that the population increased from 4 633 in 1996 to 7 005 in 2011 according to the Census. The Eskom spot data has a higher population estimate of 9 966 in 2010. Households have increased faster than the population from 947 in 1996 to 1 789 in 2011; while 2 536 dwellings were estimated according to the Eskom spot count.

Table 5. Population and households of Mier by sub place 1996-2011²⁰

	Population				Households			
	1996	2001	2010	2011	1996	2001	2010	2011
Klein Mier	168		397	450	72		101	108
Groot Mier		421	369			97	94	
Mier	712				142			
Loubos	586		849	642	106		216	141
Philandersbron	950	789	700	1 080	158	169	178	216
Rietfontein	1558	2 156	1 902	2 295	296	392	484	471
Andriesvale			55				14	
Noenieput	205		193		69		49	
Swartkopdam			169				43	
Askham			888				226	
Witdraai			47				12	
Welkom	454		436	381	104		111	105
Kalahari Gemsbok National Park		361	240	354		98	61	93
Non-urban		3 483	3 722	1 803		920	947	651
TOTAL	4 633	7 210	9 966	7 005	947	1 676	2 536	1 785

The population increased by 2.79% per annum between the Census years of 1996 and 2011, whilst the annual growth rate between 1996 and 2001 was 9.25% and between 2001 and 2011 it declined to a negative rate of -0.29% p.a. Yet, based on the Eskom spot counts the growth was 3.66% between 1996 and 2010. Historically, households in Mier have grown at a faster rate than the population. Between 2001 and 2011, Mier's households increased at 0.63% p.a., while the fastest rate of growth was between 1996 and 2001 at 12.09% p.a.

Table 6. Population and households growth rates of Mier 1996-2011²¹

	Population			Household		
	1996-2001	1996-2010	2001-2011	1996-2001	1996-2010	2001-2011
Growth rate pa	9.25%	3.66%	-0.29%	12.09%	4.71%	0.63%

Population growth expectations

Although the main cause of population growth is predominantly natural increase rather than migration, the Mier data indicates a decline in the rural population with an increasing urban population. However, it is expected that the rural to urban migration will slow down because the non-urban population of Mier declined by -6.37% p.a. during

²⁰ Data Source: StatsSA Censuses 1996, 2001 and 2011. Eskom 2010 Spot Data.

²¹ Data Source: StatsSA Censuses 1996, 2001, 2011; Eskom Spot Data 2010.

2001-2011. With relatively less rural migration taking place in the future, it is therefore likely that natural growth will become the dominant growth factor due to the relatively large number of women in their reproductive ages of 15-50 years, and from increasing life expectancy and declining mortality rates.

Nevertheless, considering the past trends, Mier’s relatively minor attraction as a place to migrate to given its economy, increasing fertility rate and increasing life expectancy rate results in the predominant growth to be natural increases, rather than immigration into the area. The Reconciliation Strategy predicted positive growth rates from 2010 through to 2030 of 0.68% p.a. in a high scenario.²² In this study, growth rates of 1.1% p.a. are applied in the initial period declining to 0.6% by the end of the 2035. The population of Mier is estimated to reach between 8 499 and 12 091 in 2035.

Table 7. Mier population from 1996-2011 and estimates to 2035

Mier population 1996-2035	1996	2001	2007	2011 ²³	2015	2020	2025	2030	2035
Population Low	6 272	6 844	7 337	7 005	7 318	7 654	7 965	8 248	8 499
Population High	6 272	6 844	7 337	9 966	10 412	10 889	11 332	11 735	12 091
Growth p.a.	0.00%	1.76%	1.17%	0.23%	1.10%	0.90%	0.80%	0.70%	0.60%
Growth p.a.	0.00%	1.76%	1.17%	3.83%	1.10%	0.90%	0.80%	0.70%	0.60%

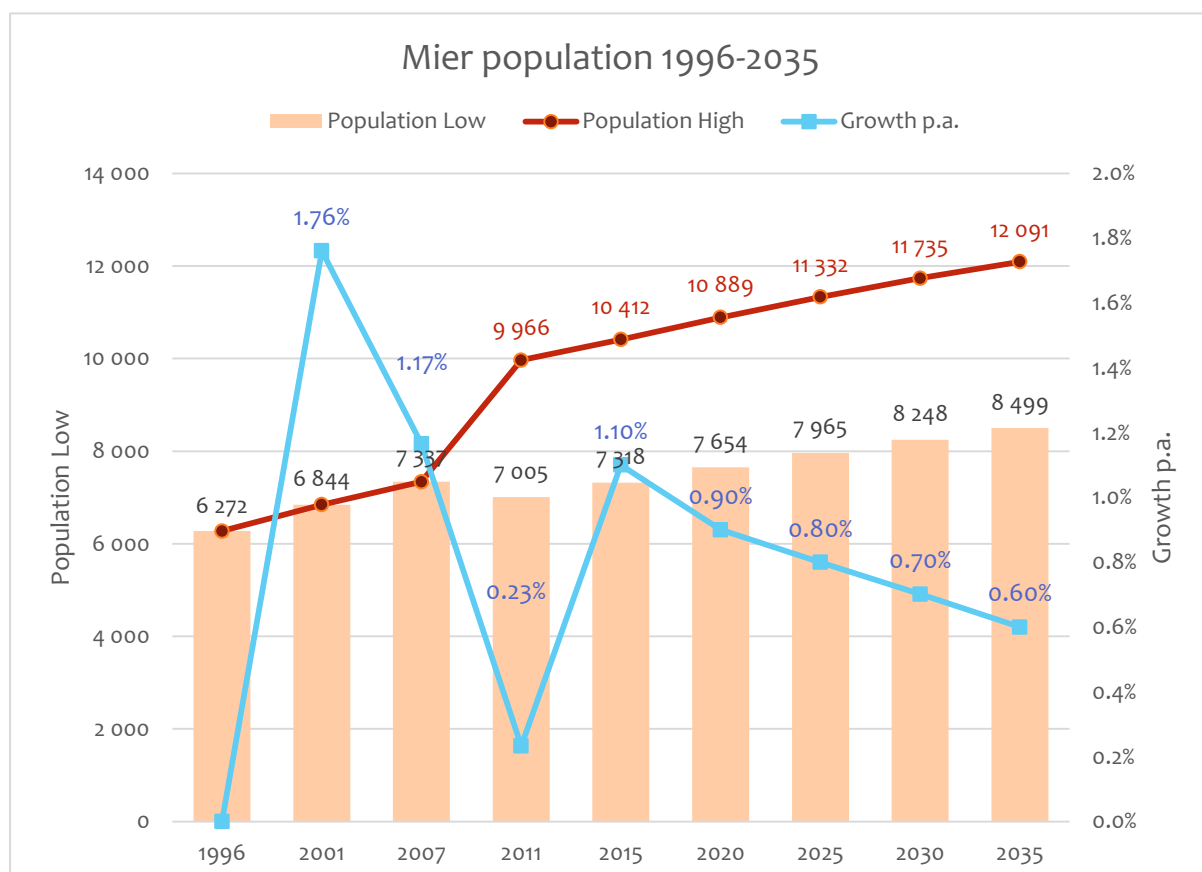


Figure 8. Mier population estimate to 2035

²² DWA (2009) Reconciliation Strategy for the Askham, Rietfontein, Welkom and Klein Mier, May 2011. P 6s.

²³ The difference in 2011 is as a result of the estimates from the Eskom dwelling count and the 2011 Census.

3.2 Basic and higher service levels

The 2014 Northern Cape Water Sector Plan it is recorded that there are no water and 210 sanitation backlogs i.e. below RDP standards, in Mier.

Table 8. Backlogs in Mier 2014²⁴

	Backlog
Water formal stands	0
Water informal stands	0
Total WATER	0
Sanitation formal stands	208
Sanitation informal stands	2
Total SANITATION	210

Already in 2011, all households in living in settlements had access to a water source that was equal or above RDP standards. The majority of households had an erf connection.

Table 9. Status of water supply in 2011²⁵

Settlement	Formal							Informal							TOTAL WATER INFORMAL HH	Total informal Water below basic	WATER BELOW RDP
	House connection	Erf Connection	Communal Standpipe	Communal Standpipe>200m	None (Self collected at river/stream/dam)	Unknown	TOTAL WATER FORMAL STANDS	Total Formal Below Basic	House connection	Erf Connection	Communal Standpipe	Communal Standpipe>200m	None (Self collected at river/stream/dam)	Unknown			
Andriesvale	0	0	250	0	0	0	250	0	0	0	0	0	0	0	0	0	0
Askham	88	87	0	0	0	0	175	0	0	45	12	0	0	0	57	0	0
Groot Mier	3	0	60	0	0	0	63	0	0	4	0	0	0	0	4	0	0
Klein Mier	2	90	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0
Loubos	0	117	0	0	0	0	117	0	0	4	0	0	0	0	4	0	0
Philandersbron	0	151	0	0	0	0	151	0	0	0	0	0	0	0	0	0	0
Rietfontein	0	407	0	0	0	0	407	0	0	0	0	0	0	0	0	0	0
Swartkopdam	0	22	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0
Welkom	0	129	0	0	0	0	129	0	0	0	0	0	0	0	0	0	0
Total	93	1,003	310	0	0	0	1,406	0	0	53	12	0	0	0	65	0	0

In 2011, basic sanitation was unavailable to 129 households living in settlements, of which two were living on informal stands. Most households use dry sanitation. This backlog increased to 210 in 2014.

²⁴ Data source: Backlogs data retrieved from DWA system located at Aurecon, Kimberley on 14 February 2014.

²⁵ Aurecon (2011) Backlog model for DWA.

Table 10. Status of sanitation supply in 2011²⁶

Settlement	FORMAL										INFORMAL								SANITATION NOT SERVED		
	Flush to network	Conservancy tank	Septic tank	UDS	VIP	Pit	Bucket	None	Unknown	Total sanitation formal below basic	Flush to network	Conservancy tank	Septic tank	UDS	VIP	Pit	Bucket	None		Unknown	Total sanitation informal below basic
Andriesvale	0	0	0	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Askham	88	48	0	11	28	0	0	0	0	0	1	0	0	45	11	0	0	0	0	0	0
Groot Mier	3	0	0	25	32	0	0	3	0	3	1	0	0	1	0	0	0	2	0	2	5
Klein Mier	4	1	0	27	52	0	0	2	6	8	0	0	0	0	0	0	0	0	0	0	8
Loubos	42	0	0	0	75	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
Philandersbron	2	0	8	0	25	116	0	0	0	116	0	0	0	0	0	0	0	0	0	0	116
Rietfontein	259	1	0	12	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Swartkopdam	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Welkom	0	0	64	43	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	398	50	72	368	391	116	0	5	6	127	2	0	0	46	15	0	0	2	0	2	129

3.3 Number of poor households to be served

Poverty and household income

Household income

Household income data shows that 8.9% of households in Mier had no income in 2011. The median income, or midpoint, fell into the R 19 601 -27 360 category.

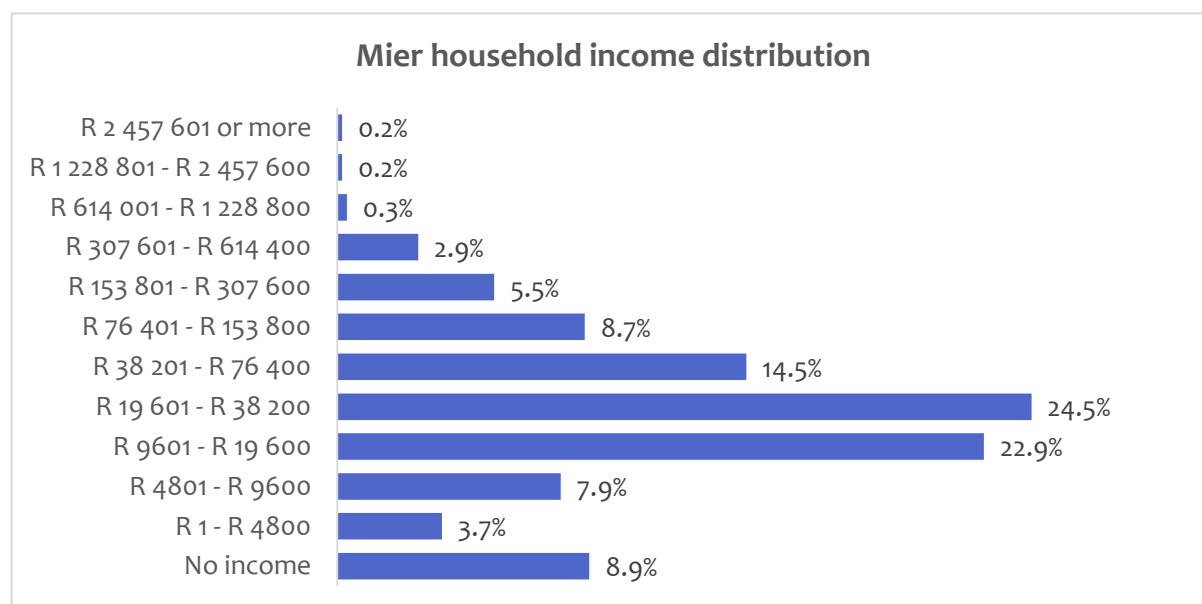


Figure 9. Annual household income in Mier Municipality 2011²⁷

²⁶ Aurecon (2011) Backlog model for DWA.

²⁷ StatsSA. Census 2011.

Table 11. Household income distribution in Mier 2011²⁸

Mier household income distribution	Kalahari Gembok National Park	Mier NU	Mier	Loubos	Klein Mier	Rietfontein	Philandersbron	Total
No income	3.1%	8.8%	11.4%	6.5%	8.3%	8.9%	13.9%	8.9%
R 1 - R 4800	3.1%	3.2%	5.7%	8.7%	5.6%	2.5%	2.8%	3.7%
R 4801 - R 9600	0.0%	6.5%	2.9%	10.9%	11.1%	9.6%	8.3%	7.9%
R 9601 - R 19 600	3.1%	26.9%	28.6%	23.9%	25.0%	19.1%	23.6%	22.9%
R 19 601 - R 38 200	12.5%	26.4%	22.9%	28.3%	30.6%	19.7%	29.2%	24.5%
R 38 201 - R 76 400	37.5%	11.1%	14.3%	8.7%	16.7%	16.6%	11.1%	14.5%
R 76 401 - R 153 800	21.9%	7.4%	8.6%	6.5%	0.0%	12.7%	4.2%	8.7%
R 153 801 - R 307 600	9.4%	4.2%	5.7%	4.3%	0.0%	8.3%	2.8%	5.5%
R 307 601 - R 614 400	9.4%	4.2%	0.0%	0.0%	0.0%	3.2%	0.0%	2.9%
R 614 001 - R 1 228 800	0.0%	0.5%	0.0%	0.0%	0.0%	0.6%	0.0%	0.3%
R 1 228 801 - R 2 457 600	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
R 2 457 601 or more	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	96	648	105	138	108	471	216	1 785

Housing

Access to housing, and the condition of housing is an indicator of the level of socio-economic development of an area. In addition, new housing creates a demand for water services.

The majority of Mier households (88.9%) occupied brick/concrete houses in 2011, while 3.4% lived in traditional dwellings and another 3.9% in informal dwellings mostly not in backyards. Informal dwellings were occupied by 69 households of which most lived in non-urban areas of Mier. The proportion of informal dwellings was lower in Mier than in the Northern Cape (13.1%) overall, whereas the province displayed similar rates of traditional dwellings (3.2%) to Mier.²⁹

Table 12. Types of dwellings occupied in Mier 2011³⁰

Type of dwelling	%
Brick/concrete house	88.9%
Traditional dwelling	3.4%
Other brick structure	1.4%
Informal in backyard	0.7%
Informal dwelling not in backyard	3.2%
Caravan/tent	0.5%
Other	2.0%
Total	100.0%

²⁸ StatsSA. Census 2011.

²⁹ Data source: StatsSA, Census 2011.

³⁰ StatsSA. 2011 Census.

The Mier IDP makes provision to provide 150 houses annually to address the backlog by June 2016. In addition, 250 sites need to be serviced per annum to cater for the housing demand.³¹

In Mier, 55% of households owned fully paid off homes and another 3% were still paying i.e. 58% were owned compared to 55.1% of Northern Cape dwellings. Rent-free occupations stood at 27% and rentals accounted for another 14%. Rentals in Mier were lower than provincial levels (18.8%) but rent-free occupations higher (20.9% Northern Cape average).

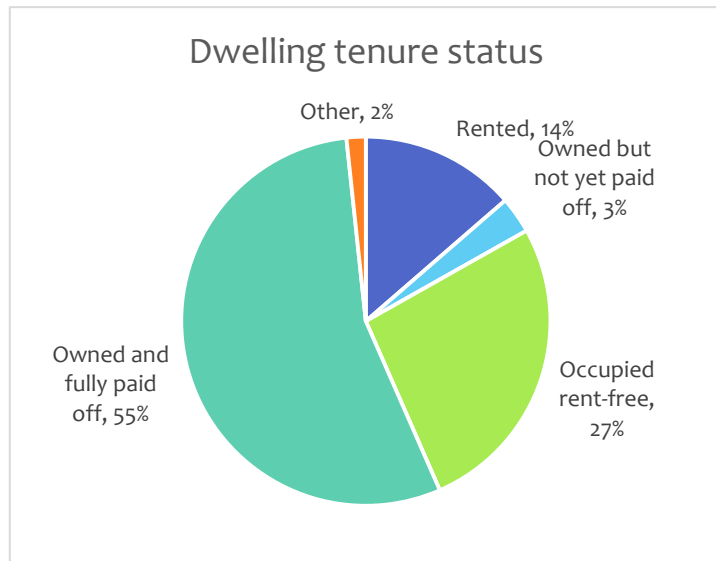


Figure 10. Dwelling tenure status³²

Indigent households

Indigent policy

Indigent households in Mier Municipality qualify for 6 kl of water free per month. However, if consumption exceeds the FBW monthly amount the consumer is charged at normal tariffs for actual consumption on the amount exceeding 6 kl.³³

Each year between March and April residents must complete a form in order to be registered as indigents by 1 July of that year. The maximum income to qualify as an indigent household is R 2 400 per household.³⁴

Number and proportion of indigent households

There are several sources that measure the number of indigent households including the Municipality's indigent household register and data from Statistics South Africa.

The Census 2011 data is consulted because it is a credible source used by National Treasury to determine equitable share amounts³⁵ and because it is widely recognised that there is an under registration of indigent households by municipalities. The main reason for this is that often there is no incentive to be registered especially in situations where households receive free basic services regardless of their status at the municipality.

Furthermore, the number of registered indigent households can vary considerably from year to year, often depending on whether a registration campaign has been undertaken.

³¹ Mier Municipality. IDP 2013/14. P 91.

³² StatsSA. 2011 Census.

³³ Source: Mier Local Municipality. Email received from Ms Sonia Nel-Laing, Mier Municipality on 14 October 2013.

³⁴ Mier Municipality. IDP 2013/14. P 50.

³⁵ Development of Models to Facilitate the Provision of Free Basic Water in Rural Areas, Report No 1379/1/05: March 2005. [Online] Available from: <http://www.fwr.org/wrcsa/1379105.htm> (Accessed: 9 June 2012).

A two pension model used by numerous municipalities is practiced at Mier Municipality. In 2011, the value of two old-age pensions was R 2 280 per month or R 27 360 per annum. Assuming an even distribution in the R 19 201-R 38 400 category, then 53.4% of households in Mier would have had incomes of ≤R 27 360 p.a. and could, therefore, be regarded as indigent households.

Table 13. Annual household income distribution and percentage in indigent category 2011³⁶

Groups	Household income categories 2011	Mier households	%	Cumulative %
Indigent	No income	162	9.1%	9.1%
	R 1 - R 4800	63	3.5%	12.6%
	R 4801 - R 9600	141	7.9%	20.5%
	R 9601 - R 19 600	405	22.7%	43.2%
	R 19 601 - R 27 360	181	10.2%	53.4%
Non-indigent	R 27 361 – R 38 201	254	14.2%	67.6%
	R 38 201 - R 76 400	258	14.5%	82.0%
	R 76 401 - R 153 800	156	8.7%	90.8%
	R 153 801 - R 307 600	102	5.7%	96.5%
	R 307 601 - R 614 400	51	2.9%	99.3%
	R 614 001 - R 1 228 800	6	0.3%	99.7%
	R 1 228 801 - R 2 457 600	3	0.2%	99.8%
	R 2 457 601 or more	3	0.2%	100.0%
	Total	1 785	100.0%	

3.4 Estimated number of jobs to be created

This section will be completed once the capital and O&M costs of the project have been determined.

3.5 Affordability of the proposed water tariffs

Water tariffs

Mier has differentiated water tariffs per customer category which includes domestic, businesses, churches, schools and government departments.

Mier has a two part tariff structure in place for water. In 2014/15, the monthly basic availability charge of R 22.98 (ex VAT) for households, R 77.31 for churches, schools and state departments, and for businesses it is R 157.20. Volumetric tariffs for domestic consumers start at R 3.90 per kℓ in the first block, while it is lower at R 3.72 for churches, school and government departments, and higher at R 4.29 for businesses. The highest tariff block initiated at 40+ kℓ is R 10.12 per kℓ charged to business while for households it is R 8.74 (ex VAT).

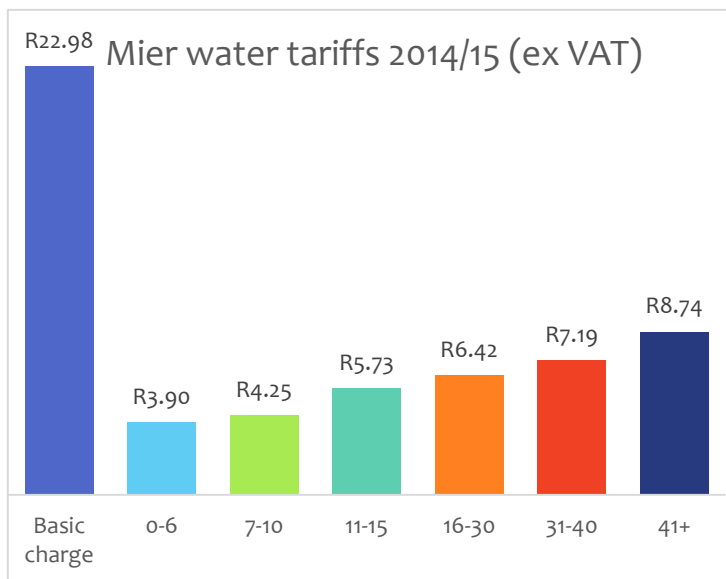
³⁶ Derived from StatsSA, Census 2011.

Figure 11. Domestic water tariffs 2014/15 excluding VAT³⁷

Affordability of domestic consumers

When a household has to spend more than 5% of their household income on water and sanitation, the service cannot be considered affordable according to international standards.³⁸

According to SALGA “water charges above 5% of household income are not honoured or sustainable”.³⁹ Furthermore, SALGA recommends that the extension of new schemes should factor the tariff as a percentage of household disposable income for all segments of community’s income.⁴⁰



Hence, affordability calculations are made for Mier based on water comprising up to 3% of household income. Based on household income data, it is estimated that 20.5% of households in Mier cannot afford to buy water and rely on the 6 kℓ of water supplied free. The table below shows what monthly volumes of water are affordable to households in 2014/15 as follows:

- 20.5% of households with an income of less than R 9 600 pa in 2011, cannot afford to buy water and thus rely on 6 kℓ FBW
- 22.7% of households with an income of between R 9 601 and R 19 600 pa in 2011, can afford to buy 0.44 kℓ increasing up to 5.8 kℓ, plus get 6.0 kℓ free, thus being able to afford between 6.44 kℓ and 11.8 kℓ
- 10.2% of households with incomes from R 19 601 to R 27 360 pa in 2011, can afford to buy 5.88 kℓ up to 9.35 kℓ and get 6.0 kℓ free, totalling of 11.88 to 15.35 kℓ
- 14.2% of households with an income of R 27 361 to R 38 200, cannot register as indigent, and can afford to buy 11.3 kℓ to 16.1 kℓ
- 14.5% of households with an income of R 38 201 to R 76 400 pa in 2011, can afford to buy 16.08 kℓ to 31.34 kℓ
- 8.7% of households with an income of R 76 401 to R 153 800 pa in 2011, can afford to buy 31.3 to 55.8 kℓ

³⁷ Source: Mier Local Municipality. Email received from Mr B de Klerk, Mier Municipality on 15 July 2014.

³⁸ WASHCost (2012) Life-cycle costs approach used for poverty and affordability analysis. International Water and Sanitation Centre. [Online]. Available:

http://www.washcost.info/content/download/2452/16883/file/2.8_lcca_poverty_affordability.pdf

³⁹ SALGA (2011) consolidated SALGA comments on the proposed bulk water tariff increases submissions by bulk potable water providers (Water Boards) for the financial year 2011/2012. P 3.

⁴⁰ SALGA (2011) consolidated SALGA comments on the proposed bulk water tariff increases submissions by bulk potable water providers (Water Boards) for the financial year 2011/2012. P 3.

- 9.3% of households with an income of R 153 801 p.a. and more in 2011, can afford to buy 55.8 kℓ and more

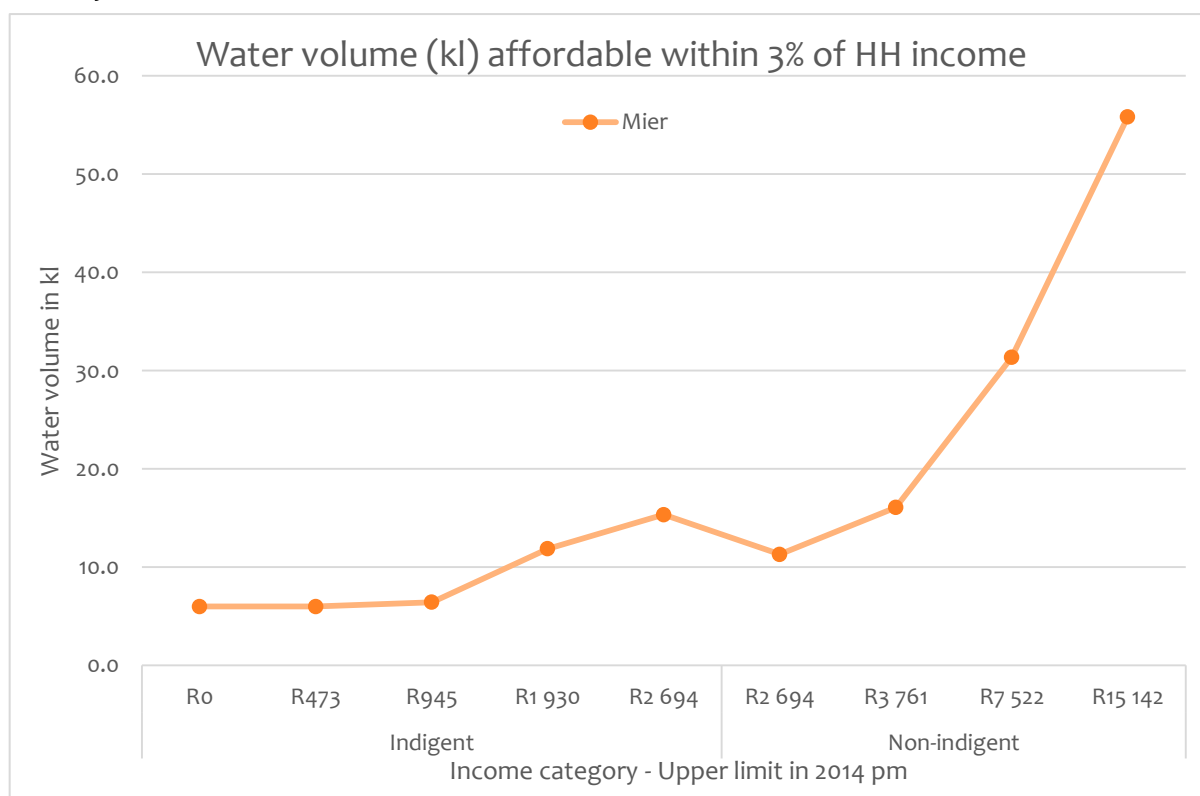


Figure 12. Total volume of water affordable to households by the upper limit of the household income category

Table 14. Water volumes affordable in 2014/15 at 3% of household income⁴¹

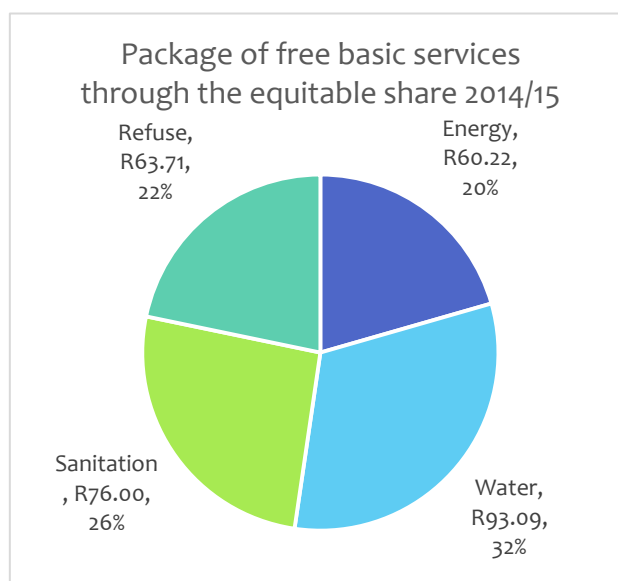
Groups	Household income 2011			Water cost	Volume of water affordable in kℓ		
	Annual household income	%	Cumulative %	Affordable water cost (3% of HH monthly income 2014)	Affordable to purchase	FBW	Total affordable + FBW
Indigent	No income	9.1%	9.1%	R 0.00	0.00	6.00	6.00
	R 1 - R 4800	3.5%	12.6%	R 0.00 - R 14.18	0.00	6.00	6.00
	R 4 801 - R 9 600	7.9%	20.5%	R 14.18 - R 28.35	0.00 - 0.44	6.00	6.00 - 6.44
	R 9 601 - R 19 600	22.7%	43.2%	R 25.35 - R 57.89	0.44 - 5.88	6.00	6.44 - 11.88
	R 19 601 - R 27 360	10.2%	53.4%	R 57.89 - R 80.81	5.88 - 9.35	6.00	11.88 - 15.35
Non-indigent	R 27 361 - R 38 201	14.2%	67.6%	R 80.81 - R 112.83	11.31 - 16.08	0.00	11.31 - 16.08
	R 38 201 - R 76 400	14.5%	82.0%	R 112.83 - R 225.65	16.08 - 31.34	0.00	16.08 - 31.34
	R 76 401 - R 153 800	8.7%	90.8%	R 225.65 - R 454.26	31.34 - 55.82	0.00	31.34 - 55.82
	R 153 801 - R 307 600	5.7%	96.5%	R 454.26 - R 908.52	55.82 - 101.41	0.00	55.82 - 101.41
	R 307 601 - R 614 400	2.9%	99.3%	R 908.52 - R 1 814.67	101.41 - 192.36	0.00	101.41 - 192.36
	R 614 001 - R 1 228 800	0.3%	99.7%	R 1 814.67 - R 3 629.34	192.36 - 374.49	0.00	192.36 - 374.49
	R 1 228 801 - R 2 457 600	0.2%	99.8%	R 3 629.34 - R 7 258.68	374.49 - 738.75	0.00	374.49 - 738.75
	R 2 457 601 or more	0.2%	100.0%	R 7 258.68 +	738.75+	0.00	738.75+

⁴¹ Derived from StatsSA CPI index and Census 2011 and municipal tariffs

Affordability of FBW

The equitable share formula provides for a monthly subsidy of R 293.02 for a package of FBS, which includes 10% for maintenance in 2014/15. The monthly amount allocated to water is R 93.09, an increase of 7.68% (R 86.45) from 2013/14.⁴²

Figure 13. Package of free basic services for an indigent household in the equitable share allocation 2014/15⁴³



Comparing the equitable share allocation of R 93.09 for 6 kℓ water to the current cost of free basic water indicates that the equitable share is sufficient to cover the cost of FBW in Mier, assuming that Mier's 2014/15 water⁴⁴ tariffs are costs reflective. The cost of providing free basic water to indigent households does not exceed the allocation from National Treasury and a surplus of R 46.71 per household per month is available.

Table 15. Cost of FBW compared to the equitable share allocation

Indigent HH	Cost of 6 kℓ FBW per Mier 2014/15 tariffs (ex VAT)	Equitable share allocation to water	Surplus available
Mier	R 46.38	R 93.09	R 46.71

Affordability of the proposed tariffs

Once the proposed tariffs have been determined, this sections will be completed.

3.6 Contribution towards poverty eradication, social upliftment and health

The *Framework for Implementation* of bulk regional projects sets out drivers of regional bulk infrastructure.⁴⁵ Three of these drivers, which contribute directly towards poverty reduction, social upliftment and health, relate to the Mier water project as follows:

- **Need to address access to basic services:** Backlogs in basic services are reliant on bulk water services provision. Housing developments in Mier to cater for those living in informal dwellings requires at least a basic level of water services. Although there are

⁴² Department of National Treasury, SALGA and Department of Cooperative Governance. 2013. *Review of the Local Government Equitable Share Formula: Introducing the new formula*. Presentation to parliament 19 February 2013. [Online]. Available: <http://d2zm6mlq7g3a.cloudfront.net/cdn/farfuture/q0820qst77yColZhBOdQhwLFrNH82f-EZW7Q7SgcExo/mtime:1366013723/files/130219formula.pdf> [cited 13 June 2013]

⁴³ National treasury (2014) W1 - Website annexure to the 2014 Budget Review, Explanatory memorandum to the division of revenue. [Online]. Available: <http://www.treasury.gov.za/documents/national%20budget/2014/review/Annexure%20W1.pdf> (Accessed 10 July 2014). P 34.

⁴⁴ At least for the first block of 0-6kℓ.

⁴⁵ Dept. of Water Affairs (2011) *Water services regional bulk infrastructure programme – Framework for implementation*. Version V10, January 2011.P. 11.

no households without a basic water service, should the municipality consider providing waterborne sanitation, extra water will be required by these households. Potability issues will be addressed by the project.

- **Need to support economic growth and development:** Bulk infrastructure must provide both economic and social needs.

This project will contribute to poverty reduction, increase levels of service, uplift and stimulate economic growth because it will have a significant stimulus on:

- The water service provider's business
- Socio-economic benefits resulting from a quality water services and waste water quality that is compliant to standards
- Construction with impacts on spending, employment, and taxes and in its operational phase where there are multiplier effects

Usually, construction works associated with large infrastructure projects are seen as generating significant benefits for local communities in terms of increased employment and expenditure within the region. The proposed project presents opportunities for low and semi-skilled local labour during construction. Such increasing employment, combined with increased income, will positively affect the local economy and have an effect on reducing poverty. Buying power in the area will be increased, and thus there will be the opportunity for new business establishments, which in turn will create more jobs.

Community, social and personal services, as well as government is the largest contributor to Mier's GVA. A further 13% of the GVA is contributed by agriculture and this can be increased should stock watering become available to farms that previously could not be stocked with livestock due to the lack of water. While providing water does not necessarily result in economic growth, a lack of water and poor water quality can and does inhibit growth.⁴⁶

The project is aligned to the priorities set in the IDP. The project is set to support potable water to Haaksteen Pan ahead of the events associated with the world record land speed breaking attempt in 2015. So far, 300 people from local communities have been employed to clear the strip of stones and similar debris. This stone clearing project is nearing completion now and the expected handover of the Pan to the Bloodhound Project is due in September 2014. Thereafter, these individuals will be trained in the hospitality industry, by the Northern Cape government, to cater for the influx of tourists for the record attempt.⁴⁷

- **Need of new infrastructure to improve water services quality:** Mier performed poorly in the 2012 Blue Drop scoring among the four lowest municipalities in the Northern Cape. Its Blue Drop score has remained at 25% for the past three years to 2012. Mier is one of the four municipalities "that failed to operate and manage drinking water quality management according the set regulatory requirements. The

⁴⁶ Department of Water Affairs and Forestry (2008) Strategic framework for sustainable growth and development – A discussion document. May 2008. P.3.

⁴⁷

ability of these ... municipalities to supply safe water continuously is of great concern.”⁴⁸

- Water service quality has a direct impact on the **health** of a population. Unsafe water supply causes childhood diarrheal diseases, which is a preventable cause of under-five mortality.

3.7 Number of associated services benefiting

Associated services such as schools and health facilities will be provided with water by the Municipality.

Table 16. Associated services in the Mier settlements⁴⁹

Location	Schools	Health facilities ⁵⁰	Community halls	Sports complex	Other
Rietfontein	Combined school with a hostel	CHC	Community hall	Sports complex	
Loubos	Primary school	Satellite clinic	Community hall		
Philandersbron	Primary school with swimming pool	Clinic [satellite]	Community hall		
Welkom	Primary school	None	Hall under construction		
Askham	Primary school	Clinic [CHC]	Veeboere saal	Sports complex	Old school hostel used for LED projects
Kameelduin	School with a hostel		Community hall		Very close to Askham
Klein Mier	Primary school	Clinic [satellite]	Community hall		
Groot Mier	Primary school	Clinic [satellite]			
Witdraai					Police station
Andriesvale		Satellite clinic	Community hall (Khomani San)		
Noenieput	None	Mobile clinic			Busy with township establishment
Swartkopdam	School	None	Community hall		

Health facilities

Four clinics serve Mier which are located at Rietfontein, Klein Mier, Philandersbron and Askham; shown on the map below. Satellite clinics operate at Andriesvale, Loubos and Groot Mier (Madiba). Two community health centres, also offer services at Rietfontein and Askham.

The targeted number of visits to a primary health care facility i.e. a clinic or community health centre, is 3.5 visits per person per annum. During 2013, the health facilities in Mier

⁴⁸ DWA, Blue Drop 2012. P 322.

⁴⁹ Confirmed telephonically with Ms Sophia Coetzee, Mier Municipality, on 1 August 2014.

⁵⁰ Health facilities that differ from the type listed at Dept. of Health are inserted in [].

recorded a primary health care headcount of 44 721⁵¹ which implies that on average each person in Mier visits a PHC facility at least 6 times p.a.; almost twice the national norm.

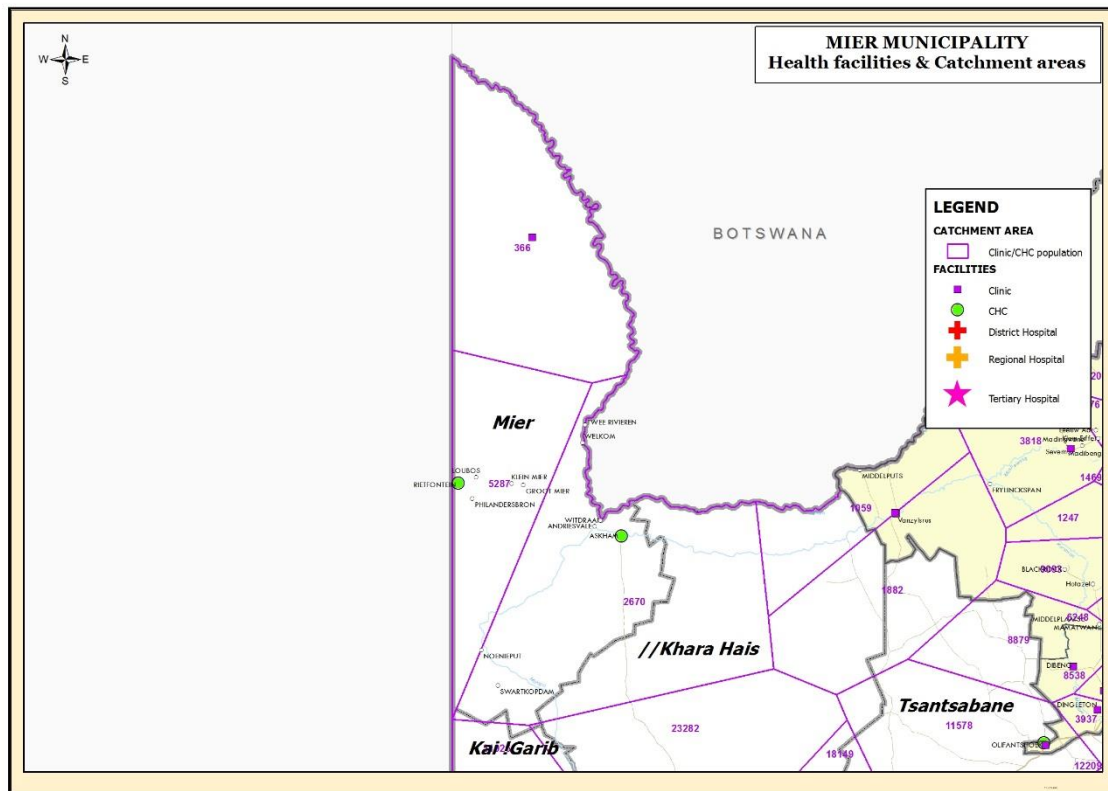


Figure 14. Health facilities in Mier

Table 17. Health facilities in Mier⁵² and according to the Dept. of Health [designation on the DHIS]⁵³

Type of health facility available	Town
PHC Clinic – daily [CHC]	Rietfontein
PHC clinic- daily [Satellite]	Philandersbron
PHC clinic- daily [Satellite]	Klein Mier
Monthly clinic – facility available [Satellite]	Groot Mier
No service	Welkom
PHC clinic- daily [CHC]	Askham
Served by Askham	Andriesvale
Monthly mobile clinic	Noenieput
Monthly clinic – facility available	Loubos

Community halls and other social facilities

There are a number of community halls in Mier located in Klein Mier, Andriesvale, Loubos, Philandersbron, Rietfontein, Kameelduin/Askham, and Swartkopdam. The

⁵¹ Dept. of Health, DHIS 2013.

⁵² Mier Municipality. IDP 2013/14. P 39.

⁵³ Dept. of Health, Northern Cape. DHIS.

community hall in Klein Mier was completed during 2012/13.⁵⁴ A hall is under construction in Welkom.

Sports facilities in Mier include sports complexes at Rietfontein and Kameelduin/Askham. Philandersbron has a swimming pool.

Police stations are located at Witdraai and Rietfontein.

Schools

There are eight schools in Mier which had 2 322 learners and 247 boarders in 2013.

Table 18. Schools in Mier with learner and boarder numbers 2013

Name of school	Location	Learners	Boarders
Combined School Rietfontein	Rietfontein	997	148
Loubos Primary School	Loubos	142	
Philandersbron Primary School	Philandersbron	258	
Welkom Primary school	Welkom	156	
J.J. Adams Intermediate School	Askham/Kameelduin	518	99
Klein Mier Primary School	Klein Mier	124	
Groot Mier Primary School	Groot Mier	79	
Swartkopdam VKK PrimÊre Skool	Swartkopdam	48	
TOTAL		2 322	247

The school at Rietfontein provides secondary education to the children of the surrounding such as Askham, Welkom, Klein Mier, Groot Mier and Noenieput and the surrounding farms. The children from Philandersbron, Loubos, Drieboom and Vetrivier are transported by bus to attend secondary school on a daily basis.⁵⁵ Two hostels at Rietfontein and Askham accommodate 247 boarders.

3.8 Socio-political support for the proposed development

IDP and WSP alignment

A bulk infrastructure project must be aligned with and listed in the Integrated Development Plans (IDP) and Water Services Development Plans (WSDP) of the participating municipalities.⁵⁶

The number one development objective of the Mier Municipality's IDP of 2013-2014 and 2014-2015 is water.

Water, sanitation and housing objectives of the IDP states that water supply is a number one objective of the municipality and the priority project is the Phase 1 feasibility study of the Kalahari East pipeline that needs to be completed by June 2015.⁵⁷

⁵⁴ Mier Annual report 2012/13. P 12.

⁵⁵ Mier IDP 2013/14. P 41.

⁵⁶ Dept. of Water Affairs (2011) Water services regional bulk infrastructure programme – Framework for implementation. Version V10, January 2011.P. 19.

⁵⁷ Mier, IDP 2014/15. P 6752.

Table 19. Projects and programmes of the Mier IDP 2014/15 – KPA 1: Water⁵⁸

ID P Pr io rit y	Key Focus Area (KFA)	Activity, Project, Programm e	Activities Program mes Capital Projects	Directora te	KPI – Service standard	Target	Project value	Budge ted for 2014/1 5	Deliv ery: Fund ing sourc e
KFA 1: Water									
Strategic objective 1. Provision of Basic Infrastructure									
1	Water	Regional Bulk Infrastruct ure Grant	Capital Project	Technical	Phase 1 - Conduct Feasibility studies – Kalahari East pipeline to the value of R600 000 completed by 30 June 2015	Conduct Feasibility studies to the value of R600 000 completed by 30 June 2015	Budget value = R60 600 m over a three year period	R600 000	MIG
1	Water	Welkom: Geohydro logical Investigati on of Borehole - (MIG 1118)	Capital Project	Technical	Investigation of Borehole - (MIG 1118) to the value of R66 000 completed by 31 December 2014	Investigation of Borehole - (MIG 1118) to the value of R66 000 completed by 31 December 2014	Budget value = R66 000	R66 000	MIG
NKPA: Basic Service Delivery									
KFA 2: Sanitation									
Development Priority : Provision of Basic Infrastructure									
2	Sanitati on	Constructi on of Oxidation Ponds	Capital Project	Technical	Construction of Oxidation Ponds Rietfontein by 30 June 2015				MIG – Rollo ver
2	Sanitati on	Constructi on of Oxidation Ponds	Capital Project	Technical	Construction of Oxidation Ponds Loubos by 30 June 2015				MIG – Rollo ver
2	Sanitati on	Constructi on of Oxidation Ponds	Capital Project	Technical	Construction of Oxidation Ponds Askham by 30 June 2015				MIG – Rollo ver
NKPA: Spatial Development									
KFA 6. Housing									
Strategic objective: 2. Enhance Community Services									
6	Housing	Investigate and determine	Capital Project	Communi ty Services	Klein Mier: Upgrading of Gravel Roads	Upgrading of Gravel Roads to Paved	Budget value = R18 133	R6 567 million	MIG

⁵⁸ Mier IDP 2014/15, P67.

ID P Priority	Key Focus Area (KFA)	Activity, Project, Programme	Activities Programmes Capital Projects	Directorate	KPI – Service standard	Target	Project value	Budgeted for 2014/15	Delivery: Funding source
		the housing need			to Paved Roads by R6 567 million completed by 31 March 2015	Roads - 2km completed by 31 March 2015	over a three year period		
6	Housing	Apply for housing projects from Province	Activity	Community Services	Submission of application to Province for Housing Projects by 30 September 2014	1 x Submission by 30 September 2014	N/A	N/A	N/A
6	Housing	Survey and peg new erven for future expansion of towns	Activity	Community Services	Survey conducted to determine new erven for future expansion of towns by 30 September 2014	1 x survey conducted by 30 Sept 2014	N/A	N/A	N/A
6	Housing	Encourage local contractors to register with CIDB	Activity	Community Services	Awareness campaign with Local contractors to register with CIDB by 30 September 2014	1 x Awareness campaign	N/A	N/A	N/A
6	Housing	Monitor all projects for compliance with Nat & Prov. Standards	Activity	Community Services	Monthly monitoring of Housing Projects to ensure compliance with Nat & Provincial Standards – Monthly Inspection reports from Housing Inspectors	12 x monthly inspections reports and review notes	N/A	N/A	N/A
6	Housing	Ensure that legal/rightful owners are allocated	Activity	Community Services	Verification of beneficiaries for allocated houses receives “happy letters” and key to new houses on completion of houses.	Verification of beneficiaries for allocated houses receives “happy letters” and key to new houses on completion of houses.	N/A	N/A	N/A

Table 20. Projects and programmes of the Mier IDP 2013/14 – Water, sanitation and housing⁵⁹

Development Priority Area	Strategy	Interventions
<p>Development Objective 1 - Water Lack of proper and sufficient water and sanitation provision. The typical aspects covered by this priority issue for the next 5 years will be that of the water and sanitation provision as far as it relates to the function depicted in schedule 5A and B of the constitution, implementation of the MIG grant, and provision of basic services in the municipal area.</p>	<ul style="list-style-type: none"> • To provide/supply sustainable 100% of households with a metered water connection by 2014. • Efficient accounting system for water usage • To reduce water losses to 15% by 2013 • To have a 5-year Integrated Infrastructure and Assets Maintenance and Operations Plan in place by June 2013/14 (18 months) – Sect 63 MFMA • To effectively and efficiently manage, operate and maintain Infrastructure and Resources by 2013/14 	<ul style="list-style-type: none"> • Extension of the Kalahari East Pipeline • Extension for provision of the Welkom Bulk Supply • Provision of metered water connection in Groot Mier (potable water) • Provision of pre – paid water connections • Development of demand and conservation plan for water services • Development of 5 year integrated infrastructure and asset maintenance and operations plan • Feasibility Study: augmentation of all water supply services • Upgrading of asbestos pipelines • Khomani San water supply
<p>Development Objective - 2 Provide sanitation of an acceptable standard to all communities</p>	<ul style="list-style-type: none"> • To provide 100% of households with basic sanitation by 2014. • To eradicate the bucket system (post 94) in all formal residential areas by December 2013. 	<ul style="list-style-type: none"> • Construction of oxidation ponds • Upgrading / construction of toilettes • Construction of sewerage reticulation lines • Investigate the demand for sanitation in the municipality area • Plan and implement sanitation projects according to the demand analysis • Development of free basic sanitation / Review of free basic service policy
<p>Development Objective 5 : Housing</p>	<p>Providing housing for needy people Enhance quality and standards of RDP housing</p>	<ul style="list-style-type: none"> • Investigate and determine the housing need • Investigate feasibility of housing projects • Renovate old stone houses • Apply for housing projects from Province • Town planning for housing projects for higher income earners • Survey and peg new erven for future expansion of towns • Encourage local contractors to register with CIDB • Monitor all projects for compliance with nat & prov standards • Ensure that legal/rightful owners are allocated

⁵⁹ Ibid, P67.

The Mier Municipality had the following development priorities with regards to providing basic and higher levels of water and sanitation services:⁶⁰

- Kalahari East pipeline extension
- Geohydrological investigations at Welkom
- Oxidation pond constructions at Rietfontein, Loubos and Askham

Housing projects include the surveying and pegging of new erven for future town expansions.

⁶⁰ Mier Municipality (2013) IDP 2013-2014.

4 CONCLUSION

This social criteria section is required for the IRS of the north-west extension of the Kalahari East water supply scheme.

Mier had a population of 7 005 according to the 2011 Census, which is projected to increase to between 8 499 and 12 091 in 2035 largely due to natural increase rather than in-migration.

No households require a basic water supply, although 210 households require basic sanitation services in Mier. Another development priority includes improving the potable water quality. Tourism development related to the Bloodhound Project attempting to break the world land speed record on Haaksteen Pan in 2015 and 2016, is another reason for the urgency of the project.

Mier's indigent policy makes provision for subsidies to households with the equivalent or less than two state pensions. In 2011, approximately 53.4% of households were in the indigent income category.

A two part tariff structure is in place for water. Nonetheless, approximately 20% of households cannot afford to purchase water because it exceeds 3% of their household, and they are thus reliant of FBW of 6 kℓ. Assuming that tariffs are cost reflective, the cost of providing free basic water is less than the 2014/15 equitable share allocation for water. Households with incomes higher than the two-state pension cut-off, can afford to buy 11.3 kℓ of water or more.

Mier's social infrastructure consists of schools, clinics and community halls. It has 8 schools with 2 322 learners and 247 boarders in two hostels. Health facilities consist of four clinics, two community health centres, and satellite and mobile services providing primary health care.

The water project and proposed development is supported socio-politically in that the project is aligned with the IDP.