



## **Municipal Human Settlement Demand Profile**

**Drakenstein Local Municipality**

**2015**

As at 5 June 2015

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## Introduction

This municipal human settlement demand profile has been generated by the Western Cape Department of Human Settlements for human settlement planning purposes. A range of data sources have been used, but the profile is based heavily on Census 2011 data. Data sources are provided below each graph or table. Where data has been manipulated, a methodology is provided in the end notes to this profile. The profile has been generated automatically using an online database with additional analysis added. Users will be able to update the data or view multiple representations of the data online. Separate Data Scoping and Housing Market Segment Reports were also prepared as informants to the demand profile and are referred to throughout the report.

The profile is presented according to the three components of human settlements: Housing, Networked Infrastructure and Social Infrastructure, followed by Trends, Analysis and Discussion.

## Definitions

Term	Definition
<b>Adequate housing:</b>	All Census 2011 dwelling types excluding informal dwellings and informal backyard shacks. Includes traditional dwellings and formal backyard structures.
<b>Dwelling type:</b>	Census 2011 dwelling types, with the following three categories aggregated: Cluster/Townhouse/Semi-detached house (includes: Cluster house in complex; Townhouse (semi-detached house in a complex); and Semi-detached house); House/flat/room on other property (includes: House/flat/room in backyard; and Room/flatlet on a property or larger dwelling/servants quarters/granny flat); and Other (includes: Caravan/tent; and Other).
<b>Housing status:</b>	A re-categorisation of Census 2011 dwelling types, isolating those considered inadequate (informal dwelling and informal backyard dwelling) and adding a calculated figure for overcrowding. All other housing types in Census 2011 are considered adequate.
<b>Inadequate housing:</b>	Census 2011 figures for informal dwellings, informal backyard shacks and a calculated figure for overcrowding.
<b>Income:</b>	Household monthly income in 2011, modified from Census 2011 as described in end note 1.
<b>Informal dwelling:</b>	Census 2011 dwelling type: "Informal dwelling (shack; not in backyard; e.g. in an informal/squatter settlement or on a farm)", defined in the Census metadata as "Makeshift structure not approved by a local authority and not intended as a permanent dwelling. Typically built with found materials (corrugated iron, cardboard, plastic, etc.). Contrasted with formal dwelling and traditional dwelling."
<b>Informal backyard shack:</b>	Census 2011 dwelling type: "Informal dwelling (shack; in backyard)".

Term	Definition
<b>Informal settlement:</b>	All households (in any dwelling type) in Census 2011 settlement category: "Informal residential area".
<b>Overcrowding:</b>	A calculated figure based on an assumption of more than two people per room (as measured in the 2011 Census) resulting in overcrowding, and requiring an additional room for every two people. The number of overcrowded households is calculated using the assumption of one household and two rooms in every new dwelling. See end note 2 for a full explanation of the methodology.
<b>Rural:</b>	Census 2011 settlement categories: "Farms", Small holdings" and "Traditional residential".
<b>Urban:</b>	All Census 2011 settlement types excluding those included in the definition of Rural (above).

## Housing

### Dwelling type vs income profile

A description of the methodology used to re-categorise households using the Census 2011 monthly income brackets is provided in end note 1.

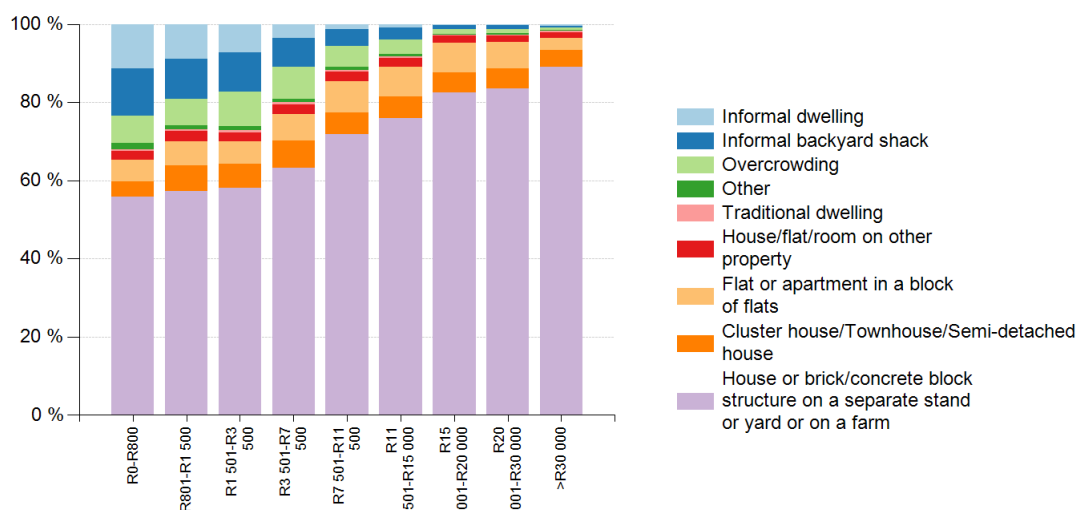


Figure 1: Proportion of households in each dwelling type by monthly household income bracket

	R0- R800	R801- R1 500	R1 501-R3 500	R3 501-R7 500	R7 501- R11 500	R11 501- R15 000	R15 001- R20 000	R20 001- R30 000	>R30 000	Total
<b>Informal dwelling</b>	1 281	517	996	426	66	24	5	10	25	3 349
<b>Informal backyard shack</b>	1 393	586	1 346	923	239	91	27	35	28	4 667
<b>Overcrowding</b>	789	398	1 217	1 011	287	109	33	42	37	3 922
<b>Other</b>	189	59	124	99	43	18	8	10	14	563
<b>Traditional dwelling</b>	59	27	88	81	32	11	2	5	14	319
<b>House/flat/room on other property</b>	256	148	310	300	135	65	47	65	95	1 420
<b>Flat or apartment in a block of flats</b>	634	353	777	854	427	226	196	249	181	3 896
<b>Cluster house/Townhouse/Semi-detached house</b>	442	388	841	842	306	160	136	188	246	3 549
<b>House or brick/concrete block structure on a separate stand or yard or on a farm</b>	6 368	3 316	7 919	7 830	3 923	2 225	2 138	3 076	5 216	42 011
<b>Total</b>	11 411	5 792	13 617	12 366	5 457	2 928	2 592	3 680	5 854	63 697

Table 1: Number of households by dwelling type and monthly household income category

(Source: Census 2011)

Drakenstein has a fairly typical dwelling type distribution across income brackets, with the majority of households in all income brackets housed in formal structures on separate stands, varying from 59% in the lowest income band to 89% in the highest income band. Approximately 48% of the population fall into the R0-R3 500 income bracket and 77% of the population fall into the potentially subsidised R0-R15 000 income bracket. The proportions of informal dwellings and informal backyard shacks decrease with increasing income, but the proportion of overcrowding increases to a maximum in the R1 501-R3 500 income bracket.

## Registered Housing Demand

### From Western Cape Housing Demand Database

This section presents data from the official Housing Demand Database of the Western Cape Department of Human Settlements, which collates the housing demand data of all the non-metro municipalities. The figures presented here represent the 'registered demand', meaning those people that have put their names down on the municipal housing lists. It does not reflect the total demand in the municipality, which would comprise other households not registered on the database.

Total **registered housing demand** as at 2nd April 2015 for Drakenstein Local Municipality was recorded as **18 091**.

### Present accommodation

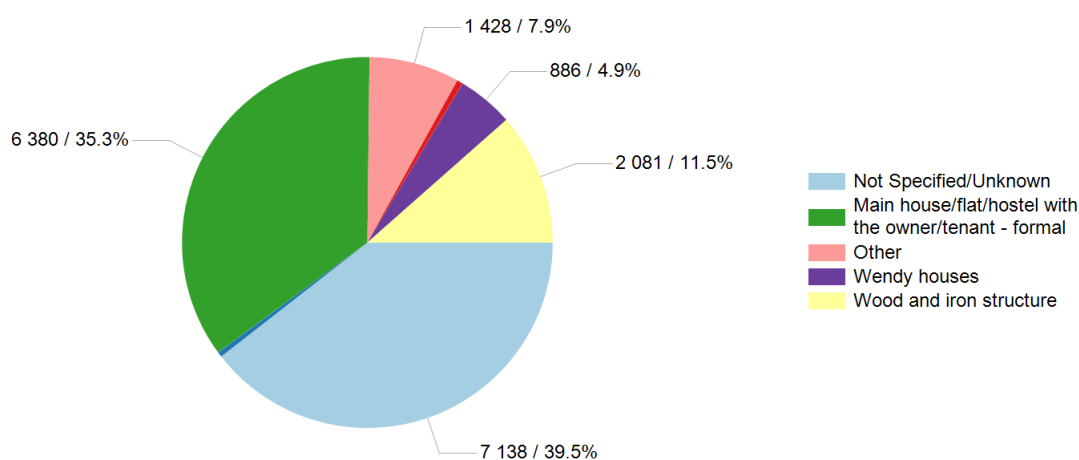


Figure 2: Number and proportion of households on the Housing Demand Database presently in each accommodation type (

Source: Western Cape Housing Demand Database

### Choice of assistance

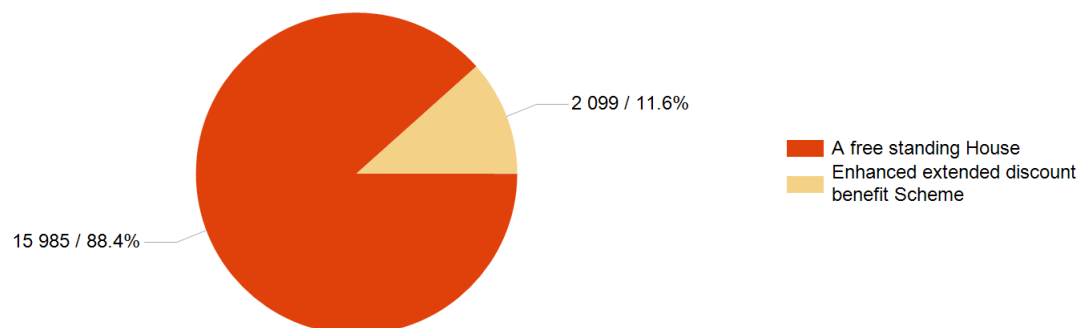


Figure 3: Number and proportion of households on the Housing Demand each assistance option

Source: Western Cape Housing Demand Database



### Choice of tenure

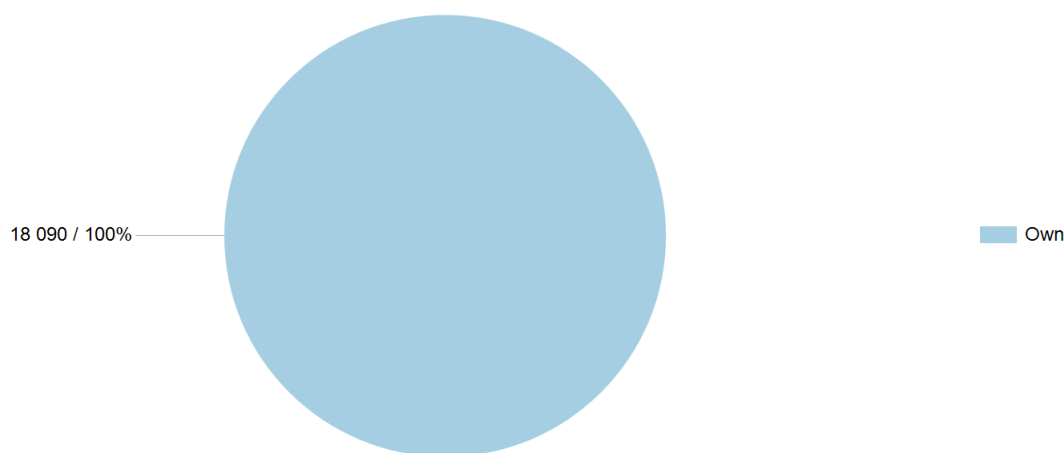


Figure 4: Number and proportion of households on the Housing Demand selecting each tenure option

Source: Western Cape Housing Demand Database

While a large portions of individuals registered on the Western Cape Housing Demand Database did not specify their present accommodation, of those that did, the majority live in the main house/flat/hostel with the owner/tenant, indicating that overcrowding is likely to be substantial. Those individuals living in wendy houses and wood and iron structures may be in backyards or in informal settlements. Almost 90% of households would prefer a free-standing subsidised house, with the remainder applying for the Enhanced Extended Discount Benefit Scheme. Only 1 household indicated a preference for rental assistance, the remainder would like to own.

### Housing status

Housing status refers to whether the dwelling type is considered 'adequate' or not. Inadequate housing comprises informal dwellings, informal backyard shacks and overcrowded dwellings. See the definitions and endnote 2 for a full explanation of the methodology employed to calculate overcrowding.

The total calculated number of inadequately housed households is **11 939**.

### Housing status by income

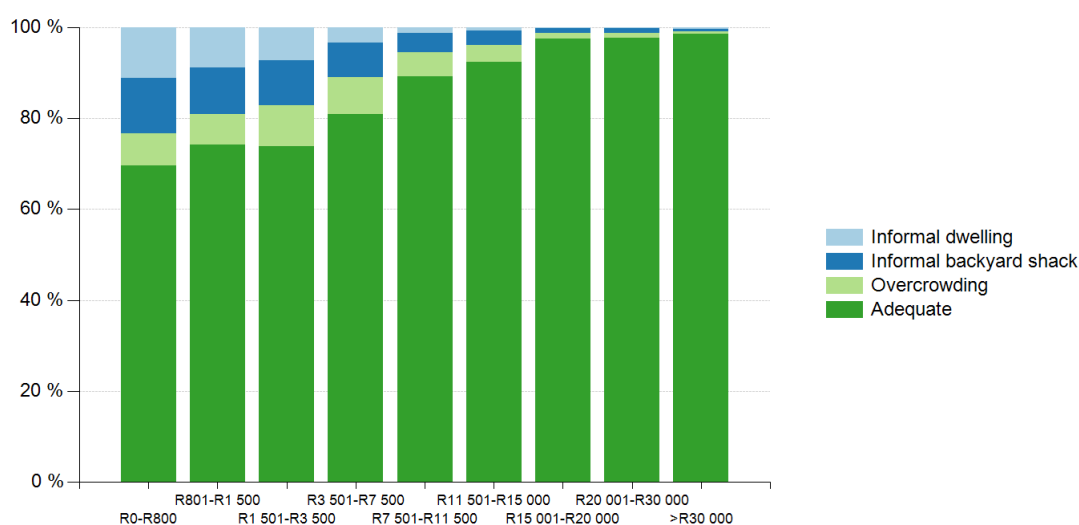


Figure 5: Proportion of households in each housing state by monthly household income bracket

	R0-R800	R801-R1 500	R1 501-R3 500	R3 501-R7 500	R7 501-R11 500	R11 501-R15 000	R15 001-R20 000	R20 001-R30 000	>R30 000	Total
<b>Informal dwelling</b>	1 281	517	996	426	66	24	5	10	25	3 350
<b>Informal backyard shack</b>	1 393	585	1 346	923	239	91	27	35	28	4 667
<b>Overcrowding</b>	789	398	1 216	1 011	287	109	33	42	37	3 922
<b>Adequate</b>	7 948	4 291	10 059	10 006	4 864	2 705	2 527	3 593	5 765	51 758
<b>Total</b>	11 411	5 791	13 617	12 366	5 456	2 929	2 592	3 680	5 855	63 697

Table 2: Number of households by housing status and monthly household income bracket

(Source: Census 2011)

The total calculated number of inadequately housed households (comprising those in informal dwellings, informal backyards and overcrowded dwellings) is **11 939**, which represents **19 %** of the total.

While the proportion of adequately housed households increases with income group, the largest number of inadequately housed households is located in the R1 501-R 3500 income bracket, largely because of the higher proportion of overcrowding. The absolute numbers of inadequately housed households drop off rapidly above R7 500, with only 1 058 higher income households inadequately housed, the majority of which are evenly split between overcrowding and informal backyard shacks, with only 130 higher income households being informal dwellings. Inadequately housed households earning less than R 7 500 per month are

fairly evenly distributed between overcrowding, informal backyards shacks and informal dwellings, but with the poorest households (R0-R800) concentrated in informal backyard shacks and informal dwellings.

### Housing status by income and age

The figures and tables below present the same data as for Figure 5 and Table 2, but divided into household heads aged below 40 years (Figure 6) and those above 40 years (Figure 7).

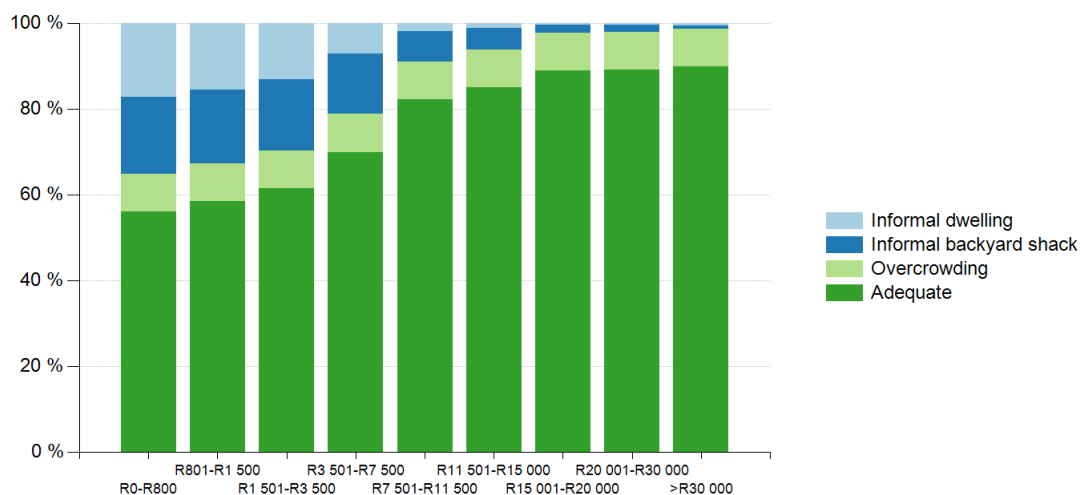


Figure 6: Proportion of household heads below 40 years in each housing state by monthly household income bracket

	R0-R800	R801-R1500	R1501-R3500	R3501-R7500	R7501-R11500	R11501-R15000	R15001-R20000	R20001-R30000	>R30000	Total
<b>Informal dwelling</b>	800	294	619	255	27	10	2	4	8	2 019
<b>Informal backyard shack</b>	844	325	781	513	109	43	16	20	13	2 664
<b>Overcrowding</b>	413	167	416	320	135	76	73	103	149	1 852
<b>Adequate</b>	2 633	1 111	2 913	2 543	1 261	739	741	1 044	1 525	14 510
<b>Total</b>	4 690	1 897	4 729	3 631	1 532	868	832	1 171	1 695	21 045

Table 3: Number of household heads aged below 40 years in each housing state by monthly household income bracket

Source: Census 2011

## Human Settlement Demand Profile – Drakenstein Local Municipality 2015

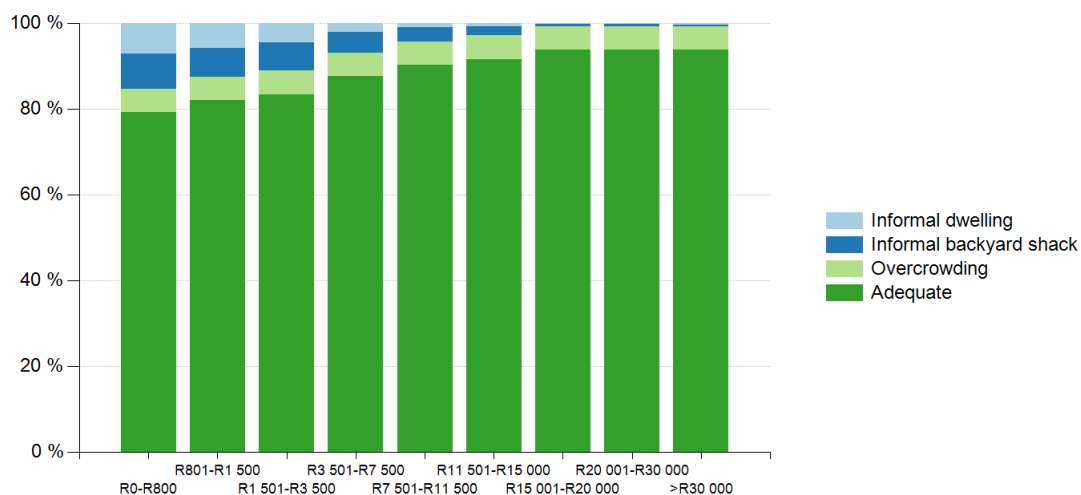


Figure 7: Proportion of household heads above 40 years in each housing state by monthly household income bracket

	R0-R800	R801-R1500	R1501-R3500	R3501-R7500	R7501-R11500	R11501-R15000	R15001-R20000	R20001-R30000	>R30000	Total
<b>Informal dwelling</b>	475	225	377	168	37	13	2	5	14	1 316
<b>Informal backyard shack</b>	549	260	568	408	129	47	10	13	13	1 997
<b>Overcrowding</b>	366	213	467	464	217	117	103	148	245	2 340
<b>Adequate</b>	5 311	3 198	7 147	7 462	3 599	1 962	1 780	2 541	4 213	37 213
<b>Total</b>	6 701	3 896	8 559	8 502	3 982	2 139	1 895	2 707	4 485	42 866

Table 4: Number of household heads aged **above** 40 years in each housing state by monthly household income bracket

Source: Census 2011

There are proportionately more inadequately housed household heads that are below 40 years of age than above 40 years of age. This is related to the differences in income profile, with younger household heads, having generally lower incomes. The distribution of inadequately housed households between overcrowding, informal settlements and informal backyard shacks is the same for both age categories.

### Dwelling type by age of household head

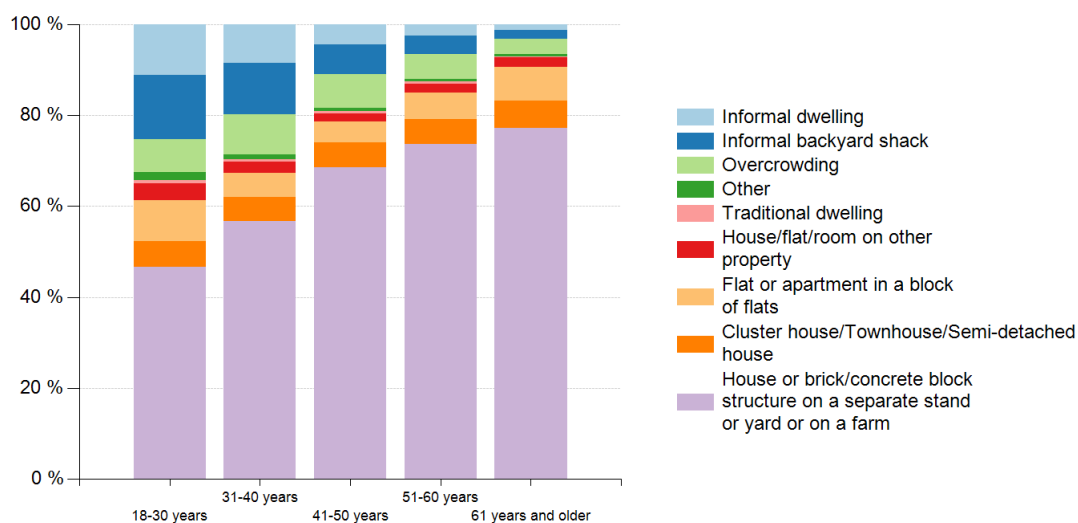


Figure 8: Proportion of households in each dwelling type by age bracket of household head

Source: Census 2011

The distribution of dwelling type by age groups is similar to the distribution by income group, with formal housing types increasing and inadequate housing types decreasing with increasing age. This indicates a strong correlation between income and age, rather than a relationship between age and dwelling type.

### Urban/Rural split of inadequate housing

The figure and table below aggregate Census settlement types into those classified as 'urban' and 'rural' (see definitions) and present the number of inadequately housed households in these two settlement categories to illustrate where the housing challenge lies.

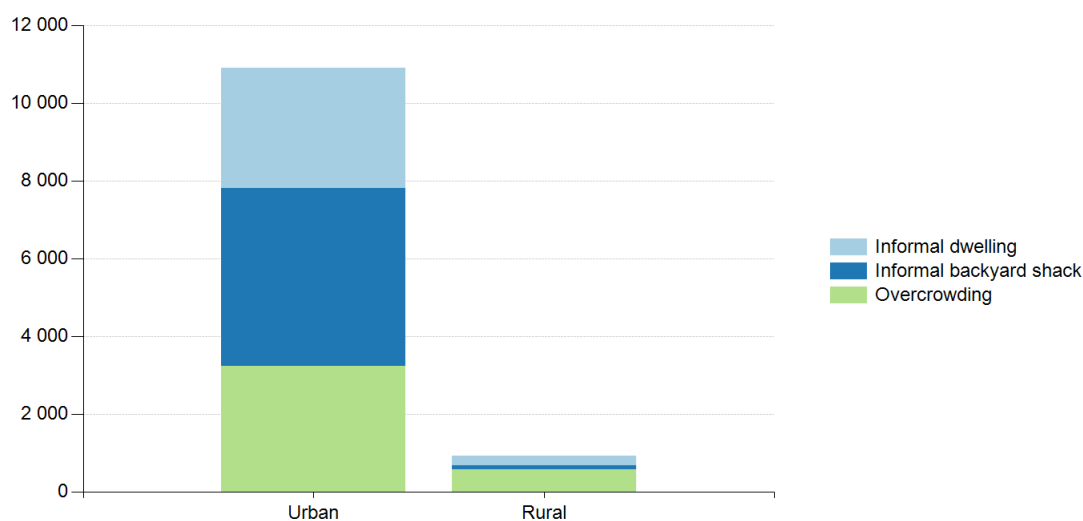


Figure 9: Number of inadequately housed households by housing status and settlement type

	Urban	Rural	Total
<b>Informal dwelling</b>	3 106	244	3 350
<b>Informal backyard shack</b>	4 558	108	4 666
<b>Overcrowding</b>	3 243	566	3 809
<b>Total</b>	10 907	918	11 825

Table 5: Number of inadequately housed households by housing state and settlement type

Source: Census 2011

The urban/rural split of inadequately housed households clearly shows that the housing challenges are concentrated in the urban areas of Paarl and Wellington. The small proportion of rural households that is inadequately housed is largely subject to overcrowding, with relatively little informality.

## Tenure

This section analyses the current tenure status of households, according to the Census categories, by the variables of: income, age and employment.

### Tenure status by housing status

	Informal backyard shack	Informal dwelling	Adequate	Overcrowding	Total
<b>Other</b>	378	585	1 832	311	3 106
<b>Occupied rent-free</b>	427	1 675	6 701	678	9 481
<b>Rented</b>	2 816	336	17 321	1 560	22 033
<b>Owned but not yet paid off</b>	83	54	8 398	189	8 724
<b>Owned and fully paid off</b>	962	700	17 507	1 161	20 330
<b>Total</b>	4 666	3 350	51 759	3 899	63 674

Table 6: Number of households in each tenure category and housing state

Source: Census 2011

**Note:** The Housing Market Segments Report noted that the figures for ownership of informal dwellings and informal backyard shacks are not reliable as there is some uncertainty over the legal status of these dwellings and the properties on which they are located.

Tenure status by monthly income group

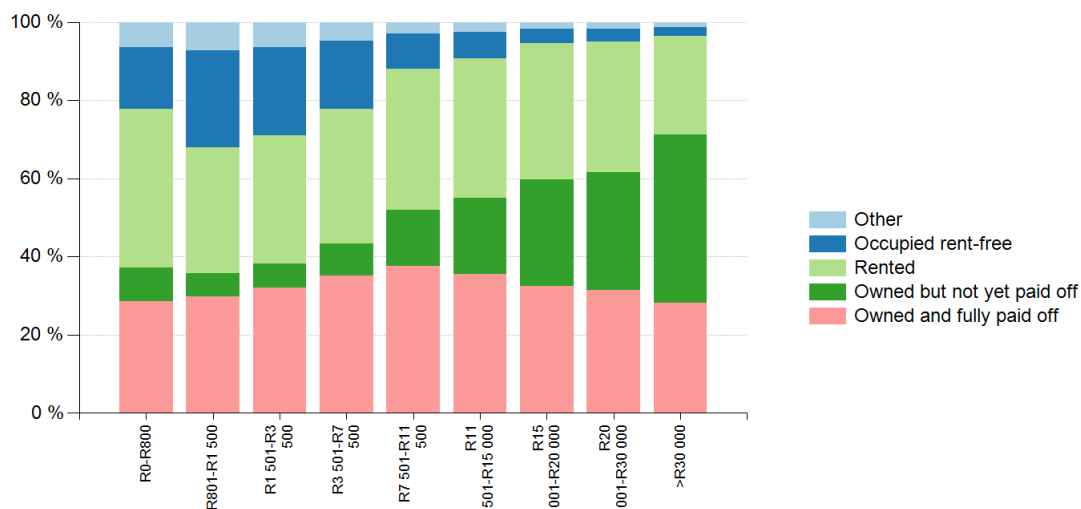


Figure 10: Proportion of households in each tenure category by monthly household income bracket

	R0-R800	R801-R1 500	R1 501-R3 500	R3 501-R7 500	R7 501-R11 500	R11 501-R15 000	R15 001-R20 000	R20 001-R30 000	>R30 000	Total
<b>Other</b>	671	386	801	541	149	68	43	59	74	2 792
<b>Occupied rent-free</b>	1 683	1 347	2 782	1 983	467	194	92	125	129	8 802
<b>Rented</b>	4 308	1 735	4 083	3 906	1 864	1 004	895	1 210	1 468	20 473
<b>Owned but not yet paid off</b>	931	314	746	944	744	549	697	1 099	2 511	8 535
<b>Owned and fully paid off</b>	3 029	1 611	3 989	3 981	1 946	1 004	832	1 144	1 633	19 169
<b>Total</b>	10 622	5 393	12 401	11 355	5 170	2 819	2 559	3 637	5 815	59 771

Table 7: Number of households in each tenure category and monthly household income bracket

Source: Census 2011

### Tenure status by age of head of household

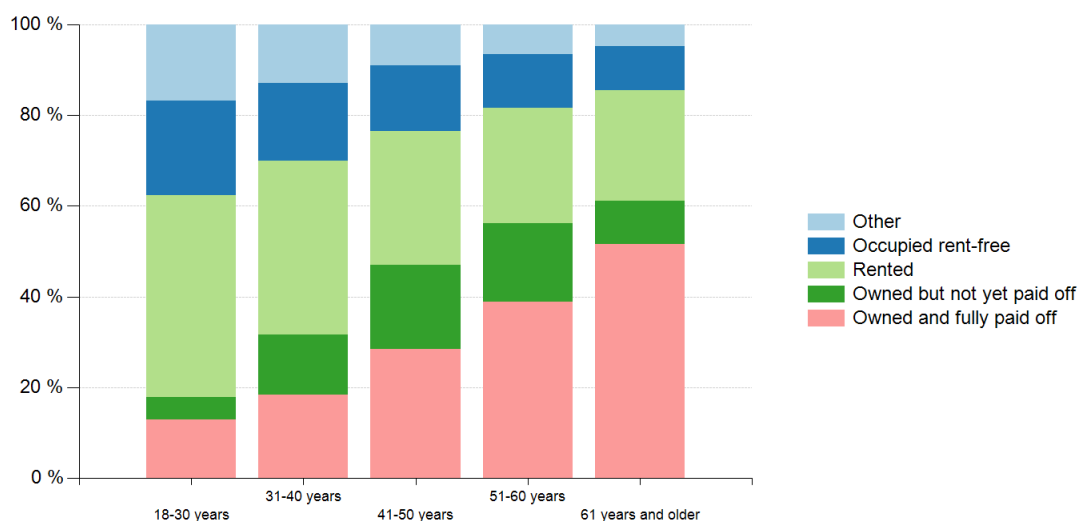


Figure 11: Proportion of households in each tenure category by age bracket of household head

	18-30 years	31-40 years	41-50 years	51-60 years	61 years and older	Total
<b>Other</b>	1 445	1 847	1 522	811	539	6 164
<b>Occupied rent-free</b>	1 808	2 462	2 485	1 474	1 059	9 288
<b>Rented</b>	3 832	5 502	4 980	3 169	2 693	20 176
<b>Owned but not yet paid off</b>	439	1 910	3 153	2 158	1 044	8 704
<b>Owned and fully paid off</b>	1 109	2 645	4 839	4 823	5 687	19 103
<b>Total</b>	8 633	14 366	16 979	12 435	11 022	63 435

Table 8: Number of households in each tenure category and age bracket of household head

Source: Census 2011

The tenure status figures indicate that an equal number of households in adequate housing rent and own fully-paid off properties. Rental is fairly evenly distributed across income brackets, with an average rental figure of 34% of households. Rent-free accommodation is common below an income of R7 500 per month, but drops off sharply thereafter. As income increases there are more dwellings which are owned, but are not yet fully paid off. The comparison of tenure status by age of household head shows a general trend of younger household heads renting and older household heads owning fully-paid off properties.



## Housing status by age and employment status of household head

The Housing Market Segments Report identified employment status as an important determinant of housing and tenure preference. The tables below illustrate the split in housing status according to both age and employment status to more accurately identify the socio-economic profile of housing demand.

### Employed household heads

	18-30 years	31-40 years	41-50 years	51-60 years	61 years and older	Total
<b>Informal dwelling</b>	554	733	402	122	27	1 838
<b>Informal backyard shack</b>	781	1 128	689	235	32	2 865
<b>Overcrowding</b>	438	984	937	415	68	2 842
<b>Adequate</b>	4 334	8 322	10 627	6 795	1 924	32 002
<b>Total</b>	6 107	11 167	12 655	7 567	2 051	39 547

Table 9: Number of employed household heads in each housing state and age bracket

Source: Census 2011

### Unemployed household heads

	18-30 years	31-40 years	41-50 years	51-60 years	61 years and older	Total
<b>Informal dwelling</b>	382	465	358	199	110	1 514
<b>Informal backyard shack</b>	405	493	408	273	205	1 784
<b>Overcrowding</b>	163	266	324	280	315	1 348
<b>Adequate</b>	1 315	1 800	3 280	4 349	8 924	19 668
<b>Total</b>	2 265	3 024	4 370	5 101	9 554	24 314

Table 10: Number of unemployed household heads in each housing state and age bracket

Source: Census 2011

The analysis of housing status by age and employment status of household head does not indicate the obvious trend that employed household heads are more likely to live in

adequate housing. It is also interesting to note that there are more employed household heads in informal dwellings and informal backyard shacks than unemployed household heads across all age groups up to age 50. It is only after age 50 that this trend reverses, with unemployment linked to higher levels of informality. The location of employed younger adults in informal accommodation is significant and may indicate that this accommodation serves to house this segment of the population.

### Estimated subsidy non-qualification

The National Housing Code specifies the conditions for qualification for assistance through one of the national housing programmes. The four essential qualification criteria that have been used to calculate the number of non-qualifiers in the municipality are:

1. South African resident;
2. 18 years old and above;
3. Not have previously benefited from a government housing subsidy assistance;
4. Did not previously own residential property;
5. Married or cohabiting or with financial dependents;
6. Earning less than the qualifying monthly household income threshold

Most subsidy programmes apply to households earning less than R3 500 per month, but the Finance-Linked Subsidy Programme (FLISP) applies to households earning between R3 500 and R15 000 per month.

A detailed description of the process to calculate the number of non-qualifiers for housing subsidies is provided in end note 3. The income criteria have been included in the analysis by presenting the data in two graphs: one for households earning R0 - R3 500 per month and one for households earning R3 500 - R 15 000. The age criterion has been included by only counting households where the household heads are aged above 18 years. The reasons for non-qualification are therefore given on the figures below as:

1. Being a foreign born resident
2. Having received a housing subsidy previously - from the Western Cape Housing Subsidy System
3. Having previously owned a house (without subsidy assistance) - Households currently owning property less those having received a subsidy
4. Not having dependents - measured as households of only 1 person

The numbers of households who do not qualify for housing subsidies have been calculated using a range of sources, and should therefore be treated as an estimate only. Note that the Housing Subsidy System does not record the number of subsidies awarded by municipality, so these have had to be split by the proportions of low income households in each municipality in relation to the provincial total.

There are estimated to be **17 325** households earning below R3 500 per month and **11 702** households earning between R3 500 and R15 000 per month that do not qualify for subsidies. This amounts to 61 % of households earning less than R3 500 per month and 60 % of households earning between R3 500 and R15 000 per month. This does not account for the ability of households to access credit as an additional qualification criterion for the FLISP.

Note: These are estimates generated through the study and are meant to provide an indicative sense of the status of subsidy non-qualification.

**Estimated subsidy non-qualifiers earning less than R3 500 / month**

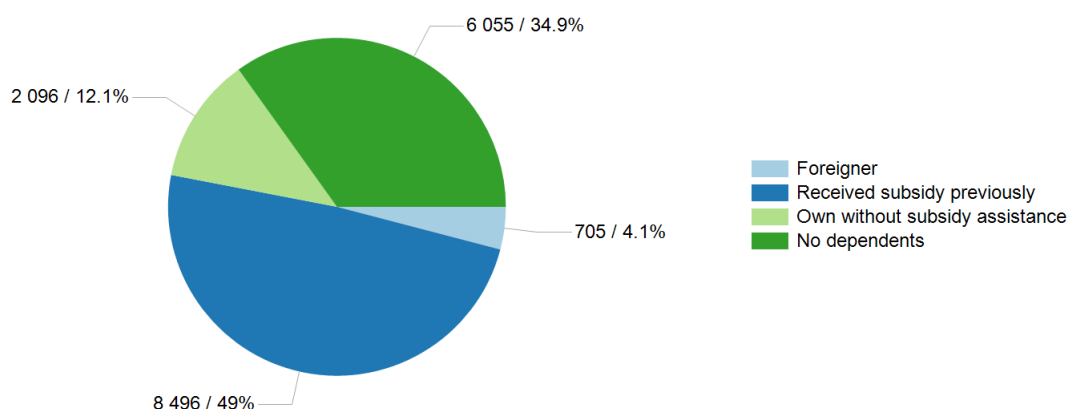


Figure 12: Number and proportion of households (<R3 500/month) not qualifying for housing subsidies by reason

Own calculations using the following sources: Census 2011; Western Cape Housing Demand Database; Western Cape Housing Subsidy System

**Estimated subsidy non-qualifiers earning R3 500 - R15 000 / month**

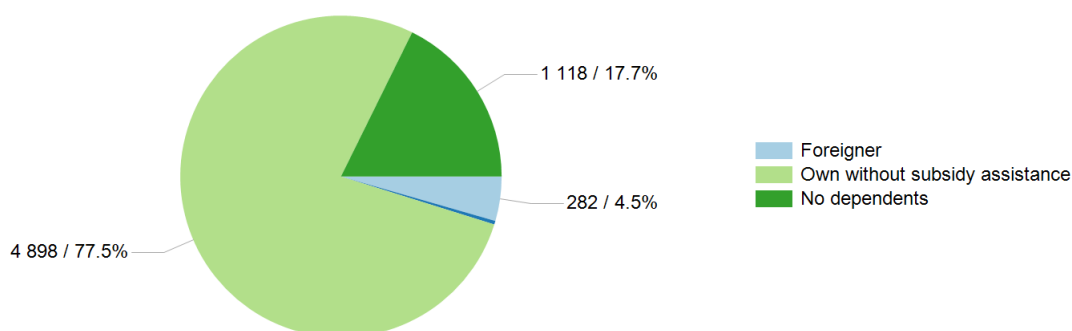


Figure 13: Number and proportion of households (<R3 500-R15 000/month) not qualifying for housing subsidies by reason

Own calculations using the following sources: Census 2011; Western Cape Housing Demand Database; Western Cape Housing Subsidy System

## Profile of informal settlements

### Overall statistics

Indicator	Source	Year	Total
<b>Total number of informal settlements</b>	Western Cape Informal Settlement Database	2011	29
	Western Cape Informal Settlement Database	2014	35
<b>Total number of informal settlement dwellings</b>	Western Cape Informal Settlement Database	2011	3 733
	Western Cape Informal Settlement Database	2014	3 539
<b>Total number of households in informal residential areas</b>	Census	2011	1 614
<b>Total number of households in informal dwellings</b>	Census	2011	3 350

Table 11: Overall statistics on informal settlements

**Note:** Figures from the Western Cape Informal Settlements Database for 2014 have not yet been verified.

The figures below are based on an analysis of the Census data for households in informal dwellings, and not for the informal residential settlement category (see definitions section for more details). In most municipalities the number of households in informal dwellings is higher than the number of households in informal residential areas, and the former number is therefore believed to be more inclusive.

**Income profile of households in informal dwellings**

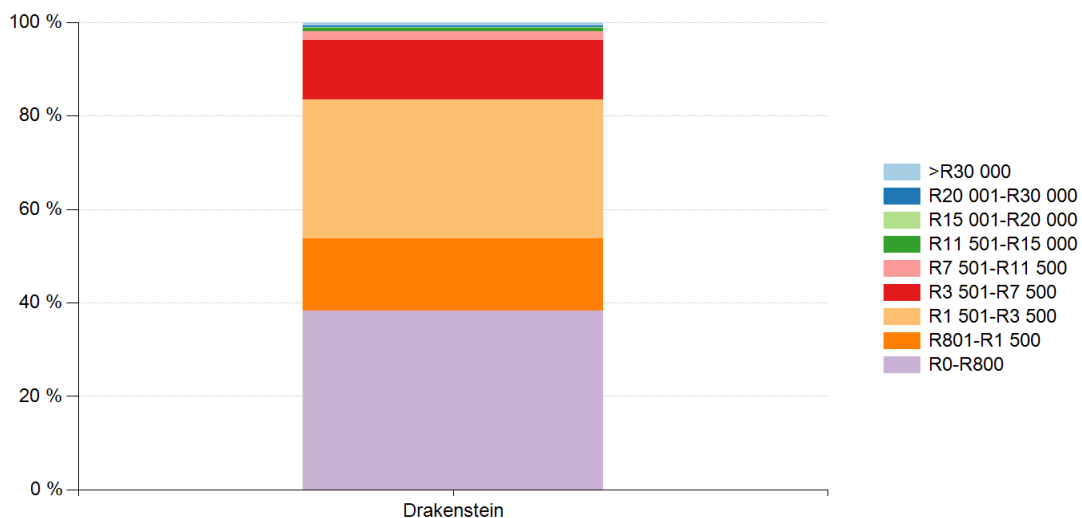


Figure 14: Proportion of households in informal dwellings in each monthly household income bracket

Source: Census 2011

**Age profile of household heads in informal dwellings**

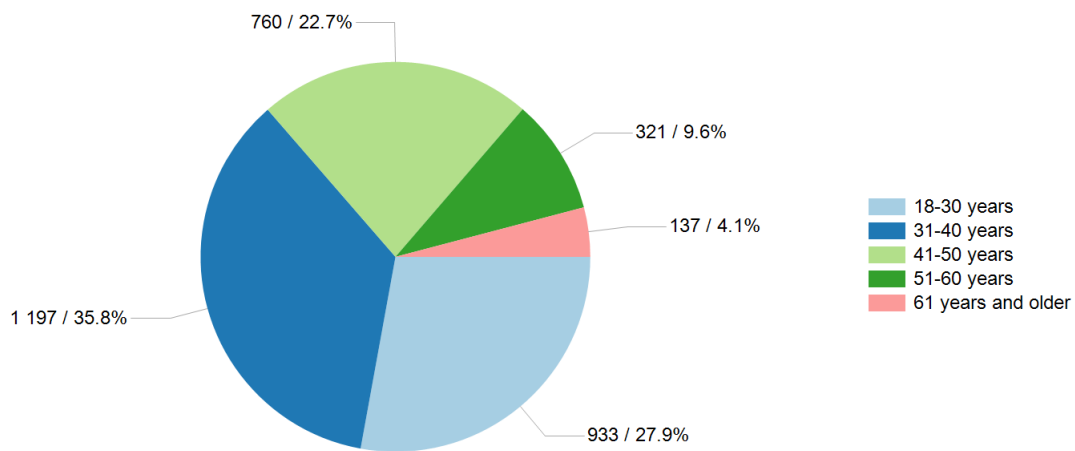


Figure 15: Number and proportion of household heads in informal settlements in each age bracket

Source: Census 2011

### Employment status of household heads in informal dwellings

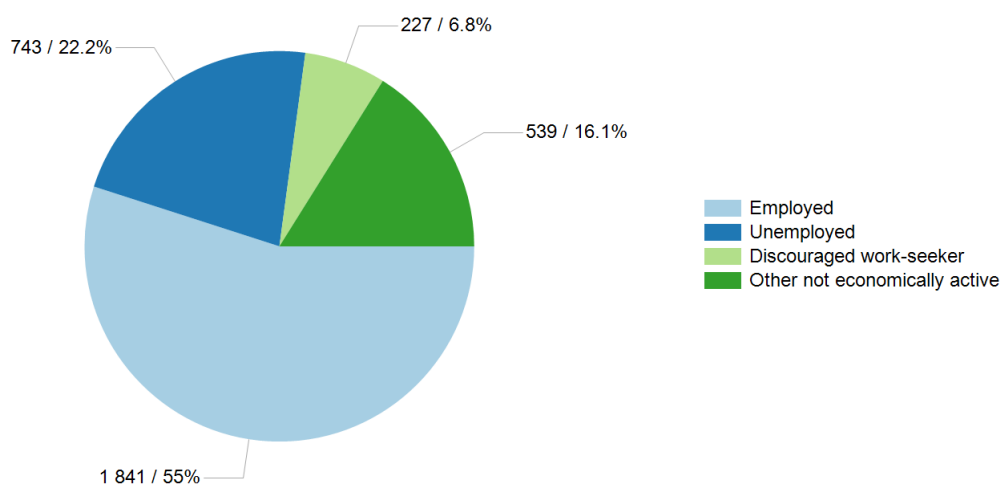


Figure 16: Number and proportion of informal settlement household heads by employment status

Source: Census 2011

About 96% of households in informal dwellings in Drakenstein earn less than R7 500 per month. The majority of household heads (64%) are aged between 18 and 40 years. Only 4% are aged above 60 years. As indicated previously, more than 50% of informal settlement residents are employed.

## Networked Infrastructure

This section looks at access to engineering services by housing type to try and identify where the largest numbers of un-serviced households lie. The Census data for the three services of water, sanitation and electricity are then cross-tabulated against each other to provide an indication of the number of households that have none of the three services, relative to their housing status. It is not possible to include overcrowded households in this analysis because of the structure of the Census data.

### Definitions used for un-serviced households

**Water:** No access to piped water within 200m

**Electricity:** Lack of access to electricity for lighting

**Sanitation:** Lack of access to waterborne toilet facilities or Ventilated Improved Pit toilet

**Waste:** Service levels other than kerbside collection

**ICT:** No access to the internet from home

## Lack of access to networked services

	Water	Electricity	Sanitation	Waste	ICT
<b>Informal dwelling</b>	326	1 605	700	1 517	3 271
<b>Informal backyard shack</b>	110	494	1 019	236	4 571
<b>Adequate</b>	394	878	1 896	4 870	44 026
<b>Total</b>	830	2 977	3 615	6 623	51 868

Table 12: Number of un-serviced households by service and housing status

Source: Census 2011

## Percentage of un-serviced households by service

	Water	Electricity	Sanitation	Waste	ICT
<b>Informal dwelling</b>	10 %	48 %	21 %	45 %	98 %
<b>Informal backyard shack</b>	2 %	11 %	22 %	5 %	98 %
<b>Adequate</b>	1 %	2 %	4 %	9 %	85 %

Table 13: Percentage of households in each housing sate that are un-serviced with each service

Source: Census 2011

Households in Drakenstein are relatively well served with water and sanitation. Electricity access and waste collection in informal dwellings represent the biggest backlogs, at 48% and 45% respectively. Landline internet access to all categories of housing is low.

## Number of un-serviced households (combined water, electricity and sanitation services)

	R0- R800	R801-R1 500	R1 501- R3 500	R3 501- R7 500	R7 501- R11 500	R11 501- R15 000	R15 001- R20 000	R20 001- R30 000	>R30 000	Total
<b>Informal dwelling</b>	32	14	32	8	1	0	0	0	0	87
<b>Informal backyard shack</b>	13	3	3	1	0	0	0	0	0	20
<b>Adequate</b>	20	9	23	10	2	1	0	0	0	65
<b>Total</b>	65	26	58	19	3	1	0	0	0	172

Table 14: Number of households in each settlement type without water sanitation and electricity

Source: Census 2011

The cross tabulation of access to water, sanitation and electricity shows that there are relatively few households that do not have access to all three services – only 172 households in total. Most of these households are in informal dwellings, but a surprising number (65) are in formal accommodation – possibly on farms. Almost all household without services earn less than R7 500.

## Dependence on public transport

The only complete data set relating to public transport was the Census data on household access to private motor cars. This indicator gives an indication of exclusive dependence on public transport.

	Drakenstein	Percentage of households in each housing status category without motor car
<b>Informal dwelling</b>	3 173	94.7%
<b>Informal backyard shack</b>	4 132	88.5%
<b>Adequate</b>	26 185	50.6%
<b>Total</b>	33 490	56.0%

Table 15: Number of households with no access to a private motor car

Source: Census 2011

There are 33 490 households (56%) that do not have access to a private motor car and are therefore assumed to be reliant on public or non-motorised transport.



## Social Infrastructure

The social infrastructure analysis investigated data on a range of provincial social facilities and municipal community facilities and compared these against norms and standards provided in the CSIR Guidelines for the Provision of Social Facilities in South African Settlements (2012). The CSIR Guidelines provide nuanced guidance regarding the norms to be applied in various contexts. These norms comprise distance and population thresholds for settlements of different sizes. The population thresholds only have been simplified and used here only to benchmark existing provision, and the thresholds should be critically assessed using the CSIR Guidelines for planning purposes. An explanation of the method for selecting the population thresholds and for data manipulation is provided in endnote 4.

Indicators for facilities for which there are no CSIR norms, or where data is highly variable between municipalities have been omitted. For most of the CSIR norms, a range is provided. For comparison purposes, the average value is used, except where this average value is greater than the municipal population, in which case the minimum of the range is used.

The indicator that is used in each category of social infrastructure is the average population per facility of each type, using the estimated municipal population in **2014** as projected by PwC for the Western Cape Department of Social Development.

### Coverage of health facilities

	Average population per facility	CSIR Norm	Coverage relative to the norm
<b>Public Clinics</b>	26 077	47 000	Better

Table 16: Coverage of health facilities (Sources: Directorate: Planning - Geographic Information Systems, Western Cape Government: Department of Human Settlements)

### Coverage of education facilities

	Average population per facility	CSIR Norm	Coverage relative to the norm
<b>Secondary School</b>	15 339	12 500	Worse
<b>Primary School</b>	4 920	7 000	Better
<b>Early Childhood Development and Creche</b>	1 351	2 700	Better

Table 17: Coverage of education facilities (Sources: Directorate: Planning - Geographic Information Systems, Western Cape Government: Department of Human Settlements; Directorate: Research, Population and Knowledge Management - Western Cape Government: Department of Social Development)

Note that coverage of creches only includes facilities registered on the provincial database and does not include unregistered creches.

## Coverage of safety facilities

	Average population per facility	CSIR Norm	Coverage relative to the norm
Police stations	52 154	80 000	Better

Table 18: Coverage of safety facilities (police stations) (Source: Directorate: Planning - Geographic Information Systems, Western Cape Government: Department of Human Settlements)

## Coverage of other public facilities

	Average population per facility	CSIR Norm	Coverage relative to the norm
Local Libraries	37 253	45 000	Better
Thusong Centres	260 771	260 771	-
Cemeteries	65 193	50 000	Worse

Table 19: Coverage of other public facilities (Source: Directorate Planning - Geographic Information Systems, Western Cape Government: Department of Human Settlements; City of Cape Town)

Note that where zeros appear for Thusong Centres and cemeteries this may be because of a lack of data.

From the available data, Drakenstein appears to be adequately served by public clinics, basic education facilities, police stations and libraries, but is underserved with cemeteries and secondary schools.

Note that this is in relation to the CSIR population threshold norm for the equivalent category of settlement, and does not consider distance thresholds.

## Trends

### Selected trends relevant to human settlements

Indicator	Source	Value	WC Average
Annual average economic growth (2001-2011)	Quantec	3 %	4.1 %
Annual average household growth rate (2001-2011)	Census	2.6 %	3.1 %
Annual average population growth rate (2001-2011)	Census	2.6 %	2.6 %

Indicator	Source	Value	WC Average
<b>New informal settlements (2011-2014)</b>	WC Informal Settlement Database	-2	1
<b>Percentage change in household size (2001-2011)</b>	Census	0 %	-0.5 %

Table 20: Selected trends relevant to human settlements

Drakenstein Local Municipality contains the very high potential growth town of Paarl as measured by the 2014 Growth Potential of Towns Study.

## Analysis and discussion

### General discussion

Drakenstein faces substantial human settlements challenges. Approximately 19% of households are inadequately housed and 48% earn less than R3 500 per month. Drakenstein has experienced relatively high economic growth since 2001 (especially considering that it is coming off a high base) in relation to other non-metro municipalities, but lower demographic and household growth rate, and zero evident household fragmentation, which means less pressure on the provision of human settlements than municipalities with high growth rates and reductions in household sizes.

The number of inadequately housed households was calculated to be 11 937, while the Western Cape Housing Demand Database records 18 091. This difference may be a result of an overestimate on the database (most likely), significant growth since the Census, or errors in the interpretation and manipulation of the Census figures to calculate housing status. However, these two figures provide useful ranges for the planning of human settlement interventions.

A key finding is that many household heads in informal dwellings are employed, indicating that they may be able to contribute to housing and services. While this raises the option of rental, the location of the informal settlements needs to be borne in mind, because the location may be key to accessing employment opportunities and minimising recurrent costs.

The municipality is relatively well served with networked and social infrastructure, although solid waste and electricity provision in informal settlements could be increased and secondary school and cemetery coverage appears to be constrained.

### Overall Housing Market Segmentation

The diagram below provides an estimate of the number of households in each of the market segments identified in the Housing Market Segments Report. There are three dimensions to the figure. Firstly, the horizontal axis is divided into the standard income brackets used in this report, corresponding to subsidy qualification criteria or credit limits identified in the Housing Market Segments Report. Secondly, the vertical axis is divided into the rental and ownership markets. Thirdly, the rental and ownership markets are divided into subsidy qualifiers and non-qualifiers, based on the estimates provided earlier in this profile. See end note 4 for an explanation of the ownership/rental division and the split of non-qualifying households. . See

end note 5 for a detailed description of the components of the housing market segment diagram.

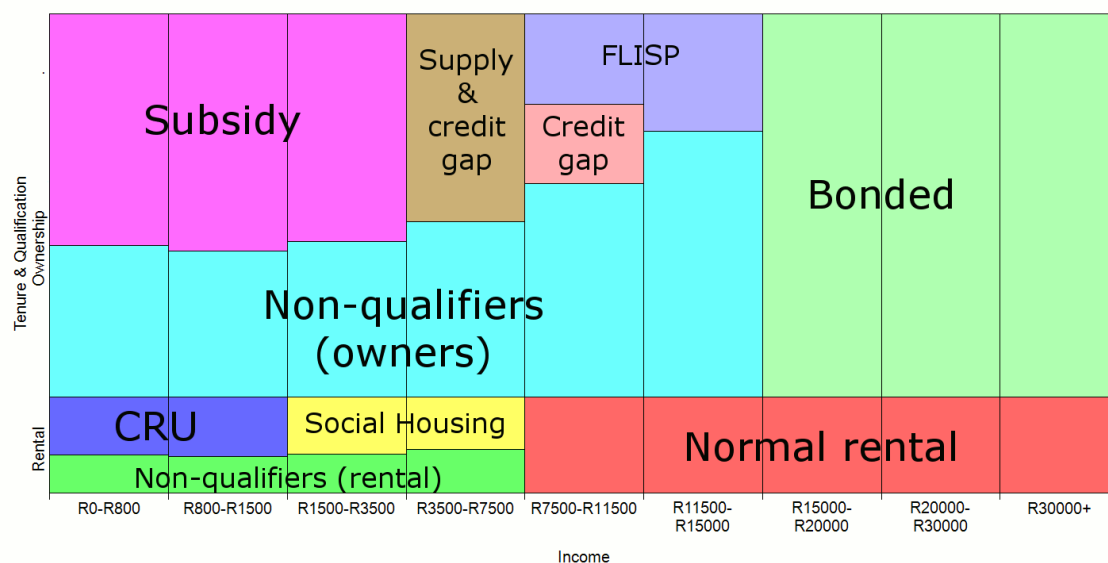


Figure 17: Legend for Housing Market Segmentation

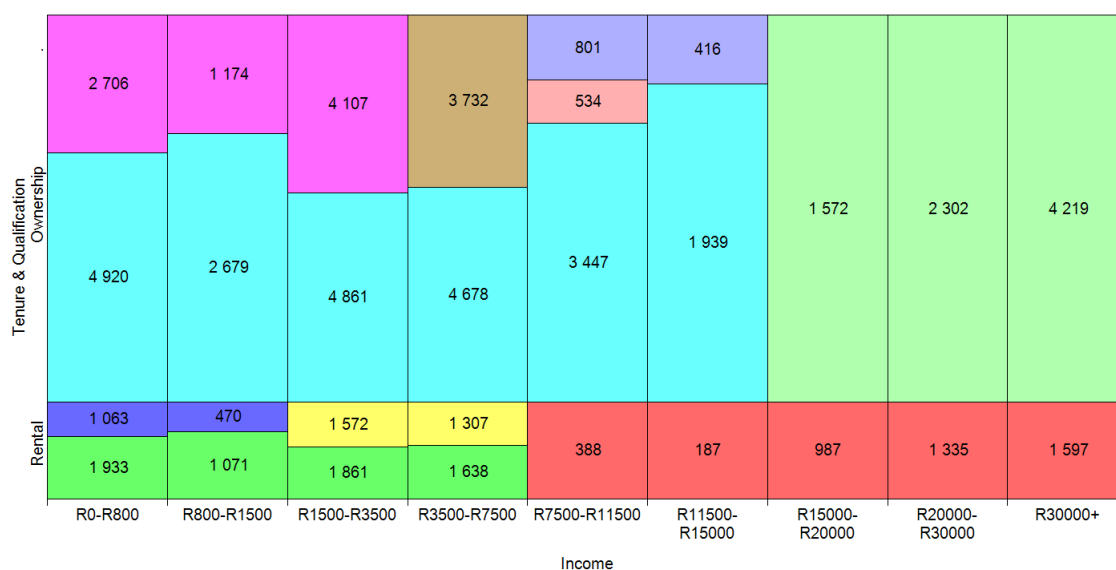


Figure 18: Housing Market Segmentation

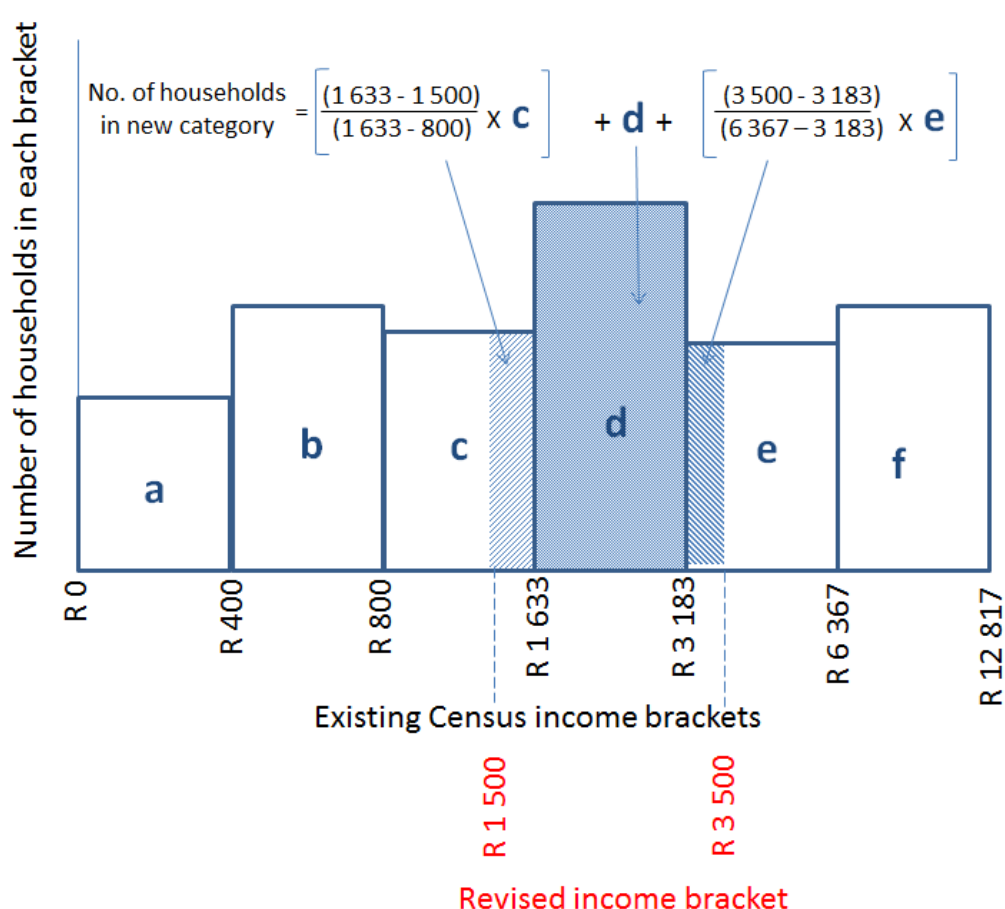
Sources: Census 2001; Western Cape Housing Subsidy System 2014; own calculations

The diagram calculates the size of each market in the municipality, but does not compare this against the number of inadequately housed households, which is substantially less than the number of potential subsidy qualifiers. It has not been possible to calculate how many of the inadequately housed households do not qualify for subsidy assistance. However, the total figure for non-qualifiers is relatively large, and may be of concern to the municipality given that these households are likely to remain in informal circumstances. The gap market in Drakenstein has been calculated to be 4 266 households, made up of 3 732 households in the supply and credit gap, and 534 households in the credit gap.

## End notes

### 1. Income bracket adjustment

All representations of household data by income bracket have involved the manipulation of Census 2011 data to align with new monthly income brackets defined in the Housing Market Segments Report. The Census 2011 Annual Household Income was first converted into a monthly income figure. The number of households in the new monthly income bracket was calculated by adding the proportion of the new monthly income bracket that straddled the Census income monthly brackets, multiplied by the number of households in each of the Census monthly income brackets. Simple linear interpolation was used, which assumes that households are evenly distributed across income monthly brackets. The figure below illustrates the process used to calculate the number of households falling into the new monthly income bracket between R1 500 and R 3 500 per month.



### 2. Overcrowding calculation

The methodology used to calculate overcrowding is based on the methodology used by the City of Cape Town for the modelling undertaken for the Integrated Human Settlements Framework. The point of departure was a definition of overcrowding given by the U.S Department of Housing and Urban Development: Office of Policy Development & Research (2007) Measuring Overcrowding in Housing (available online at [http://www.huduser.org/publications/pdf/measuring\\_overcrowding\\_in\\_hsg.pdf](http://www.huduser.org/publications/pdf/measuring_overcrowding_in_hsg.pdf)) of more than 2.5 people per habitable room (i.e. excluding kitchens, bathrooms, store rooms, etc.). However, the South African Census does not distinguish between habitable and non-habitable rooms. Therefore the definition was modified to be more than 2 people per (total)

room. This assumes that there are four habitable rooms for every non-habitable room, which is believed to produce a roughly equivalent outcome to that of the US Department of Housing and Urban Development definition.

To determine the number of households that are overcrowded, the following methodology was followed:

Step	Description
<b>Step 1:</b>	Census data for household size and number of rooms was cross-tabulated, producing a table indicating the number of households having 1 person in 1 room, 2 people in 1 room, 1 person in 2 rooms, etc., each of which represents a occupancy 'case'.
<b>Step 2:</b>	For each case, the number of overcrowded people was determined by taking the household size and subtracting the number of rooms multiplied by 2 (people per room - representing the theoretical maximum comfortable occupancy level), producing the number of overcrowded people per 'case'.
<b>Step 3:</b>	The number of overcrowded people was divided by 2 (people per room) to produce the number of additional rooms required per 'case'.
<b>Step 4:</b>	The number of additional rooms was divided by an assumed value of 2 for the number of rooms in a new house to produce the number of households requiring accommodation per 'case'. While the average number of rooms per formal dwelling in the Western Cape is higher than this (4.72), the lower figure is based on the size of new IRDP housing. The assumption therefore indicates the need for a new house (and therefore 1 overcrowded household) for every four people in an overcrowded dwelling.
<b>Step 5:</b>	The number of households requiring accommodation per 'case' was multiplied by the number of households in each case (see step 1) to produce the number of overcrowded households.

The following example illustrates the process:

Step	Description
<b>Step 1:</b>	There are 120 households living in the housing case: 10 people living in 2 rooms
<b>Step 2:</b>	Number of overcrowded people = $10 - (2 \times 2) = 6$
<b>Step 3:</b>	Number of additional rooms required = $6 \div 2 = 3$
<b>Step 4:</b>	Number of additional dwellings required = $3 \div 2 = 1.5$ - rounded up to 2.
<b>Step 5:</b>	Number of households overcrowded = $120 \times 2 = 240$ .

### 3. Subsidy non-qualifiers

The subsidy conditions stipulate the following five essential criteria:

Criterion	Description
<b>Criterion 1:</b>	Must be a South African resident
<b>Criterion 2:</b>	Must be 18 years or older
<b>Criterion 3:</b>	Must not have previously benefited from a government housing subsidy
<b>Criterion 4:</b>	Must not have previously owned residential property
<b>Criterion 5:</b>	Must be married or cohabiting or with financial dependents
<b>Criterion 6:</b>	Must have a household income of R0-R3 500 per month for a full subsidy, or R3 500 - R 15 000 for a FLISP subsidy.

The following data sets were used as direct or proxy measures for the above criteria:

Criterion	Description
<b>Criterion 1:</b>	Census 2011
<b>Criterion 2:</b>	Census 2011
<b>Criterion 3:</b>	WC Housing Subsidy System
<b>Criterion 4:</b>	Census 2011
<b>Criterion 5:</b>	Census 2011
<b>Criterion 6:</b>	Census 2011 and WC Housing Demand Database

The following process was followed:

Step	Description
<b>Step 1:</b>	The number of households in each qualifying income bracket was extracted from Census 2011 (Criterion 6) and cross-tabulated against age (Criterion 2) and tenure status (Criteria 3 and 4).
<b>Step 2:</b>	The number of single person households (Criterion 5) per income bracket was extracted from Census 2011.
<b>Step 3:</b>	The number of foreign individuals (Criterion 1) was extracted from Census 2011 and divided by an assumed household size of 2 to calculate the number of foreign-headed households. These households were distributed proportionately between the revised income brackets according to the split of the total municipal population.
<b>Step 4:</b>	The number of non-qualifying households calculated in Steps 1, 2 and 3 were added together to obtain the total number of non-qualifying households in each income group.

Given the lack of a full data set on many of the criteria, and the inability to cross-tabulate across the various data sets, the following assumptions had to be made:

Step 1 assumes that a) all people who have previously owned property still owned their properties in 2011 and b) that all those that have received a subsidy still own their properties. Both of these simplifying assumptions will tend to underestimate the number of non-qualifiers. In addition, it ignores the in-migration of people who have received a subsidy in another province, thereby assuming that this does not take place, or nets out with subsidy beneficiaries leaving the province. As there is positive net in-migration to the province, this assumption will tend to underestimate the number of non-qualifiers.

Step 2 assumes that any household greater than 1 person either comprises a spouse, co-habiting partner or financial dependent. As the definition of 'household' in Census 2011 could include 2 financially independent and unrelated adults, this assumption will tend to overestimate the number of subsidy qualifiers, and thus underestimate the number of non-qualifiers.

Step 3 assumes that foreign residents are distributed across income groups in the same proportions as the total population, and on average form households of 2 people. As there is no data to support these assumptions, the impact of this assumption is unknown.

All of the assumptions made in steps 1 and 2 underestimate the number of non-qualifiers. However, there is an element of double counting where single person households own their dwellings, and therefore these two dynamics may tend to cancel on another out.

#### 4. Tenure preference

Tenure propensity is a combination of preference and circumstance. In many cases, households may prefer to own a property, but may not be able to afford to do so. In other cases, people may be able to afford a house, but prefer to rent (for various reasons). Two sources of data were used to determine tenure propensity. Firstly, the tenure preference of households is indicated in the Western Cape Human Settlements Demand Database. Understandably, this data illustrates a very clear preference for home ownership amongst all income brackets. Secondly, the existing tenure arrangements as measured by Census 2011 provide an indication of tenure propensity forced through circumstance, as well as



preference to rent at higher income levels. However, many of these households would opt to own rather than rent if they had a choice. Analysis of the Census data undertaken for the Housing Market Segments Report concluded that there appears to be a minimum of 20% of household at all income brackets that would prefer to rent. Given these data sources and their inherent weaknesses, the following methodology was followed to determine the split of households likely to own versus rent in each income bracket:

1. The average value was calculated between the current percentage of households that rent (or live rent free) from Census 2011 and the percentage of households that stated a preference to rent in the WC Housing Demand Database.
2. If this value for rental propensity was greater than the observed minimum of 20% of households in any income bracket, then the average value was used, otherwise the 20% value was used.

## 5. Housing Market Segmentation

A housing market segment report produced for this study which, based on a desktop literature review and stakeholder engagements, constructed a framework for understanding housing markets in the Western Cape province. The key housing demand dimensions were identified to be household income (monthly in this study), tenure status (ownership versus rental) and state housing finance qualification criteria. Based on these key dimensions, the housing market segments were delineated according to the categories in **Error! Reference source not found..**

Tenure status and related housing programmes	Monthly household income (Rands)						
	0 - 800	801 - 1 500	1 501 - 3 500	3 501 - 7 500	7 501 - 11 500	11 501 – 15 000	>15 001
Owned							
State-subsidised housing	x	x	x				
Supply & credit gap				x			
Finance Linked Individual Subsidy Programme (FLISP)				x	x	x	
Credit gap					x		
Non-qualifiers	x	x	x	x	x		
Bonded							x
Rental							
Community Residential Units (CRU)		x	x				
Social Housing			x	x			
Non-qualifiers	x	x	x	x			
Normal rental					x	x	x

Table 21: Housing market segmentation

Source: Own assessment based on literature and stakeholder engagements

The nature of these categories is explained in **Error! Reference source not found..**

<b>Tenure status and related housing programmes</b>	
<b>Owned</b>	
<b>State-subsidised housing</b>	State housing finance mechanisms for households earning below R3 500/month.
<b>Supply &amp; credit gap</b>	The Housing Market Segments Report identified a supply and credit gap in the R3 500-R 7500 income bracket. This means the market is unwilling or unable to supply a product that could be afforded by households in this bracket, even if they were able to access credit and the FLISP subsidy.
<b>Finance Linked Individual Subsidy Programme (FLISP)</b>	For households earning between R3 500 and R15 000/month, the FLISP programme is available. However, not all households within the FLISP income band are able to access it due to the lending limit (household income of R11 500). Such households then represent part of the 'gap' market whose needs are partially being met through Financial Sector Charter loans.
<b>Credit gap</b>	The housing market segment report identified a credit gap in the R7 500-R11 500 income bracket indicating that 60% of households in this bracket would be unable to access the credit required as a condition of the FLISP subsidy.
<b>Non-qualifiers (owners)</b>	While there are a number of programmes which households can access to meet their demand, there are also notable limitations to their capacity to access such opportunities. If a household does not meet the qualification criteria of state-funding or those of lending institutions, they fall into a category of 'non-qualifiers'. It is inferred, on the basis of the literature reviewed, that many of these non-qualifiers are reverting to residence in informal dwellings (such as shacks or traditional housing) to meet their demand. Some such non-qualifiers include, but are not limited to, non-South African citizens or parties who may have previously benefited from state housing programmes.
<b>Bonded</b>	Beyond an income of R15 000 households are expected to revert to the bonded market.
<b>Rental</b>	
<b>Community Residential Units (CRU)</b>	State housing programmes for households earning between R800 and R3 500/month.
<b>Social Housing</b>	State housing programmes for households earning between R1 500-R7 500/month.
<b>Non-qualifiers (rental)</b>	While there are a number of programmes which households can access to meet their demand, there are also notable limitations to their capacity to access such opportunities. If a household does not meet the qualification criteria of state-funding or those of rental institutions or landlords, they fall into a category of 'non-qualifiers'. It is inferred, on the basis of the literature reviewed, that many of these non-qualifiers are reverting to residence in informal dwellings (such as shacks or traditional housing) to meet their demand. Some such non-qualifiers include, but are not limited to, non-South African citizens or parties who may have previously benefited from state housing programmes.
<b>Normal rental</b>	It is still not fully clear what the income band boundary between the non-qualifier and normal rental markets are but it is assumed these overlap partially at an income of R7 500/month.

Table 22: Housing market segmentation descriptions

Source: Own assessment based on literature and stakeholder engagements