

Gauteng: Informal settlements status



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DISCLAIMER

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List of abbreviations


CORC	Community Organisation Resource Centre
EA	Enumeration Area
GHS	General Household Survey
GIS	Geographical Information Systems
GTI	GeoTerralImage
HDA	Housing Development Agency
HH	Households
IES	Income and Expenditure Survey
LaPsis	Land and Property Spatial Information System
NDHS	National Department of Human Settlements
PSU	Primary Sampling Unit
Stats SA	Statistics South Africa

PART 1

Introduction

In terms of the HDA Act No. 23, 2008¹, the Housing Development Agency (HDA), is mandated to assist organs of State with the upgrading of informal settlements. The HDA therefore commissioned this study to investigate the availability of data and to analyse this data relating to the profile, status and trends in informal settlements in South Africa, nationally and provincially as well as for some of the larger municipalities. This report summarises available data for the province of Gauteng.

¹The HDA Act No.23, 2008, Section 7 (1) k.



PART 2

Data sources and definitions

A number of data sources have been used for this study. These include household level data from the 2001 Census and a range of nationally representative household surveys. Settlement level data was also reviewed, including data from the City of Johannesburg, Ekurhuleni, the NDHS, the HDA and Eskom.

There is no single standard definition of an informal settlement across data sources, nor is there alignment across data sources with regard to the demarcation of settlement areas. It is therefore expected that estimates generated by various data sources will differ.

It is critical when using data to be aware of its derivation and any potential biases or weaknesses within the data. Each data source is therefore discussed briefly and any issues pertaining to the data are highlighted. A more detailed discussion on data sources is provided in the national report on informal settlements.

2.1 Survey and Census data

Household-level data for this report was drawn from various nationally representative surveys conducted by Statistics South Africa including 2007 Community Survey (CS)², the General Household Survey (GHS) from 2002 to 2009 and the 2005/6 Income and Expenditure Survey (IES)³. In addition, the study reviewed data from the 2001 Census⁴.

The census defines an informal settlement as 'An unplanned settlement on land which has not been surveyed or proclaimed as residential, consisting mainly of informal dwellings (shacks)'. In turn, the census defines an 'informal dwelling' as: 'A makeshift structure not erected according to approved architectural plans'. In the 2001 Census all residential Enumeration Areas (EAs)⁵ are categorised as either Informal Settlements, Urban Settlements, Tribal Settlements or Farms. In addition, dwellings are categorised as either formal dwellings⁶ or informal dwellings, including shacks not in backyards, shacks in backyards and traditional dwellings. There are therefore two potential indicators in the 2001 Census that can be used to identify households who live in informal settlements, one based on enumeration area (Informal Settlement EA) and the other based on the type of dwelling (shack not in backyard).

² The Community Survey is a nationally representative, large-scale household survey. It provides demographic and socio-economic information such as the extent of poor households, access to facilities and services, levels of employment/unemployment at national, provincial and municipal level.

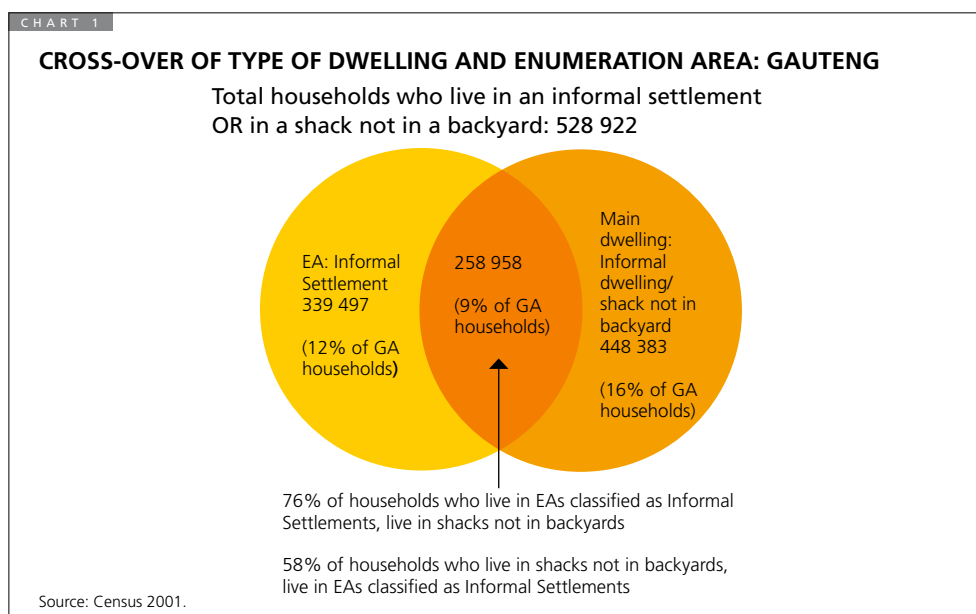
³ The Income and Expenditure Survey was conducted by Statistics South Africa (Stats SA) between September 2005 and August 2006 (IES 2005/2006). It is based on the diary method of capture and was the first of its kind to be conducted by Stats SA.

⁴ The Census data is available for all SA households; where more detail is required the 10% sample of this data set is used. Choice of data set is highlighted where applicable.

⁵ An EA is the smallest piece of land into which the country is divided for enumeration, of a size suitable for one fieldworker in an allocated period of time. EA type is then the classification of EAs according to specific criteria which profiles land use and human settlement in an area.

⁶ Formal dwellings include house or brick structure on a separate stand, flat in a block of flats, town/cluster/semi-detached house, house/flat/room in backyard and a room/flatlet on a shared property.

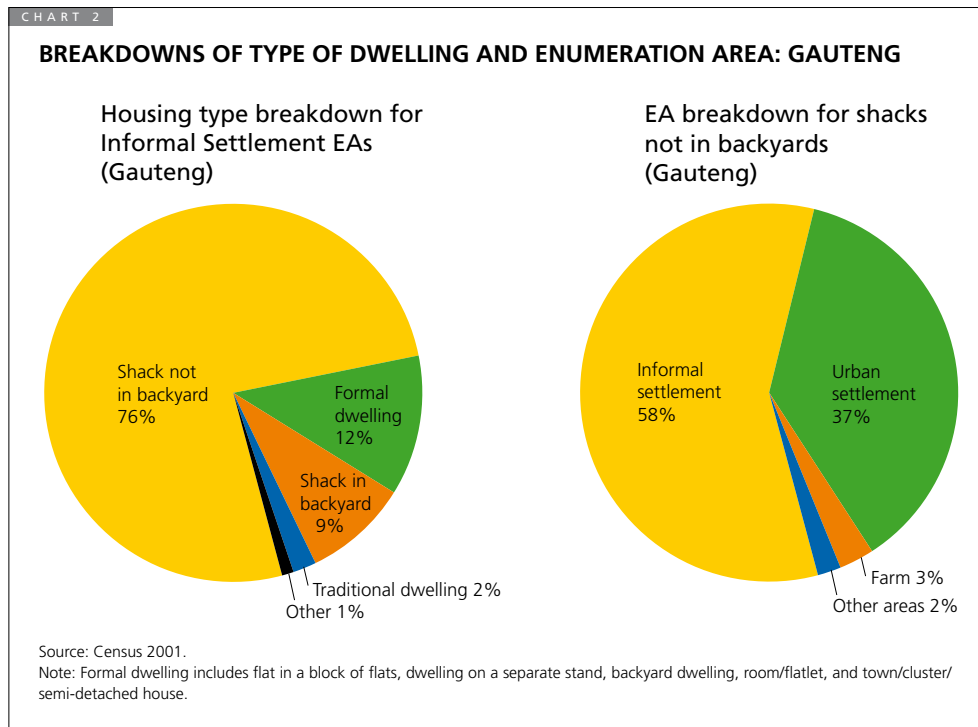
According to the 2001 Census, 448,000 households in Gauteng (16% of households) lived in an informal dwelling or shack not in a backyard in 2001 while 339,000 households (12% of households) lived in EAs that are characterised as Informal Settlements. Just under 260,000 households lived in both.



Unlike census data, survey data does not provide an EA descriptor. However, surveys do provide an indication of dwelling types, aligned with the main categories defined in the census. In the absence of an EA descriptor for informal settlements, the analysis of survey data relies on a proxy indicator based dwelling type, namely those who live in an 'Informal dwelling/shack, not in backyard e.g. in an informal/squatter settlement'.

Census data can provide an indication of the suitability of this proxy. According to the Census, of those households in Gauteng who live in EAs categorised as Informal Settlements, 76% live in shacks not in backyards. A further 12% of households in these EAs live in formal dwellings, 9% live in shacks in backyards (it is not clear whether the primary dwelling on the property is itself a shack) and 2% live in traditional dwellings.

Conversely the data indicates that 42% of all households in Gauteng who live in shacks not in a backyard do not, in fact, live in EAs categorised as Informal Settlements. 37% live in EAs categorised as urban settlements and 3% live in Farm EAs.



The analysis based on surveys using the dwelling type indicator 'shack not in backyard' to identify households who live in informal settlements should therefore be regarded as indicative as there is insufficient data in the surveys to determine whether these households do, in fact, live in informal settlements as defined by local or provincial authorities.

A further challenge with regard to survey data relates to the sampling frame. In cases where survey sample EAs are selected at random from the Census 2001 frame, newly created or rapidly growing settlements will be under-represented. Given the nature of settlement patterns, informal settlements are arguably the most likely to be under-sampled, resulting in an under-count of the number of households who live in an informal settlement. Further, if there is a relationship between the socio-economic conditions of households who live in informal settlements and the age of the settlement (as it seems plausible there will be) a reliance on survey data where there is a natural bias towards older settlements will result in an inaccurate representation of the general conditions of households who live in informal settlements. This limitation is particularly important when exploring issues relating to length of stay, forms of tenure and access to services. A second word of caution is therefore in order: survey data that is presented may under-count households in informal settlements and is likely to have a bias towards older, more established settlements.

An additional consideration relates to sample sizes. While the surveys have relatively large sample sizes, the analysis is by and large restricted to households who live in shacks not in backyards, reducing the applicable sample size significantly. Analysis of the data by province or other demographic indicator further reduces the sample size. In some provinces the resulting sample is simply too small for analysis, however this is not the case for Gauteng as summarised on the next page.

TABLE 1

SAMPLE SIZES IN THE DIFFERENT SURVEYS

	Census 2001			Community Survey 2007		Income and Expenditure Survey 2005/6		General Household Survey 2009	
	Total number of households	Total number of households living in shacks not in a backyard	Households living in informal settlement EAs	Total survey sample size	Sample size for households living in shacks not in a backyard	Total survey sample size	Sample size for households living in shacks not in a backyard	Total survey sample size	Sample size for households living in shacks not in a backyard
Gauteng	2 839 067	448 383	339 497	53 776	8 175	2 496	352	4 135	532
City of Johannesburg	1 050 701	133 366	75 255	19 375	2 243				
City of Tshwane	482 789	82 700	50 548	11 656	2 447				
Ekurhuleni	776 756	162 897	144 733	13 982	2 533				

Source: Census 2001 (10% sample), Community Survey 2007, IES 2005/6, GHS 2009; Household databases.

A final consideration relates to the underlying unit of analysis. Survey and census data sources characterise individuals or households rather than individual settlements. These data sources provide estimates of the population who live in informal settlements as well as indications of their living conditions. The data as it is released cannot provide an overview of the size, growth or conditions at a settlement level⁷ although it is possible to explore household-level data at provincial and municipal level depending on the data source and sample size.

The definition of a household is critical in understanding household level data. By and large household surveys define a household as a group of people who share a dwelling and financial resources. According to Statistics SA 'A household consists of a single person or a group of people who live together for at least four nights a week, who eat from the same pot and who share resources'. Using this definition, it is clear that a household count may not necessarily correspond to a dwelling count; there may be more than one household living in a dwelling. Likewise a household may occupy more than one dwelling structure.

From the perspective of household members themselves the dwelling-based household unit may be incomplete. Household members who share financial resources and who regard the dwelling unit as 'home' may reside elsewhere. In addition, those who live in a dwelling and share resources may not do so out of choice. Household formation is shaped by many factors, including housing availability. If alternative housing options were available the household might reconstitute itself into more than one household. Thus, while the survey definition of a household may accurately describe the interactions between people who share a dwelling and share financial resources for some or even most households, in other cases it may not. The surveys themselves do not enable an interrogation of this directly.

⁷ It may be possible for Statistics South Africa to match EA level data from the 2001 Census to settlements to provide an overview of specific settlements. Given that the Census data is ten years old, and that conditions in informal settlements are likely to have changed significantly since then, the feasibility of this analysis was not established.

2.2 Other data from Stats SA

A dwelling frame count was provided by Stats SA for the upcoming 2011 Census. The Dwelling Frame is a register of the spatial location (physical address, geographic coordinates, and place name) of dwelling units and other structures in the country⁸. It has been collated since 2005 and is approximately 70% complete. The Dwelling Frame is used to demarcate EAs for the 2011 Census⁹.

There are 303 sub-places in Gauteng with at least one EA classified as 'Informal Residential'¹⁰, totalling 2,123 EAs (covering a total area of 160.18 square kilometres). There are Dwelling Frame estimates for 240 (79%) of these 'Informal Residential' EAs, totalling 183,151 Dwelling Frames. Since the Dwelling Frame is only approximately 70% complete, and not all units are counted within certain dwelling types, the count should not be seen as the official count of dwellings or households within the EA Type.

2.3 National Department of Human Settlements (NDHS) and LaPsis

The 2009/2010 Informal Settlement Atlas compiled by the NDHS indicates there are 625 informal settlement polygons in Gauteng. No household estimates are provided.

LaPsis (Land and Property spatial information system), an online system developed by the HDA, builds on the data gathered by the NDHS and overlays onto it land and property data including cadastre, ownership, title documents and deeds (from the Deeds Office), administrative boundaries (from the Demarcation Board) and points of interest from service providers such as AfriGIS¹¹. The data indicates there are 625 informal settlements in Gauteng; 38 of these have a household and shack count.

2.4 Eskom's Spot Building Count (also known as the Eskom Dwelling Layer)

Eskom has mapped and classified structures in South Africa using image interpretation and manual digitisation of high resolution satellite imagery. Where settlements are too dense to determine the number of structures these areas are categorised as dense informal settlements. Identifiable dwellings and building structures are mapped by points while dense informal settlements are mapped by polygons.

Shape files provided by Eskom revealed 310 polygons categorised as Dense Informal Settlements in Gauteng, covering a total area of 16.91 square kilometres. The dataset does not characterise the areas, nor does it match areas to known settlements. Latest available data is based on 2008 imagery. Eskom is currently in the process of mapping 2009 imagery and plans to have mapped 2010 imagery by the end of the year.

⁸ Bhekani Khumalo (2009), 'The Dwelling Frame project as a tool of achieving socially-friendly Enumeration Areas' boundaries for Census 2011, South Africa', Statistics South Africa.

⁹ An EA is the smallest piece of land into which the country is divided for enumeration, of a size suitable for one fieldworker in an allocated period of time. EA type is then the classification of EAs according to specific criteria which profiles land use and human settlement in an area.

¹⁰ The EA descriptor for informal settlements in the 2011 Census is 'Informal Residential'; in 2001 the EA type was 'Informal Settlement'.

¹¹ AfriGIS was given informal settlements data by the provincial departments of housing to create the map layers.

2.5 Community Organisation Resource Centre (CORC)

CORC is an NGO that operates in all provinces across the country, with the aim of providing support to 'networks of communities to mobilise themselves around their own resources and capacities'¹². In order to provide a fact base to enable communities to develop a strategy and negotiate with the State with regard to service provision and upgrading, CORC profiles informal settlements and undertakes household surveys. These surveys have been conducted in areas across the country by community members in these settlements. Community members are trained by CORC and are provided with a basic stipend to enable them to do their work. Improvements are made to questionnaires using community consultation and professional verification. This ensures that comprehensive and relevant data is collected. CORC also gathers other settlement level data on service provision including the number and type of toilets and taps. A list of settlements that have been enumerated recently in Gauteng is summarised below, together with household and population estimates.

Name of settlement	Date	Number of households	Population
Haroldds Farm	July 2009	93	261
Alberton	November 2009	265	1 024
Thulasizwe	July 2010	65	243
Montic	July 2010	50	186
Makause	February 2011	In progress	In progress

2.6 Municipal data: City of Johannesburg and Ekurhuleni

2.6.1 City of Johannesburg

The City of Johannesburg does not have a formal definition of informal settlements; however the following working definition is used¹³: 'An impoverished group of households who have illegally or without authority taken occupation of a parcel of land (with the land owned by the Council in the majority of cases) and who have created a shanty town of impoverished illegal residential structures built mostly from scrap material without provision made for essential services and which may or may not have a layout that is more or less formal in nature.'

The City of Johannesburg has a detailed database comprising 180 informal settlements across all regions of the City. The latest available dataset was published in May 2010. In many cases maps and aerial photographs are available over time. Settlement data includes:

- Informal settlement name
- Township name
- Region and Ward
- GPS co-ordinates
- Number of shacks
- Services (Water, Sanitation, Refuse)
- Land ownership (Gauteng province, City of Johannesburg, Council, Parastatal, Public, Private, Combination, etc.)
- Year established
- Settlement status (applications approved, in situ upgrading, planning phase, eviction, relocation, etc.)

¹² See <http://www.sasdialliance.org.za/about-corc/>

¹³ John Maytham, Project Manager: Informal Settlement Formalization Unit, Development Planning and Urban Management.

Shack counts are based on 2009 aerial photographs. According to this data there are 195,474 shacks in 180 informal settlements in the municipality, although coverage is not complete¹⁴. Between 2005 and 2007 the City of Johannesburg Department of Housing surveyed informal settlements in the City with regard to access to key services including water and sanitation. This data was used to populate the above mentioned dataset.

A household estimate published by the Development Planning and Urban Management Department of the City of Johannesburg in 2009 placed the number of households living in informal settlements as 220,000. It is unclear what underlying data or methodology was used to generate this estimate.

The City of Johannesburg Department of Housing is currently in the process of appointing service providers to compile socio-economic profiles of a number of informal settlements highlighted in its 2008 Feasibility Studies.

2.6.2 Ekurhuleni

Reference documents used by the Ekurhuleni Municipality define an informal settlement¹⁵ as follows: 'As a basic characteristic, the occupation of the land is unauthorised. In addition, the use of the land may be unauthorised, and in most cases the construction standards do not comply with building regulations'¹⁶.

Ekurhuleni has a detailed database of informal settlement data. This includes:

- Informal settlement name
- Detailed description of location (city/town, nearest suburb, GPS co-ordinates)
- Date established
- Number of households
- Status (in-situ upgrade, relocation, time frame)
- Land ownership (municipal, private, Transnet, etc.)
- Classification (urgent relocation required/short-medium term plan/No short-medium term plans)
- Services (water, sanitation, lighting)
- Vulnerabilities (e.g. very serious dolomite, flooding, high density)
- Issues (e.g. toilets always blocked, declined chemical toilets)

According to its data set there are 114 informal settlements in the municipality with 160,336 households living in these settlements.

Ekurhuleni uses aerial photographs and surveys to profile informal settlements. This data has been compiled since 2003 and updated with new information as this becomes available (for example, new ortho-photos¹⁷ or shack counts). Where shack counts are not done, a perimeter is drawn around each settlement on the GIS and the area calculated. The settlement is then plotted with a grid overlay and a sample of one hectare sized blocks is counted. An average density per hectare is established and used across the area. The last image count is based on 2007 photos. More recent ortho-photography was generated in May 2010 but this has not yet been incorporated to update the 2007 estimates.

¹⁴ This excludes Adelaide Thambo (Transit Camp) and 14 others (Kew, Kliptown Firstgate (Old Houses), Kliptown Geelkamers, Kliptown Mandela square, Kliptown Market, Kliptown Racecourse, Lawley Dam, Lusaka, Mountain View, Naledi 2, Naledi 3, New Hani Park, Orlando Park (Not Coalyard), Wynburg.

¹⁵ Ekurhuleni Municipality (2010), Informal Settlements: A growing misperceived phenomenon, Special Housing Portfolio Meeting 28 April 2010.

¹⁶ Source: Study into supporting informal settlements, Main Report, 28 August 2004 Prepared for Department of Housing, Pretoria by the University of the Witwatersrand Research Team.

¹⁷ Ortho-photos are aerial photographs that have been geometrically corrected so that distances are uniform and the photograph can be measured like a map.

PART 3

The number and size of informal settlements in Gauteng

3.1 Estimating the number of households who live in informal settlements

According to the Census, 339,000 households in Gauteng (12% of households in the province) lived in EAs classified as Informal Settlements in 2001¹⁸. 77% lived in EAs classified as Urban Settlements and a further 2% in EAs classified as Farms. Gauteng province accounts for 31% of all households in informal settlement EAs in the country (it accounts for 24% of all households overall).

Census data at a municipal level is summarised below for Gauteng.

Municipality	Number of HH in Informal Settlement EA	% of HH in municipality/province that live in Informal Settlement EAs
City of Johannesburg	75 255	7.2%
City of Tshwane	50 548	10.5%
Ekurhuleni	144 733	18.6%
Metsweding	4 155	10.2%
Sedibeng	34 474	15.0%
West Rand	30 333	11.8%
Gauteng	339 497	12.0%

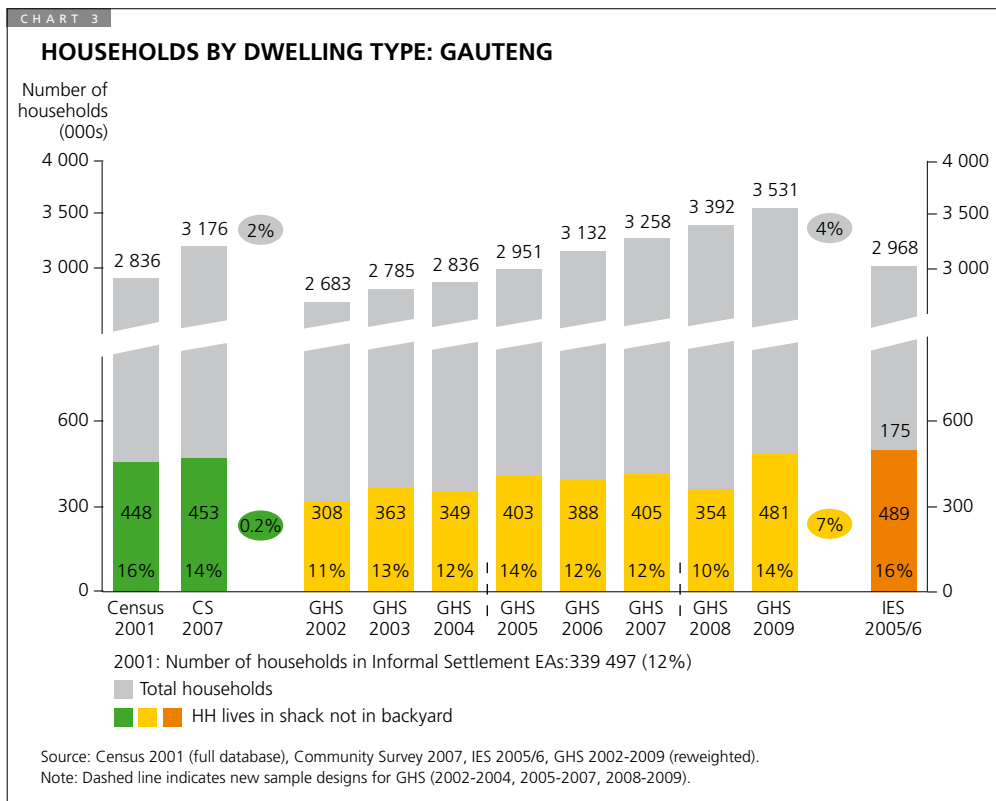
Source: Census 2001.

According to the 2007 Community Survey, 453,000 households (approximately 14% of households in Gauteng) live in shacks not in backyards, versus 448,000 households (16% of households) in 2001 as reported by the Census. In terms of absolute numbers there was a marginal increase of around 4,000 in the number of households living in shacks not in backyards between 2001 and 2007.

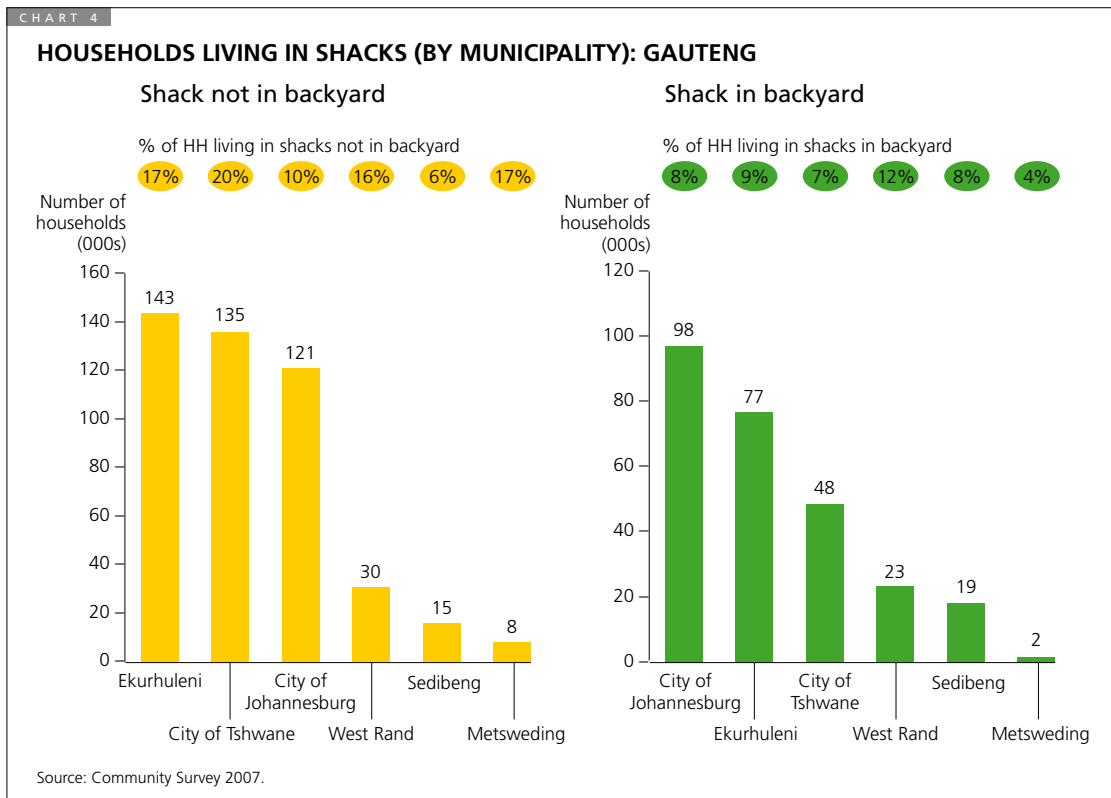
¹⁸ With regards to settlement type, Informal Settlement is one of the ten EA descriptors used.

Census and survey data sources indicate that the provincial distribution of households living in shacks not in backyards is heavily skewed towards Gauteng. According to the Census and Community Survey roughly a third of households in shacks not in backyards live in this province (roughly one quarter of all households in the country live in this province).

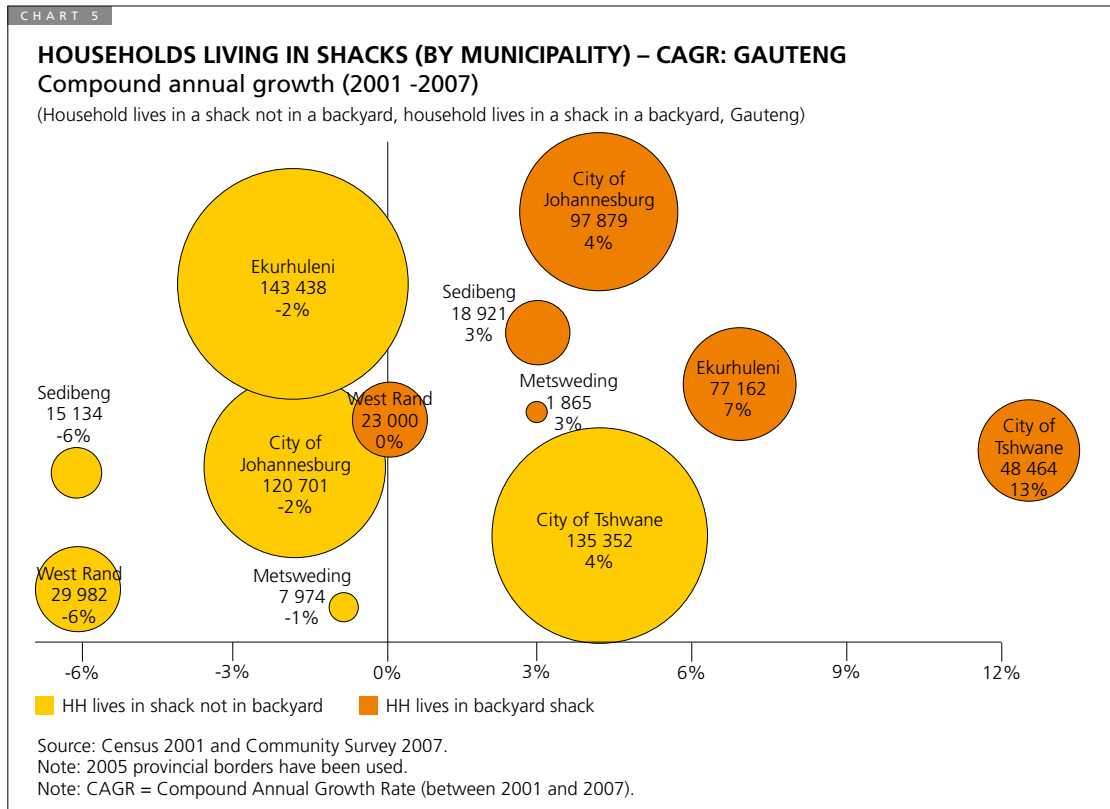
Survey-based estimates of the number of households who live in shacks not in backyards vary, sometimes quite significantly. For instance, in 2007 the Community Survey estimates around 453,000 households living in shacks not in backyards in Gauteng while the 2007 GHS estimates around 405,000 such households. Estimates based on the GHS indicate an annual growth of 7% between 2002 and 2009, while estimates based on the Census and Community Survey indicate an annual growth of 0.2% between 2001 and 2007. The growth rate indicated by the GHS may well reflect changes to the sampling frame rather than underlying dynamics, as well as the initial estimate of 308,000 households in 2002 being too low (Census 2001 estimates 448,000 households). A comparison of census and survey data based on a number of sources is summarised below.



According to the 2007 Community Survey, at over 143,000 Ekurhuleni has the highest number of households living in shacks not in backyards of all municipalities in Gauteng. The chart below summarises municipal-level data for all shacks in Gauteng, including those not in backyards and those in backyards.



Data from the 2001 Census and the 2007 Community Survey can be used to explore growth rates for households living in shacks at a municipal level. This data is summarised in the bubble chart below. The size of the bubble indicates the size of the segment in 2007 while its location along the x-axis indicates the annual rate of growth. Of course in some of these areas high growth has occurred off a very low base. For those areas with significant scale, the City of Tshwane has the highest rate of growth at 4% per annum.



3.2 Estimating the number of informal settlements

While survey and census data provide an estimate based on households, various data sources provide estimates of the number of informal settlements. Both the LaPsis data and the Atlas data set from the NDHS indicate 625 informal settlements.

Available data sources at a 'settlement' level are summarised below together with household level data based on the 2001 Census and the 2007 Community Survey. Note that settlements are identified and defined differently in these data sources.

TABLE 4 ESTIMATES AND/OR COUNTS OF INFORMAL SETTLEMENTS AND HOUSEHOLDS									
	Number of informal settlements					Number of households in informal settlements			
	LaPsis: Informal settlements	Atlas: Informal settlement polygons	Stats SA: Sub places with at least one EA classified as 'Informal Residential'	Eskom: Polygons classified as 'Dense Informal'	Municipal estimates	Census 2001: HH in informal settlement EA	Census 2001: HH in shacks not in backyards	Community Survey 2007: HH in shacks not in backyards	Municipal estimates
City of Johannesburg	187	187	110		180	74 411	133 366	120 701	220 000
City of Tshwane	117	117	42			50 331	82 700	135 352	
Ekurhuleni	145	145	92		114	143 673	162 897	143 438	160 336
Metsweding	30	30	–			4 135	7 164	7 974	
Sedibeng	61	61	19			34 363	22 225	15 134	
West Rand	85	85	40			30 242	40 031	29 982	
Gauteng	625	625	303	310		337 154	448 383	452 581	

* Households in informal settlements to be upgraded between 2010/11 and 2013/14 (Outcome 8¹⁹): 96,760 in Gauteng.

While both LaPsis and Atlas databases rely on provincial data and should therefore be aligned with provincial estimates, there are often differences. For instance, the Ekurhuleni Municipality estimates 114 informal settlements while LaPsis reflects 145 in this municipality. There are significant discrepancies at a household level; the City of Johannesburg estimates 220,000 households living in informal settlements while the 2007 Community Survey indicates 121,000 households living in shacks not in backyards and the 2001 Census reflects 74,000 households living in EAs classified as informal settlements.

These differences most probably arise as a result of different data currency; provincial or municipal estimates may have been collated more recently than national estimates. Variances may also reflect a lack of alignment regarding the definition of an informal settlement as well as different data collection methodologies and sampling biases.

¹⁹ Outcome 8 relates to Sustainable Human Settlements and Improved Quality of Life. National government has agreed on twelve outcomes as a key focus of work between 2010/11 and 2013/14.

PART 4

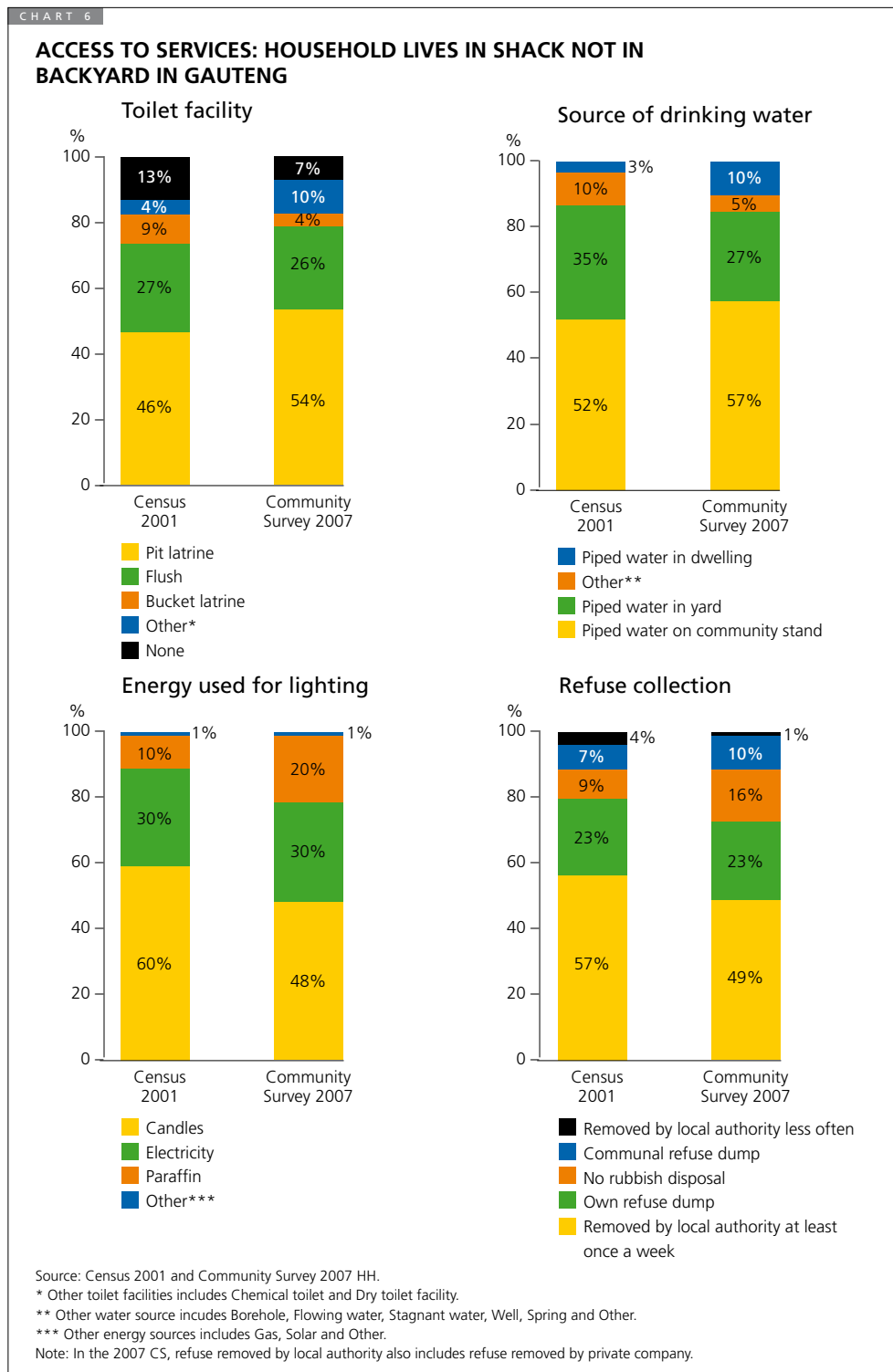
Profiling informal settlements in Gauteng

The analysis of survey data investigates the characteristics of the dwellings and the profile of households and individuals living in shacks not in backyards. As noted this variable is a proxy for households who live in informal settlements. Where available, Census 2001 data relating to households who live in Informal Settlement EAs has been summarised in the introductory comments at the start of each sub-chapter.

4.1 Basic living conditions and access to services

In 2001, 31% of Gauteng households living in informal settlement EAs had piped water in their dwelling or on their yard. A further 32% could obtain piped water within 200 metres of their dwellings. 29% had access to piped water in excess of 200 metres from their dwellings (there is no indication of how far away the water source is) while 9% had no access at all. 23% of households in informal settlement EAs had flush toilets, 48% used pit latrines, 10% used bucket latrines and 4% had chemical toilets; the remaining 14% had no access to toilet facilities. 21% of households in informal settlement EAs used electricity for lighting and 53% had their refuse removed by the local authority.

Key trends relating to access to services for households living in shacks not in backyards are summarised in the chart below.



There is no stable trend across services between 2001 and 2007. The proportion of households who live in shacks not in backyards who say they have no toilet facilities declined from 13% in 2001 to 7% in 2007. Drinking water access and electricity used for lighting both remained stable between 2001 and 2007. With regards to refuse removal, in 2001 61% of households that live in shacks not in a backyard had their refuse removed by the local authority. In 2007, 51% had their refuse removed by the local authority or a private company.

As has been highlighted, a word of caution is required in interpreting this data given potential biases in the sample design towards more established settlements where service provision is better.

4.2 Profile of households and families

In 2001, 24% of Gauteng households living in informal settlement EAs were single person households. The average household size was 3.0. 19% of households were living in over-crowded conditions. The majority of households were headed by males (67%).

According to the 2007 Community Survey, 23% of households in Gauteng living in shacks not in backyards comprise a single individual, the same as the national average for households living in shacks not in backyards. According to the Community Survey 34% of Gauteng households living in shacks not in backyards comprise four or more persons. The average household size of households living in shacks not in backyards in 2007 is 3.1 (in 2001 this was 3.0), compared to 3.5 in 2007 for those living in formal dwellings (up from 3.3 in 2001). 20% of households living in shacks not in backyards live in over-crowded conditions²⁰.

Household heads in shacks not in backyards are also noticeably younger than those in formal dwellings; 39% are under the age of 35 compared to 24% in households who live in formal dwellings.

436,000 children under the age of 18 live in shacks not in backyards corresponding to one third of the total population who live in such dwellings. According to the Community Survey 47% of households in shacks not in backyards in the province have one or more children.

Data from the GHS can be used to explore the relationships between household members in Gauteng in more detail. While the Community Survey finds that 23% households are single person households as noted above, the 2009 GHS indicates that roughly one third of households living in shacks not in backyards comprise single persons. That survey indicates that 20% of households living in shacks not in backyards are nuclear families comprising a household head, his or her spouse and children only. Single parent households, at 8% of households in shacks not in backyards are also noticeable (73% of single parent households are headed by a woman).

28% of households who live in shacks not in backyards contain extended family members or unrelated individuals²¹. GHS data from 2004 to 2009 indicates that for households living in shacks not in backyards, extended and single person households have grown the fastest. Average household size for shacks not in backyards has steadily decreased from 3.1 in 2004 to 2.8 in 2009.

²⁰ A household is considered over-crowded if there are more than two people per room. It is possible that this estimate is understated in the case where more than one household inhabits the same dwelling.

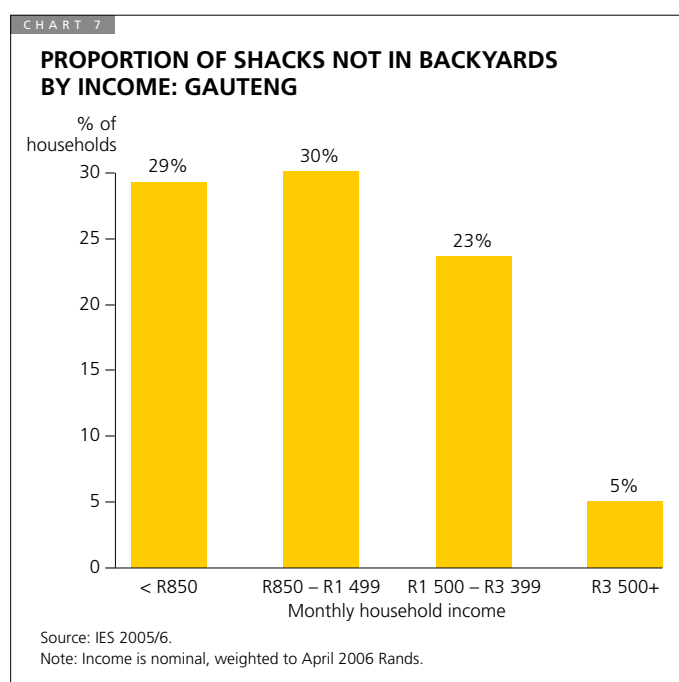
²¹ Compared to Gauteng households who live in formal housing, the household composition in shacks not in backyards differs most noticeably with respect to single person households and households that contain extended family or non-related members. 21% of households in formal dwellings comprise a single individual while 31% include extended family members or non-related members. 26% are nuclear families and 9% single parents – statistics which are not very different from those relating to households living in shacks not in backyards.

4.3 Income, expenditure and other indicators of wellbeing

4.3.1 Income

While both the 2001 Census and the 2007 Community Survey gather some data on income, the quality of this data is relatively poor. A far more reliable source of this data is the 2005/6 Income and Expenditure Survey (IES). That data source indicates that over 84% of Gauteng households who live in shacks not in backyards have a household income of less than R3,500 per month measured in 2006 Rand terms. Inflating incomes to 2010 Rands (and assuming no real shift in income) 71% of households living in shacks not in backyards earn less than R3,500 per month in 2010 Rand terms.

As expected, that survey indicates that the proportion of households living in shacks not in backyards declines as incomes increase. Around 26% of all households earning less than R3,500 (in 2006 Rands) live in shacks not in backyards.



The 2007 GHS indicates that 438,000 adults aged 15 and above living in shacks not in backyards in Gauteng are employed. That same data indicates an unemployment rate of 28%, above the provincial average of 22% for adults aged 15 and above. While unemployment rates are high, according to the 2009 GHS, the primary income source for households in shacks not in backyards is salaries and wages (70%). 10% say their main income source is from pensions and grants and a further 6% rely mostly on remittances.

2004 Labour Force Survey data indicates that 32% of employed individuals living in shacks not in backyards are employed in the informal sector, a proportion that is above the provincial average (16%). 52% are employed in the formal sector (two thirds of them are permanently employed) and a further 15% are domestic workers²².

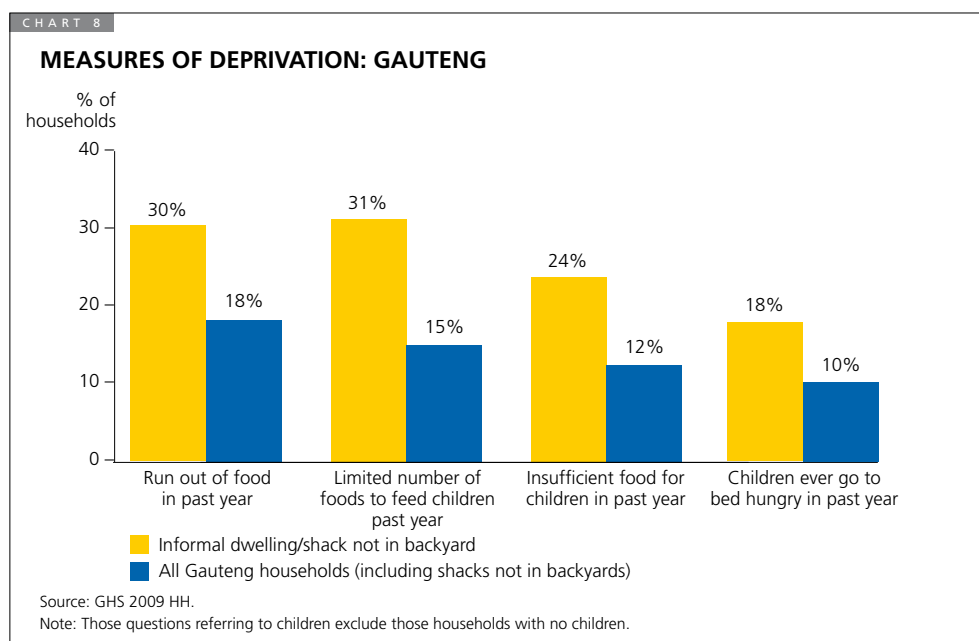
²² Sample sizes are too small to assess employment in agriculture.

4.3.2 Expenditure

According to the IES, the proportion of households living in shacks not in backyards that transfer maintenance or remittances²³ at 50% is well above the average for Gauteng households as a whole (36%)²⁴.

4.3.3 Other indicators of wellbeing

Aside from income and expenditure data, food security indicators from the GHS can be used to assess levels of poverty. These highlight high levels of deprivation in informal settlements, particularly with respect to children²⁵.



4.4 Age of settlements and permanence

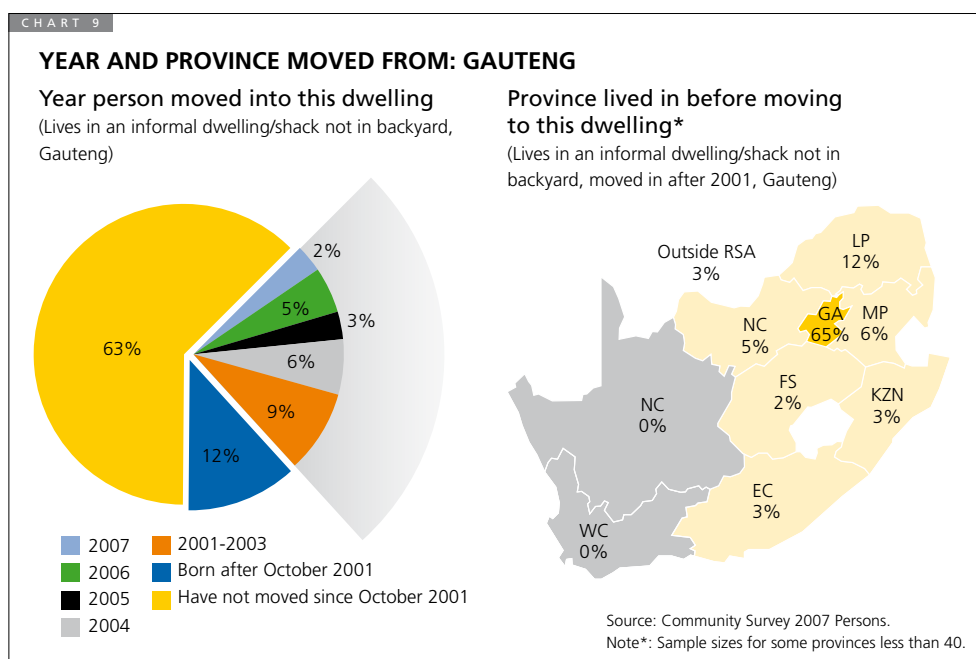
In 2001, the majority of households living in informal settlement EAs in Gauteng (71%) were living there five years previously. In 2001, 25% of households living in informal settlement EAs claimed to own their dwelling; 15% rented and 60% occupied the dwelling rent-free. 17% of households in informal settlement EAs had another dwelling aside from their main dwelling.

Analysis of data from the 2007 Community Survey indicates that the majority of people living in Gauteng in a shack not in a backyard in 2007 had been living there for an extended period of time. Across the province, 63% said they had not moved since 2001.

²³ Both cash and in kind payments.

²⁴ For single person households living in shacks not in backyards in Gauteng, this proportion is 51%.

²⁵ 'Did you rely on a limited number of foods to feed your children during the past year because you were unable to produce enough food/are running out of money to buy food for a meal?'; 'Did your children ever say they are hungry during the past year because there was not enough food in the house?'; 'Did any of your children ever go to bed hungry because there was not enough food/money to buy food?' – Yes/No.



According to the 2009 GHS, 89% of households living in shacks not in backyards indicate that they were living in a shack not in backyard five years previously²⁶. The survey does not indicate whether the dwelling or the broad location of the dwelling is the same.

There may be some basis for a degree of scepticism when looking at this data. As noted in the overview of data sources, there may well be a sampling bias towards older, more established settlements. In addition, if households in informal settlements believe there is a link between the duration of their stay in that settlement and their rights either to remain in the settlement or to benefit from any upgrading programmes they may well have an interest in over-stating the length of time they have lived in their dwellings.

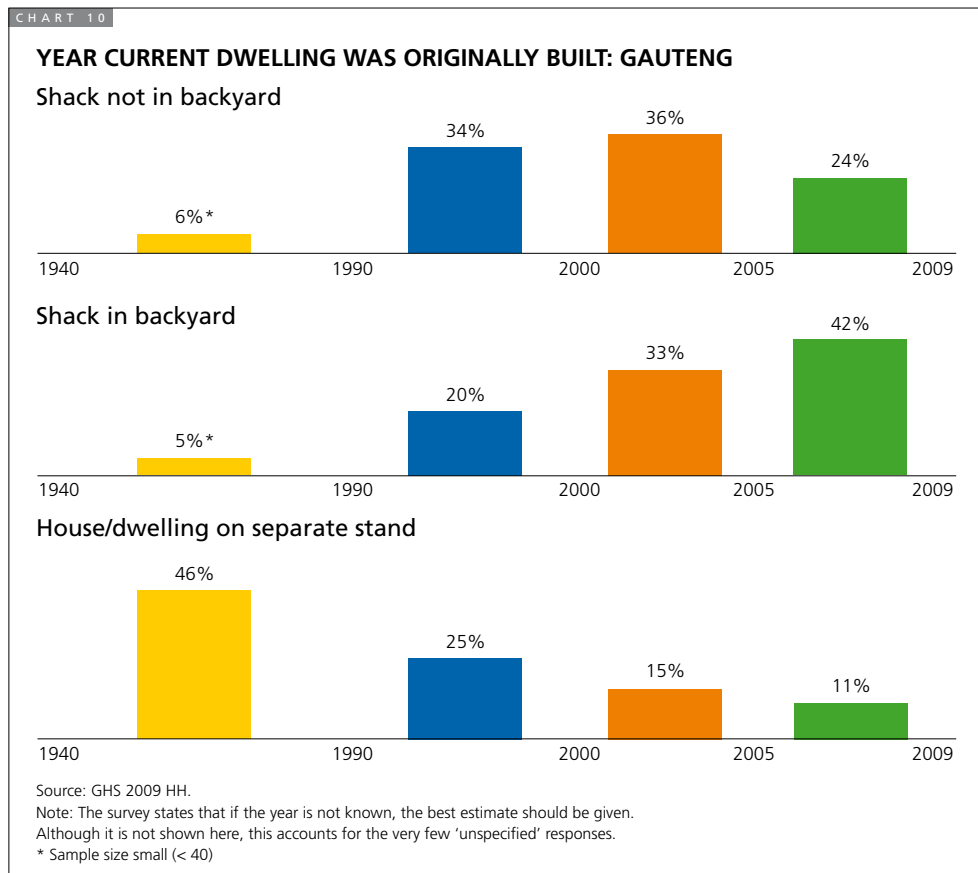
The 2009 GHS asks respondents when (i.e. in what year) their dwellings were originally built²⁷. The data indicates that 24% of shacks not in backyards were built within the past five years. At first glance this would appear to be at odds with the statistic cited above that almost 90% of households living in shacks not in a backyard were living in that same type of dwelling five years ago. However, as already noted, that data does not necessarily imply the household lives in the same dwelling, or in the same location. Further, given the poor condition of many shacks (discussed in Section 4.6 below) and the vulnerability of many settlements to fire and flooding, it is entirely plausible that many shacks are completely rebuilt frequently²⁸.

²⁶ For all South African households in shacks not in backyards, the proportion is also 89%.

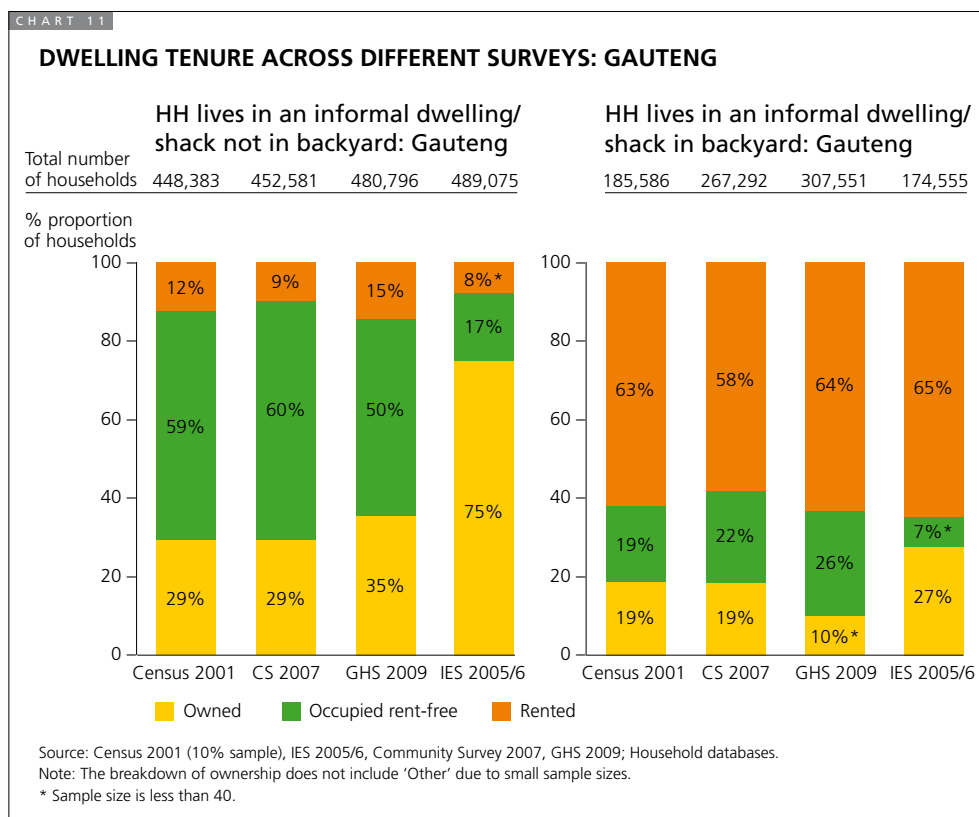
²⁷ It would be unsurprising if many households, particularly those that rent their dwellings or those that occupy older dwellings, do not know when their dwellings were constructed. In such cases, the questionnaire directs respondents to provide a best estimate. There is no indicator in the data as to whether the household has estimated the answer or knows the answer.

²⁸ The exact survey question is: 'when was this dwelling originally built?'. Enumerators are instructed to 'mark the period in which the dwelling was completed, not the time of later remodeling, additions or conversions. If the year is not known, give the best estimate.' It is not entirely clear how a household who has recently rebuilt its shack following its destruction in a fire would answer the question. Does the year in which this dwelling was originally built refer to the original dwelling or to the rebuilt dwelling?

The survey data indicates that shacks not in backyards tend to be older than backyard shacks as summarised below. This corresponds to trend data relating to main dwelling types which indicates a higher growth rate for backyard shacks compared to shacks not in a backyard. This in turn may reflect increased vigilance on the part of municipal officials and a greater determination to prevent the creation of new informal settlements. Alternatively, it may reflect sample biases.



Data on tenure status can also provide an indication of permanence. The primary survey categories include rental, ownership (with or without a mortgage or other form of finance) and rent free occupation. Survey data on tenure from various data sources is summarised below. Broadly speaking, data from the 2001 Census, the 2007 Community Survey and the 2009 General Household Survey paint a similar picture. These sources indicate that while rental is relatively uncommon for shacks not in backyards (in contrast to backyard shacks where rentals dominate) a larger proportion of households say they occupy their dwelling rent-free rather than own their dwelling. Data from the Income and Expenditure Survey differs markedly. It is not clear why this is the case.



Data on tenure status can be difficult to interpret. On the one hand those who say they own their dwellings may be communicating a strong sense of belonging and permanence despite the informal nature of the dwelling. Alternatively those who say they own their dwellings may simply be referring to their ownership of the building materials used to construct their dwellings. While some respondents who own the physical materials used to build their dwellings, but not the land on which it is located, may indicate they occupy their dwellings rent free, others may justifiably indicate that they own their shacks. Data on rentals is also difficult to interpret. Some households who say they rent their shacks may own the building materials but rent the land; if they were to be evicted from the land they would still retain possession of the dwelling materials. Other renter households may rent both the structure and the land.

4.5 Housing waiting lists and subsidy housing

According to the 2009 GHS, 215,890 (45%) of households in shacks not in backyards have at least one member on the waiting list for an RDP or state subsidised house. Conversely, of the 660,543 households with at least one member on the housing waiting list, one third live in shacks not in backyards, 38% live in a dwelling/structure on a separate stand, 15% in a backyard shack and 7% in a backyard dwelling/house/room. More than 50% of Gauteng households in shacks not in backyards have been on the waiting list for five or more years.

Data from the 2009 GHS explores whether any household members have received a government housing subsidy. For households living in shacks not in backyards a very low percentage (4%) report having received a subsidy. Of course many households living in informal settlements that have received a subsidy are unlikely to own up to this.

Data from the same survey can be used to explore how many households who live in shacks not in backyards might be eligible to obtain a subsidised house. Criteria include a household income of less than R3,500 per month, a household size of more than one individual, no ownership of another dwelling, and no previous housing subsidy received. Using these criteria, around 187,000 Gauteng households living in shacks not in backyards (39% of households in this category) appear to qualify to be on the waiting list.

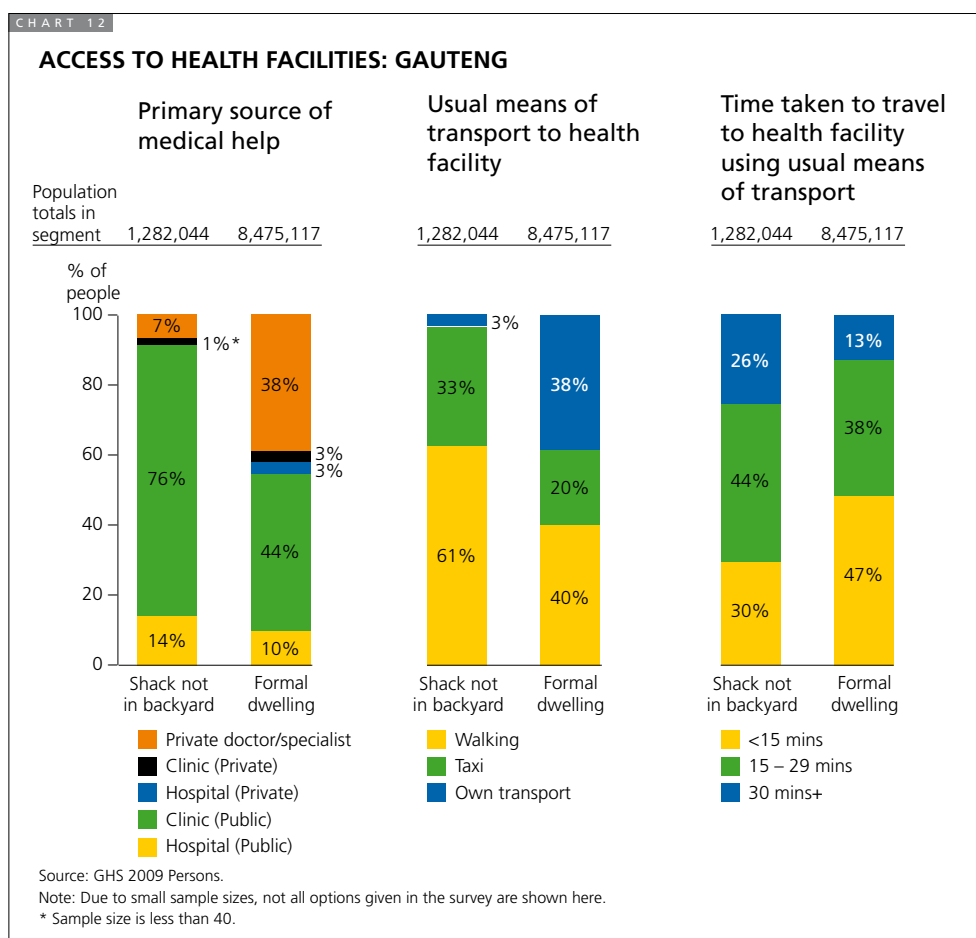
When interpreting this data it is important to recall the definition of households used in surveys. Households are not necessarily stable units nor are they necessarily comprised of individuals who would choose to live together if alternative accommodation was available. It is therefore plausible that some households may reconstitute themselves if one current household member were to obtain a subsidised house.

4.6 Health and vulnerability

The 2009 GHS indicates that approximately 21% of individuals who live in a shack not in a backyard say they have suffered from an illness or injury in the past month. This is not noticeably different to the disease burden reported by those living in formal dwellings. Of course the subjective 'norm' may differ across communities. More affluent individuals living in formal dwellings in well-serviced neighbourhoods who are generally in good health may have a lower 'sickness threshold'; the symptoms they experience when they report being ill may not warrant a mention by an individual whose immunity is generally compromised. It should also be noted that there may be an age skew; those who live in informal settlements are on average younger.

Holding other things constant, one should therefore expect a lower burden of disease for those living in shacks not in backyards.

Those living in shacks not in backyards are more likely than those who live in formal dwellings to use public clinics as their primary source of medical help. About 60% walk to their medical facility and three quarters take less than 30 minutes to get there using their usual means of transport. This is not noticeably different from those who live in formal dwellings. Once again a word of caution is in order; the data may be biased towards better established dwellings that have access to facilities.



Contrary to strong anecdotal evidence, respondents who live in shacks not in backyards in Gauteng appear to be only slightly more likely to report being a victim of crime compared to other households. 24% of households in shacks not in backyards have a member who was a victim of crime in the last year, slightly higher than 21% for the province as a whole.

The data on crime is incomplete – while it records whether there has been an incident it does not explore how many incidents have taken place. Those who live in shacks not in backyards who have been victims of crime may be targeted more often than victims who live in other dwellings. It is also plausible that those who live in shacks not in backyards might be more reluctant than other households to report having been a victim of crime. For instance, they may not want to draw the attention of law enforcement officials to their area given their own illegal status. Alternatively the lack of privacy within informal settlements may increase respondents' concern that neighbours (or the perpetrators of crime) might overhear their conversations with enumerators.

Another critical issue within informal settlements relates to risk of fire and flooding; the higher the density of the settlements and poorer the quality of building materials the greater the risk. None of the nationally representative surveys explore past experience of such events, exposure to these risks or ability to mitigate these risks should they occur. However there is some survey data relating to the durability of the dwelling structure. According to the GHS, 62% of households living in shacks not in backyards in Gauteng live in dwellings where the conditions of the walls or the roof is weak or very weak. While this is somewhat higher than for households who live in backyard shacks, it is noticeably higher than the corresponding percentage for households who

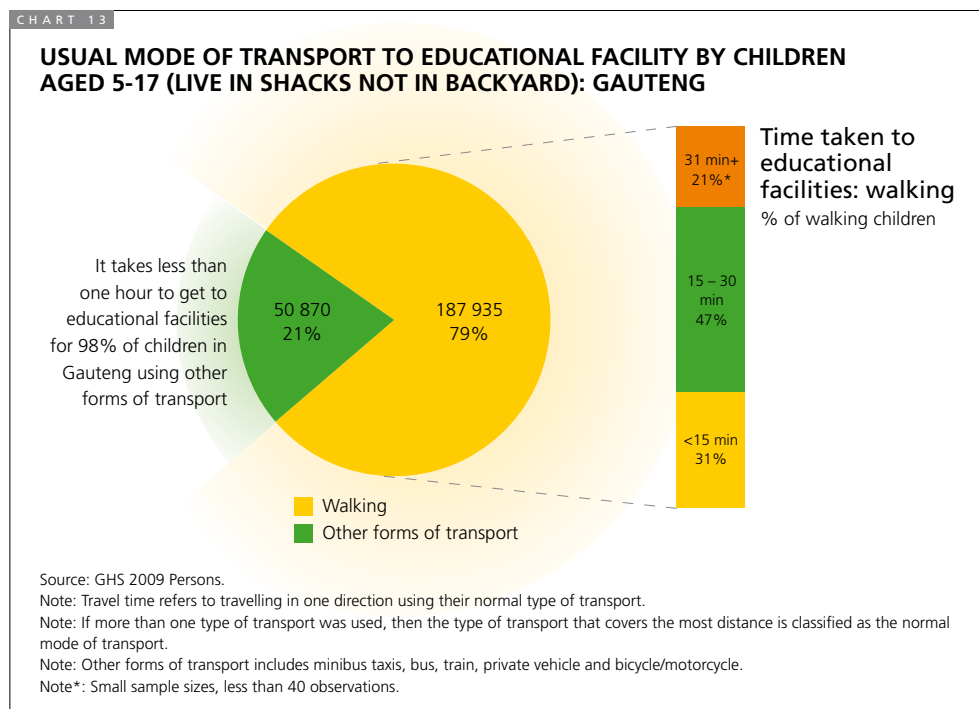
live in traditional dwellings (34% have weak or very weak walls or roofs) and formal housing²⁹ (where the corresponding statistic is 7%).

4.7 Education

In 2001, 14% of Gauteng adults aged 18 and above living in informal settlement EAs had no schooling; 17% had a Matric and a further 2% completed Technikon, University or other Post Matric.

According to the 2009 GHS, four out of five adults aged 18 and above living in shacks not in backyards have not completed matric. 6% have no schooling. Only 5% of adults in shacks not in backyards have completed Technikon, University or other Post Matric. School attendance for children under the age of 18 living in shacks not in backyards in Gauteng is slightly lower than for the province as a whole³⁰; 86% of children aged 5 to 18 who live in shacks not in backyards go to school compared to the provincial average of 93%³¹. A more noticeable gap is evident for younger children; 26% of children aged 0-4 living in shacks not in backyards currently attend an Early Childhood Development Centre (ECD) compared to 42% for the province as a whole while.

79% of school-going children who live in shacks not in backyards walk to school, the vast majority in under 30 minutes. As has been highlighted above, a word of caution is required in interpreting this data given potential biases in the sample design towards more established settlements. There is no data to determine whether these schools were built to service a newly created informal settlement or whether the school was originally built to meet the needs of more formal communities in the vicinity. In the case of the latter, the existence of a school may have been part of the impetus for the creation of an informal settlement.



²⁹ Formal housing includes dwelling/house or brick structure on a separate stand/yard, flat/apartment in a block of flats, room/flatlet on a property or a larger dwelling/servants quarters, town/cluster/semi-detached house, dwelling/house/flat/room in backyard.

³⁰ Attendance of Gauteng children in shacks not in backyards aged 5 to 17 years at an educational institution is 82% for ages 5-10, 99% for ages 11-14 and 84% for ages 15-17. For all Gauteng children attendance levels are 92%, 99% and 95% respectively.

³¹ 26% of children in South Africa aged 0-4 living in shacks not in backyards currently attend an Early Childhood Development Centre (ECD) compared to 29% for the country as a whole while 88% of children in South Africa aged 5 to 18 who live in shacks not in backyards go to school compared to the national average of 93%.

PART 5

Profiling informal settlements in the City of Johannesburg

5.1 Basic living conditions and access to services

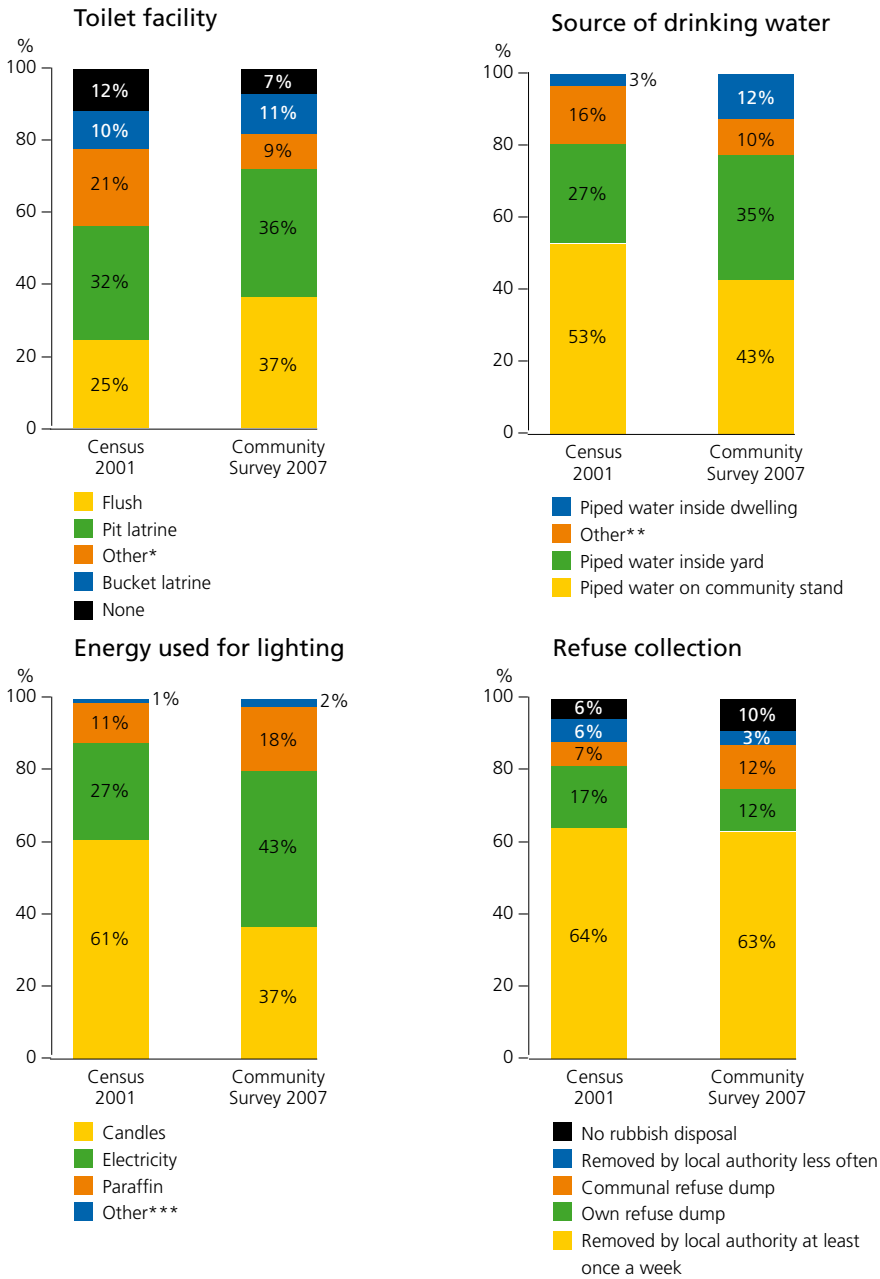
5.1.1 Household-level data

In 2001, 17% of City of Johannesburg households living in informal settlement EAs had piped water in their dwelling or on their yard. A further 40% could obtain piped water within 200 metres of their dwellings. 30% had access to piped water in excess of 200 metres from their dwellings (there is no indication of how far away the water source is) while 14% had no access at all. 20% of households in informal settlement EAs used flush toilets, 28% used bucket latrines, 27% used pit latrines and 11% made use of chemical toilets; the remaining 14% had no access to toilet facilities. 12% of households in informal settlement EAs used electricity for lighting and 61% had their refuse removed by the local authority.

Key trends relating to access to services for households living in shacks not in backyards are summarised in the chart on the following page.

CHART 14

ACCESS TO SERVICES: HOUSEHOLD LIVES IN SHACK NOT IN BACKYARD THE CITY OF JOHANNESBURG



Source: Census 2001 and Community Survey 2007 HH.

* Other toilet facilities includes Chemical toilet and Dry toilet facility.

** Other water source includes Borehole, Flowing water, Stagnant water, Well, Spring and Other.

*** Other energy sources includes Gas, Solar and Other.

Note: In the 2007 CS, refuse removed by local authority also includes refuse removed by private company.

Access to services appears to have improved noticeably between 2001 and 2007; the proportion of households who live in shacks not in backyards who say they have no toilet facilities declined from 12% in 2001 to 7% in 2007 while access to flush toilets increased from 25% to 37%. Drinking water access improved while use of electricity for lighting increased from 27% to 43% between 2001 and 2007. An exception is refuse removal. In 2001, 70% of households that live in shacks not in a backyard had their refuse removed by the local authority. In 2007, 66% had their refuse removed by the local authority or a private company.

As has been highlighted, a word of caution is required in interpreting this data given potential biases in the sample design towards more established settlements where service provision is better.

5.1.2 Settlement-level data

As described previously, the City of Johannesburg has a detailed database comprising 180 informal settlements across all regions of the City. The latest available dataset was published in May 2010. In many cases maps and aerial photographs are available over time. Settlement data in this database includes access to services (water, sanitation and refuse). Available data is summarised below:

Water	Number of settlements	Percentage of settlements	Number of shacks	Percentage of shacks
Communal standpipes/taps	103	58%	84 554	43%
Combination	25	14%	21 924	11%
Water tanks/tankers	22	12%	26 453	14%
Illegal yard connections	10	6%	12 110	6%
None	5	3%	2 069	1%
Taps (household/individual)	4	2%	28 522	15%
Other	1	1%	1 493	1%
(No data)	10	6%	18 349	9%
Total	179	100%	195 474	100%

Refuse	Number of settlements	Percentage of settlements	Number of shacks	Percentage of shacks
Bags	93	52%	96 103	49%
Bulk/skips	25	14%	38 837	20%
Unknown	21	12%	5 140	3%
Bags and skips	18	10%	12 576	6%
240 ltr bins	14	8%	32 437	17%
None	5	3%	3 658	2%
(No data)	4	2%	6 723	3%
Total	180	100%	195 474	100%

Sanitation	Number of settlements	Percentage of settlements	Number of shacks	Percentage of shacks
Combination	44	25%	63 612	33%
VIP	43	24%	17 947	9%
Chemical toilets	40	22%	34 055	17%
Chemical pit/pit latrine	18	10%	42 563	22%
None	10	6%	7 916	4%
Water borne	9	5%	17 349	9%
Ablution block	7	4%	1 799	1%
Communal ablution	2	1%	2 400	1%
Level 3	2	1%	2 100	1%
Aquaprivies	1	1%	2 204	1%
Other	1	1%	230	0%
(No data)	2	1%	3 299	2%
Total	179	100%	195 474	100%

Source: City of Johannesburg.

5.2 Profile of households and families

In 2001, 26% of City of Johannesburg households living in informal settlement EAs were single person households. The average household size was 2.8. 24% of households were living in over-crowded conditions. The majority of households were headed by males (68%).

According to the 2007 Community Survey, 21% of households in City of Johannesburg living in shacks not in backyards comprise a single individual. 34% comprise four or more persons. The average household size of households living in shacks not in backyards is 3.1 (compared to 3.4 for those living in formal dwellings). 28% of City of Johannesburg households living in shacks not in backyards live in over-crowded conditions (compared to 20% of Gauteng households living in shacks not in backyards)³².

Household heads in shacks not in backyards are also noticeably younger than those in formal dwellings; 38% are under the age of 35 compared to 26% in households who live in formal dwellings.

122,000 children under the age of 18 live in shacks not in backyards corresponding to 32% of the total City of Johannesburg population who live in such dwellings. According to the Community Survey 48% of households in shacks not in backyards have one or more children.

5.3 Employment

Data from the 2004 Labour Force Survey indicates an unemployment rate of 37% for adults living in shacks not in backyards in the City of Johannesburg, higher than the municipal unemployment rate of 26%. That same data source indicates that 32% of employed individuals living in shacks not in backyards in City of Johannesburg are employed in the informal sector, a proportion that is above the municipal average (18%). 48% are employed in the formal sector (72% of them are permanently employed) and a further 18% are domestic workers³³.

³² A household is considered over-crowded if there are more than two people per room.

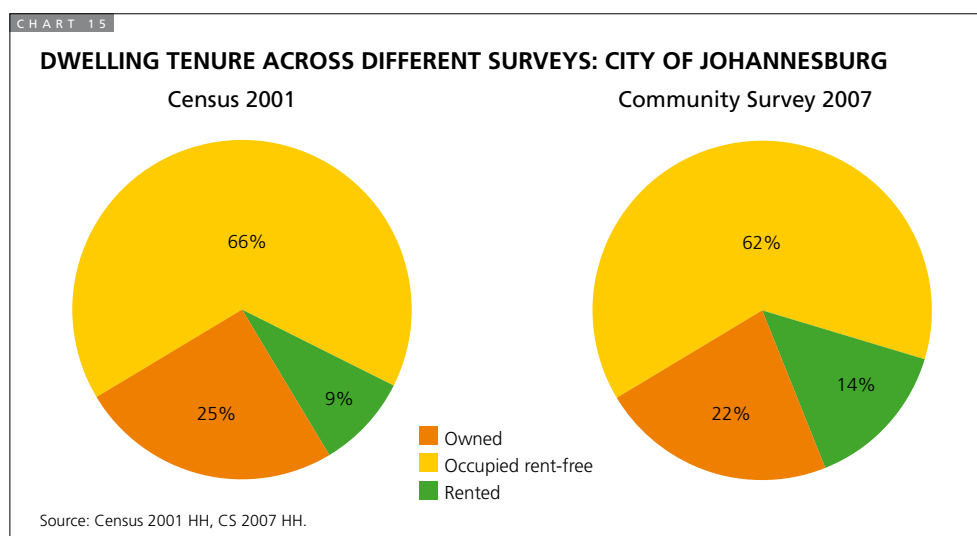
³³ Sample sizes are too small to assess employment in agriculture.

5.4 Age of settlements and permanence

In 2001, the majority of households living in informal settlement EAs in City of Johannesburg (66%) were living there five years previously. In 2001, 20% of households living in informal settlement EAs claimed to own their dwelling; 6% rented and 74% occupied the dwelling rent-free. 20% of households in informal settlement EAs had another dwelling aside from their main dwelling.

Analysis of data from the 2007 Community Survey indicates that the majority of people living in a shack not in a backyard in 2007 had been living there for an extended period of time. Across the municipality, 66% said they had not moved since 2001.

Data on tenure status can also provide an indication of permanence. The primary survey categories include rental, ownership (with or without a mortgage or other form of finance) and rent free occupation. Data from the 2001 Census and 2007 Community Survey indicates that while rental is relatively uncommon for shacks not in backyards (in contrast to backyard shacks where rentals dominate) a larger proportion of households say they occupy their dwelling rent-free rather than own their dwelling.



5.5 Education

In 2001, 14% of City of Johannesburg adults aged 18 and above living in informal settlement EAs had no schooling; 16% had a Matric, and a further 1% completed Technikon, University or other Post Matric.

In 2001, 13% of adults aged 18 and above living in shacks not in backyards had no schooling; 17% had a Matric and a further 2% completed Technikon, University or other Post Matric. According to the 2007 Community Survey, 6% had no schooling, 15% had a Matric, and a further 2% completed Technikon, University or other Post Matric. School attendance in 2007 for children under the age of 18 living in shacks not in backyards is lower than for the municipality as a whole (61% versus 70%).

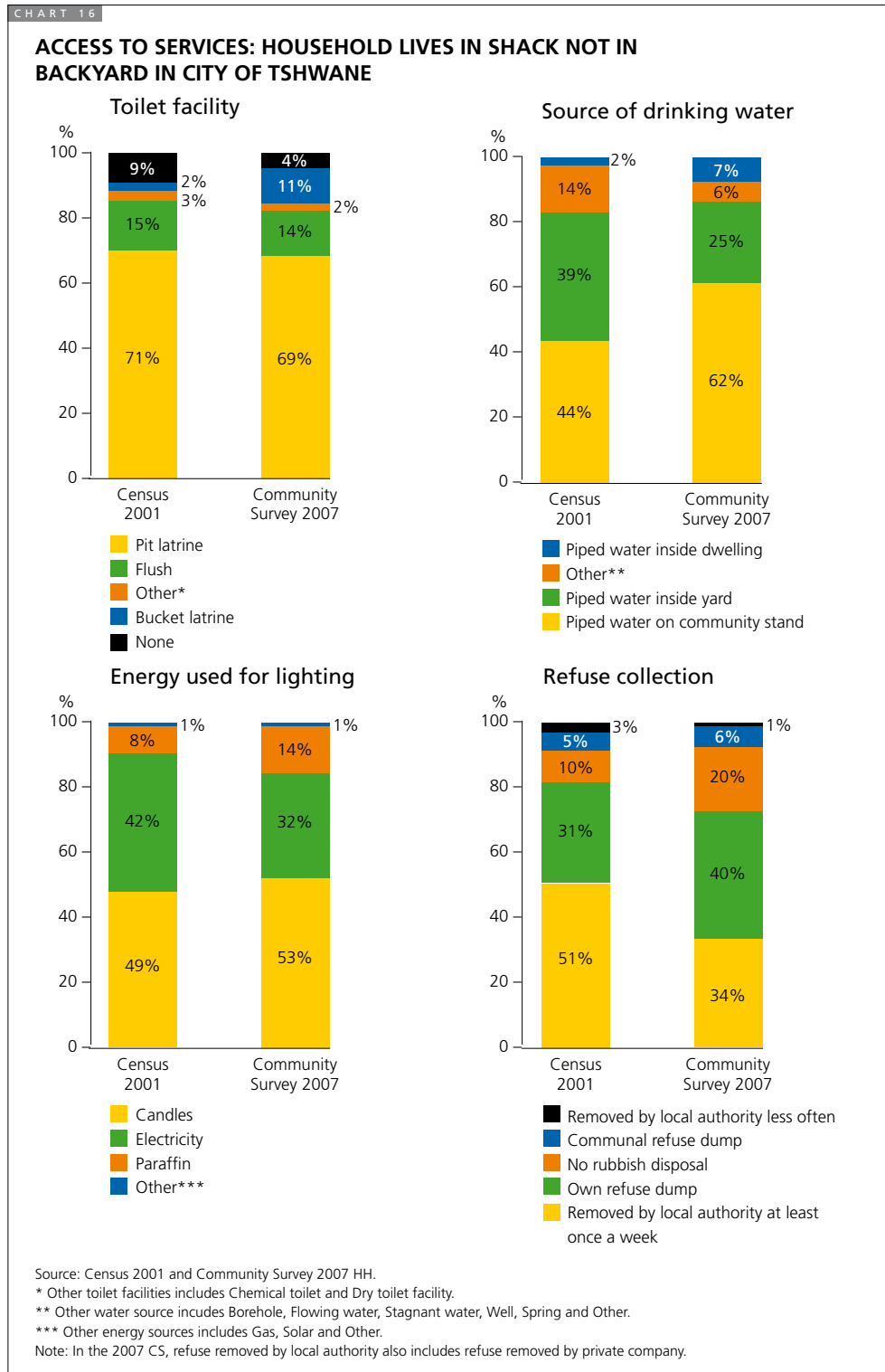
PART 6

Profiling informal settlements in City of Tshwane

6.1 Basic living conditions and access to services

In 2001, 29% of City of Tshwane households living in informal settlement EAs had piped water in their dwelling or on their yard. A further 23% could obtain piped water within 200 metres of their dwellings. 33% had access to piped water in excess of 200 metres from their dwellings (there is no indication of how far away the water source is) while 15% had no access at all. 10% of households in informal settlement EAs used flush toilets, 7% used bucket latrines, 68% used pit latrines and 4% made use of chemical toilets; the remaining 11% had no access to toilet facilities. 32% of households in informal settlement EAs used electricity for lighting and 58% had their refuse removed by the local authority.

Key trends relating to access to services for households living in shacks not in backyards are summarised in the chart below.



Access to services appears to have declined between 2001 and 2007. Drinking water access declined while use of electricity for lighting fell from 42% to 32% between 2001 and 2007. In 2001, 64% of households that live in shacks not in a backyard in the City of Tshwane had their refuse removed by the local authority. In 2007, 34% had their refuse removed by the local authority or a private company. An exception is sanitation; the proportion of households who live in shacks not in backyards who say they have no toilet facilities declined from 9% in 2001 to 4% in 2007.

As has been highlighted, a word of caution is required in interpreting this data given potential biases in the sample design.

6.2 Profile of households and families

In 2001, 20% of City of Tshwane households living in informal settlement EAs were single person households. The average household size was 3.2. 18% of households were living in over-crowded conditions. The majority of households were headed by males (68%).

According to the 2007 Community Survey, 23% of households living in shacks not in backyards comprise a single individual. 35% comprise four or more persons. The average household size of households in shacks not in backyards is 3.1 (compared to 3.5 for those living in formal dwellings). 15% of households living in shacks not in backyards live in over-crowded conditions (compared to 20% of Gauteng households living in shacks not in backyards)³⁴.

Household heads in shacks not in backyards are also noticeably younger than those in formal dwellings; 42% are under the age of 35 compared to 24% in households who live in formal dwellings.

136,000 children under the age of 18 live in shacks not in backyards corresponding to 32% of the total population who live in such dwellings. According to the Community Survey 48% of households in shacks not in backyards have one or more children.

6.3 Employment

Data from the 2004 Labour Force Survey indicates an unemployment rate of 18% for adults living in shacks not in backyards in the City of Tshwane, the same as the municipal unemployment rate. That same data source indicates that 26% of employed individuals living in shacks not in backyards are employed in the informal sector, a proportion that is above the municipal average (11%). 59% are employed in the formal sector (43% of these are permanently employed) and a further 15% are domestic workers³⁵.

³⁴ A household is considered over-crowded if there are more than two people per room.

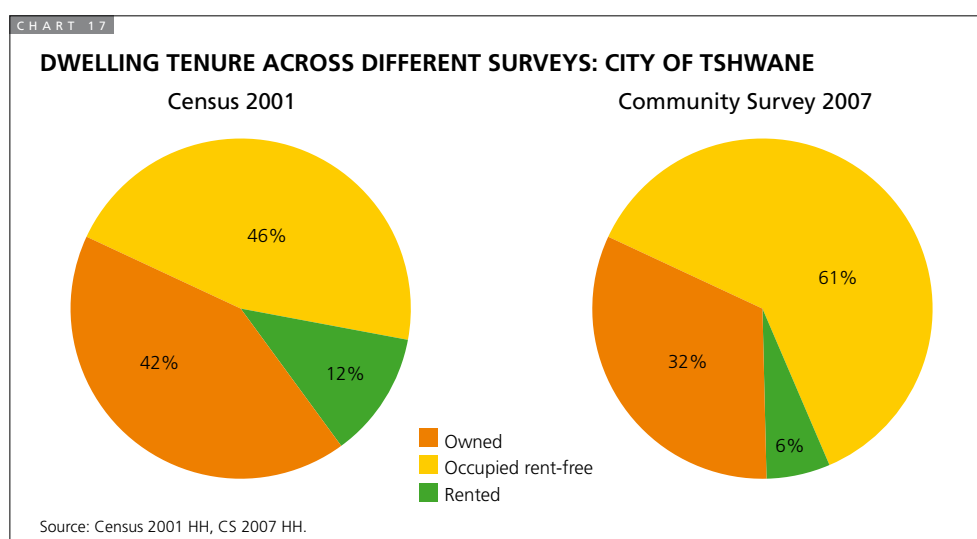
³⁵ Sample sizes are too small to assess employment in agriculture.

6.4 Age of settlements and permanence

In 2001, the majority of households living in informal settlement EAs in the City of Tshwane (62%) were living there five years previously. In 2001, 35% of City of Tshwane households living in informal settlement EAs claimed to own their dwelling; 8% rented and 56% occupied the dwelling rent-free. 15% of City of Tshwane households in informal settlement EAs had another dwelling aside from their main dwelling.

Analysis of data from the 2007 Community Survey indicates that a large portion of people living in the City of Tshwane in a shack not in a backyard in 2007 had been living there for an extended period of time. Across the municipality, 49% said they had not moved since 2001.

Data on tenure status can also provide an indication of permanence. The primary survey categories include rental, ownership (with or without a mortgage or other form of finance) and rent free occupation. Data from the 2001 Census and 2007 Community Survey indicates that while rental is relatively uncommon for shacks not in backyards (in contrast to backyard shacks where rentals dominate) a larger proportion of households say they occupy their dwelling rent-free rather than own their dwelling.



6.5 Education

In 2001, 12% of City of Tshwane adults aged 18 and above living in informal settlement EAs had no schooling; 22% had a Matric and a further 2% completed Technikon, University or other Post Matric.

In 2001, 11% of adults aged 18 and above living in shacks not in backyards had no schooling; 21% had a Matric and a further 3% completed Technikon, University or other Post Matric. According to the 2007 Community Survey, 5% had no schooling; 23% had a Matric and a further 2.5% completed Technikon, University or other Post Matric. School attendance in 2007 for children under the age of 18 living in shacks not in backyards is lower than for the municipality as a whole (65% versus 72%).

PART 7

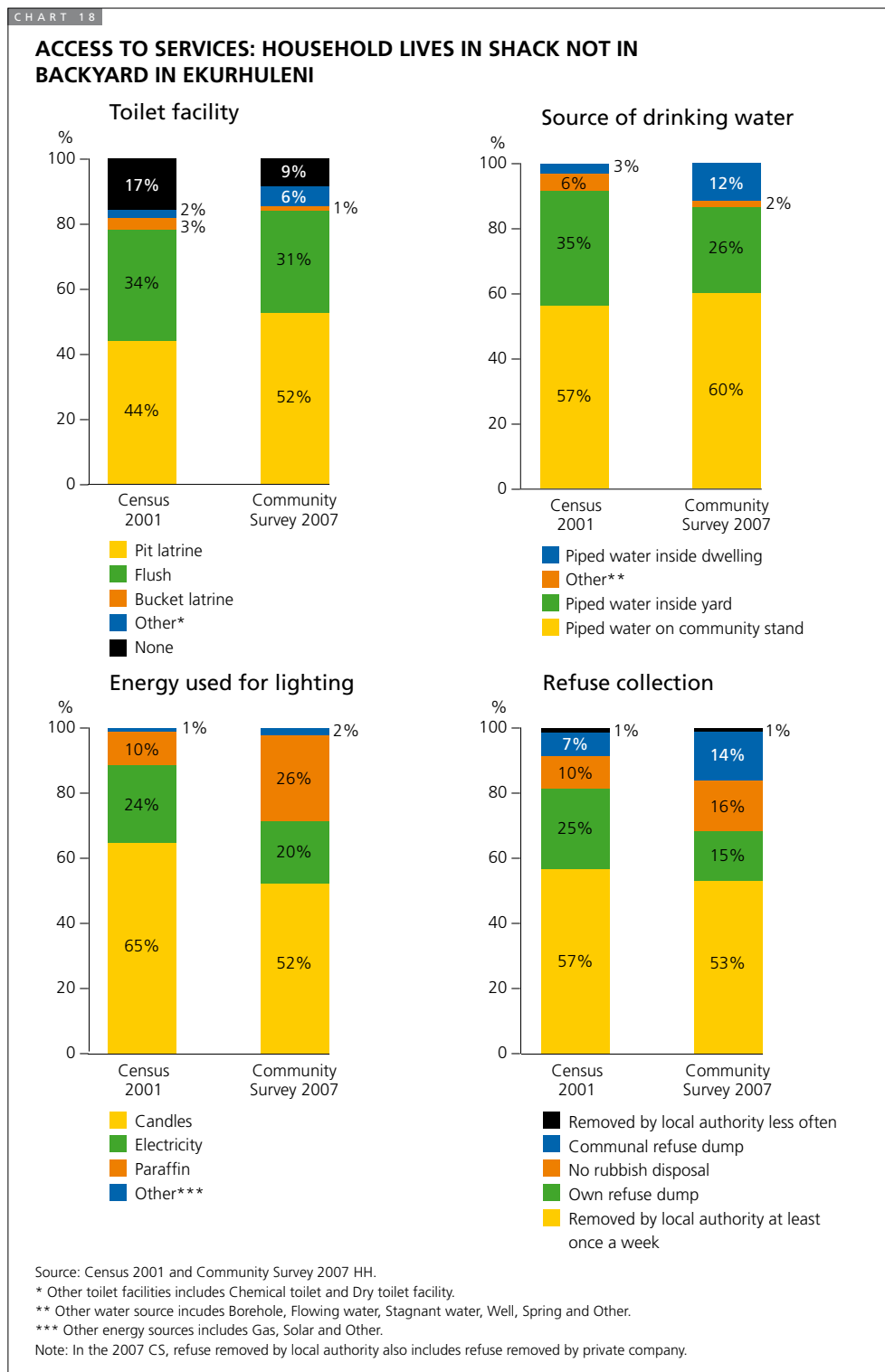
Profiling informal settlements in Ekurhuleni

7.1 Basic living conditions and access to services

7.1.1 Household-level data

In 2001, 34% of Ekurhuleni households living in informal settlement EAs had piped water in their dwelling or on their yard. A further 31% could obtain piped water within 200 metres of their dwellings. 29% had access to piped water in excess of 200 metres from their dwellings (there is no indication of how far away the water source is) while 6% had no access at all. 30% of households in informal settlement EAs used flush toilets, 3% used bucket latrines, 47% used pit latrines and 2% made use of chemical toilets; the remaining 17% had no access to toilet facilities. 15% of households in informal settlement EAs used electricity for lighting and 54% had their refuse removed by the local authority.

Key trends relating to access to services for households living in shacks not in backyards are summarised in the chart below:



Access to services appears to have declined between 2001 and 2007. In 2001, 38% of households living in shacks not in backyards had access to piped water in their dwelling or on their yard, the same proportion as in 2007. Use of electricity for lighting decreased from 24% to 20% between 2001 and 2007. In 2001, 59% of households that live in shacks not in a backyard had their refuse removed by the local authority. In 2007, 53% had their refuse removed by the local authority or a private company. An exception is sanitation; the proportion of households who live in shacks not in backyards who say they have no toilet facilities declined from 17% in 2001 to 9% in 2007.

As has been highlighted, a word of caution is required in interpreting this data given potential biases in the sample design.

7.1.2 Settlement-level data

As described previously, Ekurhuleni has a detailed database comprising 114 informal settlements across the municipality. Settlement data in this database includes services (water, sanitation and lighting), vulnerabilities (such as flooding and high densities), and other issues (such as blocked toilets).

All of the settlements have water available within 200m minimum walking distance and have either pit latrines or chemical toilets (the chemical toilet roll-out was rejected by some of the communities). Access to other services varies due to locality, but an initiative has been taken to ensure communities living in informal settlements get access to other municipal services. If there is no information under water, sanitation, and lighting the data is still outstanding, or in the case of Weltevreden there is an eviction order being issued. Most do not have lighting. Available data is summarised below:

Water	Number of settlements	Percentage of settlements	Number of households	Percentage of households
Standpipes	96	84%	150 612	94%
Water tanks	5	4%	3 502	2%
Ablution block	1	1%	104	0%
Private	1	1%	717	0%
Pvt	1	1%	30	0%
Standpipes – periphery only	1	1%	3 038	2%
(No data)	9	8%	2 333	1%
Total	114	100%	160 336	100%

Sanitation	Number of settlements	Percentage of settlements	Number of households	Percentage of households
Pit latrines	65	57%	64 301	40%
Chemical toilets	46	40%	88 774	55%
Waterborne toilets	2	2%	6 604	4%
Dry sanitation	1	1%	657	0%
Total	114	100%	160 336	100%

Source: Ekurhuleni Municipality.

7.2 Profile of households and families

In 2001, 25% of Ekurhuleni households living in informal settlement EAs were single person households. The average household size was 2.9. 18% of households were living in over-crowded conditions. The majority of households were headed by males (70%).

According to the 2007 Community Survey, 26% of households living in shacks not in backyards comprise a single individual. 33% comprise four or more persons. The average household size of households living in shacks not in backyards is 3.0 (compared to 3.6 for those living in formal dwellings). 18% of households living in shacks not in backyards live in over-crowded conditions (compared to 20% of Gauteng households living in shacks not in backyards)³⁶.

Household heads in shacks not in backyards are also noticeably younger than those in formal dwellings; 39% are under the age of 35 compared to 24% in households who live in formal dwellings.

127,000 children under the age of 18 live in shacks not in backyards corresponding to 32% of the total population who live in such dwellings. According to the Community Survey 45% of households in shacks not in backyards in the municipality have one or more children.

7.3 Employment

Data from the 2004 Labour Force Survey indicates an unemployment rate of 36% for adults living in shacks not in backyards, above the municipal unemployment rate of 29%. That same data source indicates that 32% of employed individuals living in shacks not in backyards are employed in the informal sector, a proportion that is above the municipal average (17%). 54% are employed in the formal sector (three quarters of them are permanently employed) and a further 14% are domestic workers³⁷.

7.4 Age of settlements and permanence

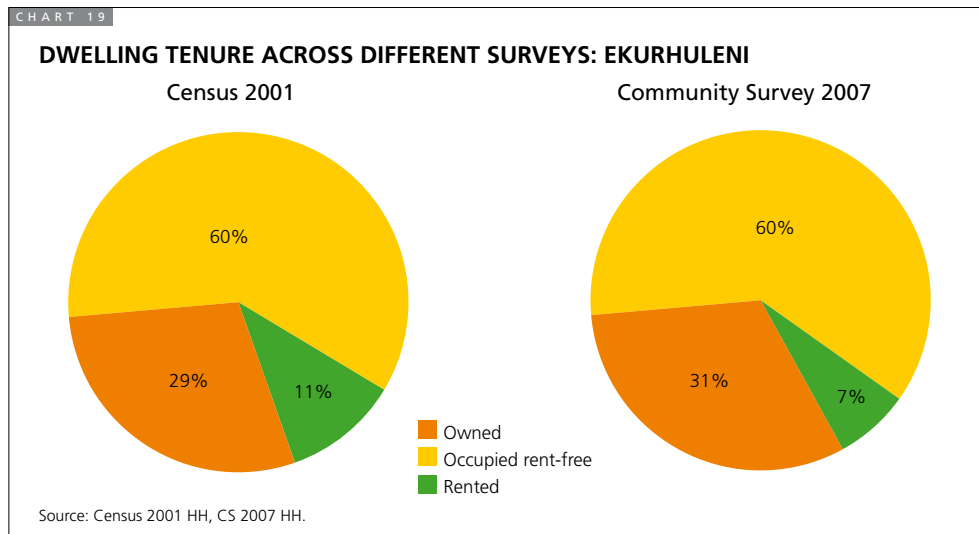
In 2001, the majority of households living in informal settlement EAs in Ekurhuleni (67%) were living there five years previously. In 2001, 27% of households living in informal settlement EAs claimed to own their dwelling; 11% rented and 61% occupied the dwelling rent-free. 17% of households in informal settlement EAs had another dwelling aside from their main dwelling.

Analysis of data from the 2007 Community Survey indicates that the majority of people living in a shack not in a backyard in 2007 had been living there for an extended period of time. Across the municipality, 68% said they had not moved since 2001.

Data on tenure status can also provide an indication of permanence. The primary survey categories include rental, ownership (with or without a mortgage or other form of finance) and rent free occupation. Data from the 2001 Census and 2007 Community Survey indicates that while rental is relatively uncommon for shacks not in backyards (in contrast to backyard shacks where rentals dominate) a larger proportion of households say they occupy their dwelling rent-free rather than own their dwelling.

³⁶ A household is considered over-crowded if there are more than two people per room.

³⁷ Sample sizes are too small to assess employment in agriculture.



7.5 Education

In 2001, 14% of Ekurhuleni adults aged 18 and above living in informal settlement EAs had no schooling; 17% had a Matric and a further 2% completed Technikon, University or other Post Matric.

In 2001, 15% of adults aged 18 and above living in shacks not in backyards had no schooling; 16% had a Matric and a further 2% completed Technikon, University or other Post Matric. According to the 2007 Community Survey, 7% had no schooling; 15% had a Matric and a further 1% completed Technikon, University or other Post Matric. School attendance in 2007 for children under the age of 18 living in shacks not in backyards is lower than for the municipality as a whole (62% versus 71%).

PART 8

Conclusions

By their nature, informal settlements are difficult to monitor. They can change more rapidly than the systems designed to monitor them. Nevertheless, there is some data available.

The schema below summarises some of the most common indicators associated with individuals, households, dwellings and settlements. While the importance of the indicators depends on the analysis required, those indicators in red are thought to be particularly important to track over time in order to assess priorities for upgrading purposes. To populate this data, a range of data sources is required, including photography, household surveys, municipal data relating to services provided and available infrastructure as well as location and capacity indicators relating to facilities such as schools, hospitals and law enforcement.

CHART 20			
INFORMAL SETTLEMENT INDICATORS			
Individuals	Household level	Dwelling level	Settlement level
<ul style="list-style-type: none"> • Number • Age • Gender • Place of birth • Highest level of education • School attendance • Occupation • Marital status • Spouse live in the dwelling • Relationship to household head • Perception of key risks • Experience of key risks • Health levels • Experience of crime • Date moved to the settlement • Date moved into the dwelling 	<ul style="list-style-type: none"> • Number of households • Household size • Household composition • Household income • Year household moved to the settlement • Year household moved into the dwelling • Household level access to water, sanitation, electricity and refuse removal • Rental/ownership of land • Basis of land ownership (formal title or other) • Rental/ownership of dwelling • Number of people employed in the household • Number of grant recipients in the household 	<ul style="list-style-type: none"> • Number of dwellings • Dwelling size (rooms and squ. meterage) • Type of dwelling • Materials used to construct the dwelling 	<ul style="list-style-type: none"> • Number of settlements • Boundary and square meterage • Dwelling count and densities • Household count • Key community based organisations active in the settlement • Facilities, density and capacity indicators within/ near settlement <ul style="list-style-type: none"> – Health – Safety – Social services – Education – Transport and roads – Commercial facilities • Proximity to and capacity of bulk service infrastructure • Burden of disease (as per health records) • Reported crime (as per police records or community forums) • Reported incidents of fire • Reported incidents of flooding • Land ownership • Geo technical characteristics
Household survey	Household survey	Household survey Aerial photography	Satellite photography Aerial photography Household surveys Municipal data Other agency data

PART 9

Contacts and references

List of key contacts

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 Rob Anderson, Statistics South Africa (email and telephone)
 Stuart Martin, GTI (email and personal interview)

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PART 10

Appendix: Statistics South Africa Surveys

10.1 Community Survey 2007

The 2007 Community Survey, the largest survey conducted by Stats SA, was designed to bridge the gap between the 2001 Census and the next Census scheduled for 2011. A total of 274,348 dwelling units were sampled across all provinces (238,067 completed a questionnaire, 15,393 were categorised as non-response and 20,888 were invalid or out of scope). There is some rounding of data (decimal fractions occurring due to weightings are rounded to whole numbers, therefore the sum of separate values may not equal the totals exactly) in deriving final estimates. In addition, imputation was used in some cases for responses that were unavailable, unknown, incorrect or inconsistent. Imputations include a combination of logical imputation, where a consistent value is calculated using other information from households, and dynamic imputation, where a consistent value is calculated from another person or household having similar characteristics.

Several cautionary notes on limitations in the data were included with the release of reports on national and provincial estimates in October 2007³⁸. The October 2007 release adjusted estimates of the survey at national and provincial levels to ensure consistency by age, population group and gender. Estimates at a municipal level were reviewed due to systematic biases (as a result of small sample sizes). These revisions used projected values from the 1996 and 2001 Censuses. Adjustments were made to the number of households separately to the number of individuals.

Direct estimates from the Community Survey are therefore not reliable for some municipalities. However, measurement using proportions rather than numbers is less prone to random error. Therefore the Community Survey is useful for estimating proportions, averages and ratios for smaller geographical areas.

10.2 General Household Survey

The target population of the General Household Survey consists of all private households in South Africa as well as residents in workers' hostels. The survey does not cover other collective living quarters such as students' hostels, old age homes, hospitals, prisons and military barracks. It is therefore representative of non-institutionalised and non-military persons or households in South Africa.

³⁸ More details on this can be found in the Community Survey statistical release provided by Stats SA (P0301.1).

The sample was selected by stratifying by province and then by district council. Primary Sampling Units (PSUs) were randomly selected from the strata and then Dwelling Units were randomly selected from within the PSUs. For the 2007 GHS, a total of 34,902 households were visited across the country and 29,311 were successfully interviewed during face-to-face interviews. For the 2009 GHS, a total of 32,636 households were visited across the country and 25,361 were successfully interviewed during face-to-face interviews. To arrive at the final household estimate the observations were weighted up to be representative of the target population.

10.3 Income and Expenditure Survey 2005/6

The Income and Expenditure Survey is a survey of the income and expenditure patterns of 21,144 households. This survey was conducted by Stats SA between September 2005 and August 2006. It is based on the diary method of capture. It is the most comprehensive nationally representative source for data on household income; however income estimates in this survey are lower than estimates in the national income accounts reported by the Reserve Bank. The Analysis of Results report published by Stats SA highlights that respondents will under-report income 'either through forgetfulness or out of a misplaced concern that their reported data could fall into the hands of the taxation authority'³⁹. No adjustments have been made.

10.4 Census 2001

The Statistical Act in South Africa regulates the country's Censuses. In general a census should be conducted every five years unless otherwise advised by the Statistics Council and approved by the Minister in charge. The Act also allows the Minister to postpone a census. In the case of the census meant to follow that of 2001, a postponement was granted in order to examine the best approach to build capacity and available resources for the next census. Consequently the next Census will only take place in late 2011.

10.5 Enumerator Areas

All EAs, which are mapped during the dwelling frame and listing process for Census, have a chance to be selected for the master sample used in the Stats SA sample surveys. Once an EA is listed, the listing is maintained, and it has a chance to be selected for a survey based on the Stats SA stratification criteria. Thus, the EA is chosen regardless of the classification that was done in Census 2001.

³⁹ Statistics South Africa (2008), Income and Expenditure of Households 2005/2006: Analysis of Results, Report No. 01-00-01, 2008.

TABLE 7 2011 ENUMERATION AREA TYPES				
2011 EA types	EA land-use/zoning	Acceptable range in dwelling unit (DUs) count per EA	Ideal EA dwelling unit count (DUs)	Geographic size constraint
Formal residential	Single house; Town house; High rise buildings	136-166	151	None
Informal residential	Unplanned squatting	151-185	168	None
Traditional residential	Homesteads	124-151	137	None
Farms		65-79	72	<25km diameter
Parks and recreation	Forest; Military training ground; Holiday resort; Nature reserves; National parks	124-151	137	None
Collective living quarters	School hostels; Tertiary education hostel; Workers' hostel; Military barrack; Prison; Hospital; Hotel; Old age home; Orphanage; Monastery	>500	500	None
Industrial	Factories; Large warehouses; Mining; Saw Mill; Railway station and shunting area	113-139	126	<25 km ²
Smallholdings	Smallholdings/ Agricultural holdings	105-128	116	None
Vacant	Open space/ Restant	0	0	<100 km ²
Commercial	Mixed shops; Offices; Office park; Shopping mall CBD	124-151	137	<25 km ²

Source: Statistics South Africa.

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