

**N.i.D.S.**  
NATIONAL INCOME DYNAMICS STUDY

# Access to Household Services and Assets: Analysis using the NIDS Wave 1 Dataset

## Discussion Paper no. 4

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# 1. Introduction

The National Income Dynamics Study (NIDS) is the first national household panel study in South Africa, covering topics such as income and expenditure dynamics, determinants of changes in poverty and well-being; household composition and structure; fertility and mortality; migrancy and migrant strategies; labour market participation and economic activity; human capital formation, health and education; vulnerability and social capital. In 2008, about 7305 households and approximately 28 255 people across South Africa were interviewed as part of the NIDS Wave 1.<sup>1</sup>

The main objective of this paper is to provide an overview of the findings from the first wave of NIDS in terms of access to household services and assets. A secondary objective is to provide a comparison of the results from NIDS with those from comparable household surveys. At the time of writing, the 2008 General Household Survey (GHS) has not yet been released and the results from NIDS are therefore compared with findings from the 2006 and 2007 GHS. The GHS is a nationally representative household survey conducted annually since 2002 by Statistics South Africa. The aim of this survey is to capture information on living conditions of South African households in order to evaluate government programmes and projects. The survey covers education, health, the labour market, housing and household access to services and facilities, as well as household assets.

Section 2 provides an overview of access to public assets, using the NIDS dataset. Specifically, section 2.1 compares the results from the NIDS with those from the 2006 and 2007 GHS, while section 2.2 presents a more detailed overview of household characteristics as captured by NIDS. Section 2.3 analyses access to basic services by poor households in NIDS. Section 3 shifts the focus to household ownership of private assets. Section 3.1 compares the findings from NIDS with those from the 2006 and 2007 GHS, while section 3.2 provides a more detailed analysis of access to private assets using the NIDS data. Section 4 examines the access to private assets by poor households in NIDS. Section 5 concludes.

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<sup>1</sup> See <http://www.nids.uct.ac.za/about-us.html>

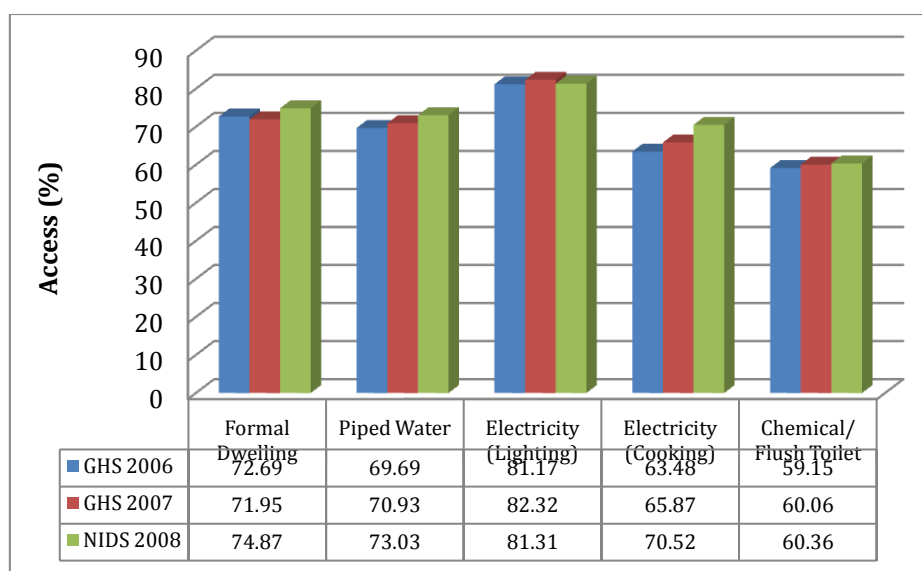
## 2. Access to Public Assets

### 2.1. Access to Public Assets in GHS 2006, GHS 2007 and NIDS 2008

Figure 1 provides a comparative overview of public asset and service access rates across two annual national representative datasets – the General Household Surveys (GHS) from 2006 and 2007- against the NIDS Wave 1. We attempt in doing so, principally to test the veracity of the NIDS estimates and to assess any significant difference in estimates. These access rates provided are simply the share of total households with access to the particular service.

At the aggregate, the access rates generated by NIDS compare relatively well with those from the 2006 and 2007 GHS. Household access to chemical/flush toilet displays the smallest difference across the three years, remaining steady at around 60 percent. In 2008, this means that about 8.3 million households had access to a chemical or a flush toilet. The use of electricity as source of energy for lighting also remains relatively constant over the three surveys, at between 81 and 82 percent. According to NIDS, just more than 11 million households used electricity as source of energy for lighting in 2008, whilst the estimates for the GHS 2006 and 2007 were 10.5 million and 10.9 million respectively.

**Figure 1: Access to public assets: 2006, 2007 and 2008**



Source: Statistics South Africa 2007, 2008 and NIDS 2009

Access to a formal dwelling was slightly higher in 2008 than in 2006 and 2007, whilst the difference in the access rates in 2007 and 2008 was statistically significant at the 95 percent

level<sup>2</sup>. In 2008, almost three-quarters of South African households (10.3 million households) lived in a formal dwelling<sup>3</sup>, while in 2006 and 2007 9.4 million and 9.5 million households lived in a formal dwelling. Access to piped water<sup>4</sup> was more than one percentage point higher in 2007 than in 2006 and more than two percentage points higher in 2008 than in 2007. According to the 2008 NIDS, just more than 73 percent of households (about ten million households) had access to piped water in 2008. In 2006 and 2007 the absolute number of households with access to piped water was 9 million and 9.4 million respectively. Again, the difference between the 2007 and 2008 access rates is statistically significant at the 95 percent level.

The variation in the use of electricity for cooking is the largest across the three years. The use of electricity as source of energy for cooking was almost five percentage points higher in 2008 than in 2007, and more than seven percentage points higher than in 2006. In terms of absolute numbers, this means that in 2007, 8.7 million households used electricity for cooking, while in 2008, 9.7 million households used electricity as source of energy for cooking.

Figure 2 below presents the access rates to our range of public services for African households. Again, access to chemical/flush toilets displays the least variation across the three years, with the rate varying between 48.3 and 50.9 percent. The difference between the access rates in 2007 (49.89) and 2008 (50.9) is not statistically significant. Use of electricity for lighting displays a similar pattern, with the rate relatively stable between 76.4 and 78 percent, and the difference between the rates in 2007 and 2008 again not statistically significant.

Access to formal dwellings amongst African individuals was higher in 2008 than in 2006 and 2007 and the difference between the rates is statistically significant. In 2008, almost 70 percent of African households lived in formal dwellings, in comparison with 66 percent in 2007. Access to piped water was more than four percentage points higher in 2008 than in 2006 and almost three percentage points higher in 2008 than in 2007, with the difference between the 2007 and 2008 rates statistically significant. In 2008, about 66.5 percent of African households had access to piped water either in the house or on site.

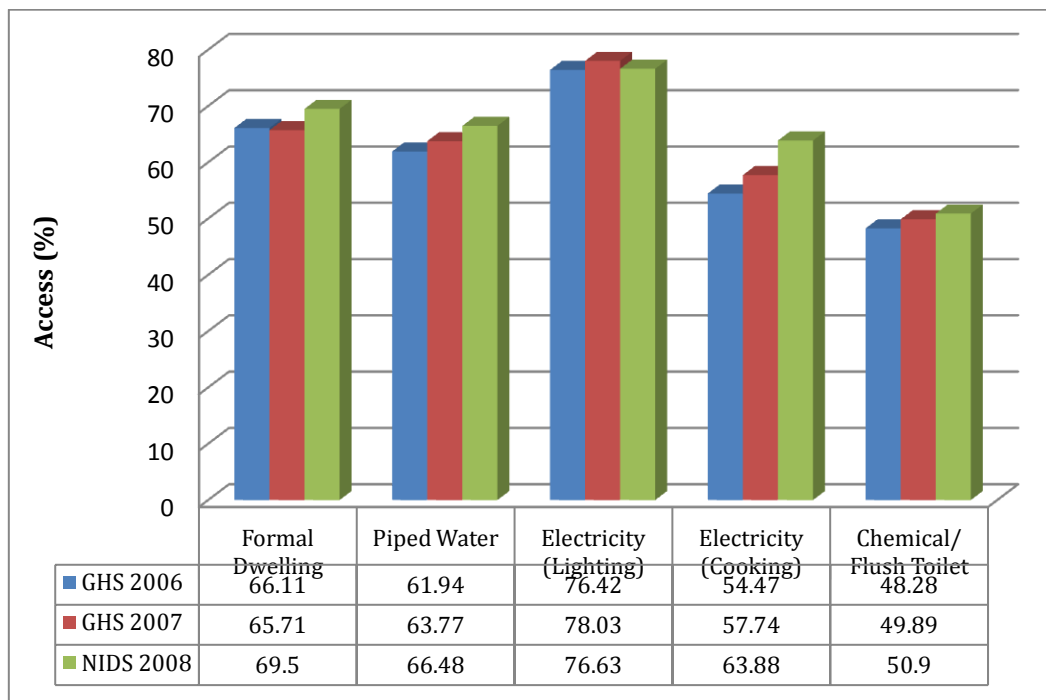
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<sup>2</sup> Confidence intervals can be obtained from the authors upon request.

<sup>3</sup> In all years, formal dwelling includes dwelling/house or brick structure on a separate stand or yard or on farm, flat or apartment in a block of flats, town/cluster/semi-detached house (simplex, duplex or triplex), unit in retirement village, dwelling/house/flat in backyard and room/flatlet.

<sup>4</sup> Access to piped water refers to access to a tap in the dwelling, on site or in the yard.

**Figure 2: Access to public assets: African households: 2006, 2007 and 2008**



*Source: Statistics South Africa 2007, 2008 and NIDS 2009*

The use of electricity for cooking displays the largest variation across the three surveys. In 2006, about 55 percent of African households used electricity as the source of energy for cooking. In 2007, the use of electricity for cooking is almost three percentage points higher at 57.7 percent. According to NIDS, almost 64 percent of African households used electricity for cooking in 2008. This is more than 6 percentage points higher than the usage in 2007 and the difference is statistically significant.

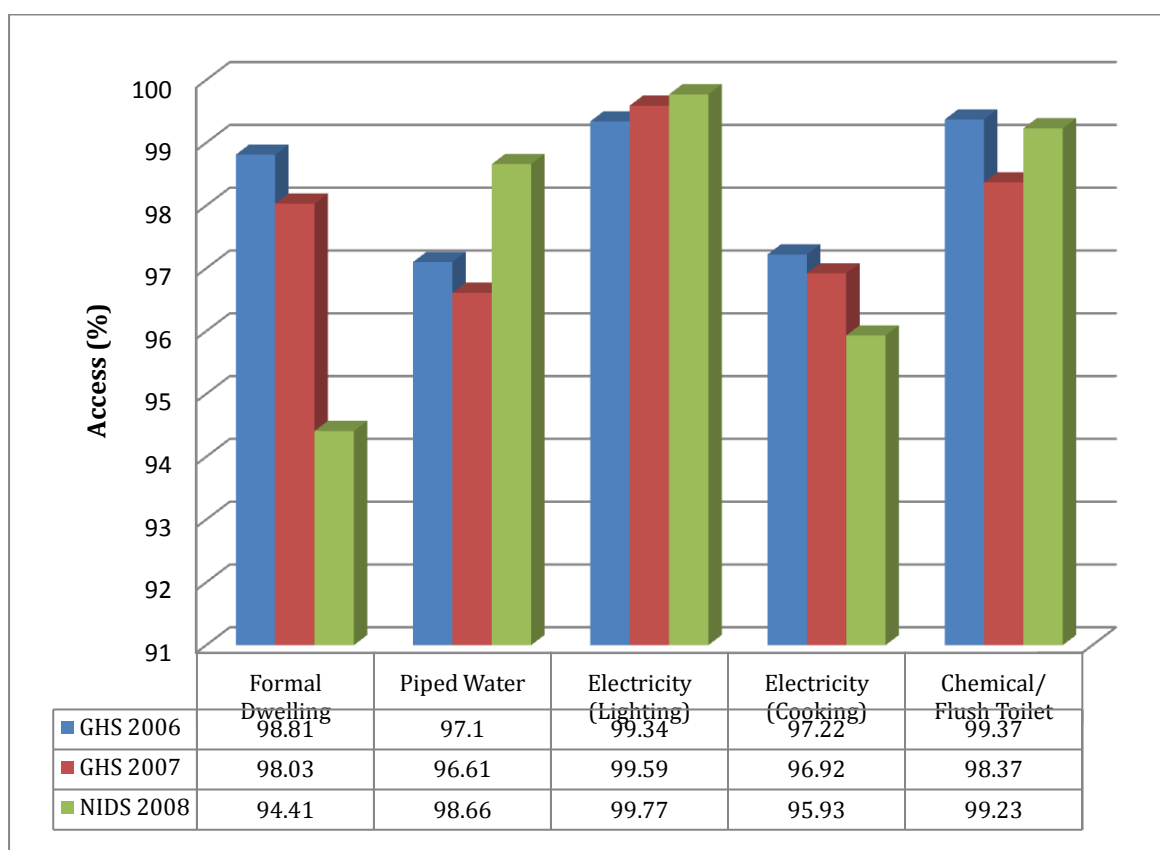
Access rates to public assets for Coloured and Asian households can be found in the appendix. Access rates to all public assets, with the exception of formal dwelling, remain relatively stable across the three surveys. The access rates of Coloured households to piped water, electricity for lighting and cooking as well as chemical/flush toilet were 98 percent or higher in all three years and none of the small differences in the access rates between 2007 and 2008 is statistically significant. Ninety percent or more of all Asian households had access to these services according to all three surveys. Again, none of the differences in the access rates between 2007 and 2008 is statistically significant.

At almost 91 percent, the share of Coloured households living in a formal dwelling in 2008 is, however, more than four percentage points higher than in 2007. The difference in this access rate is statistically significant. In contrast, the share of Asian households living in a formal dwelling was lower in 2008 than in 2006 and 2007. In 2008, just less than 87 percent Asian

households lived in a formal dwelling, which is almost nine percentage points lower than the access rate in 2007. While this difference is statistically significant, the small relative share of Asian households in total households means a relatively small absolute number of Asian households (approximately 45 000) did not live in a formal dwelling in 2008.

Figure 3 presents the access rates of White households to our range of public assets. In all three years, the access rate to a chemical/flush toilet was 98 percent or higher, while the use of electricity for lighting and cooking was 96 percent or higher. None of the differences in the access rates, across the three years, to electricity and chemical/flush toilet is statistically significant.

**Figure 3: Access to public assets: White households: 2006, 2007 and 2008**



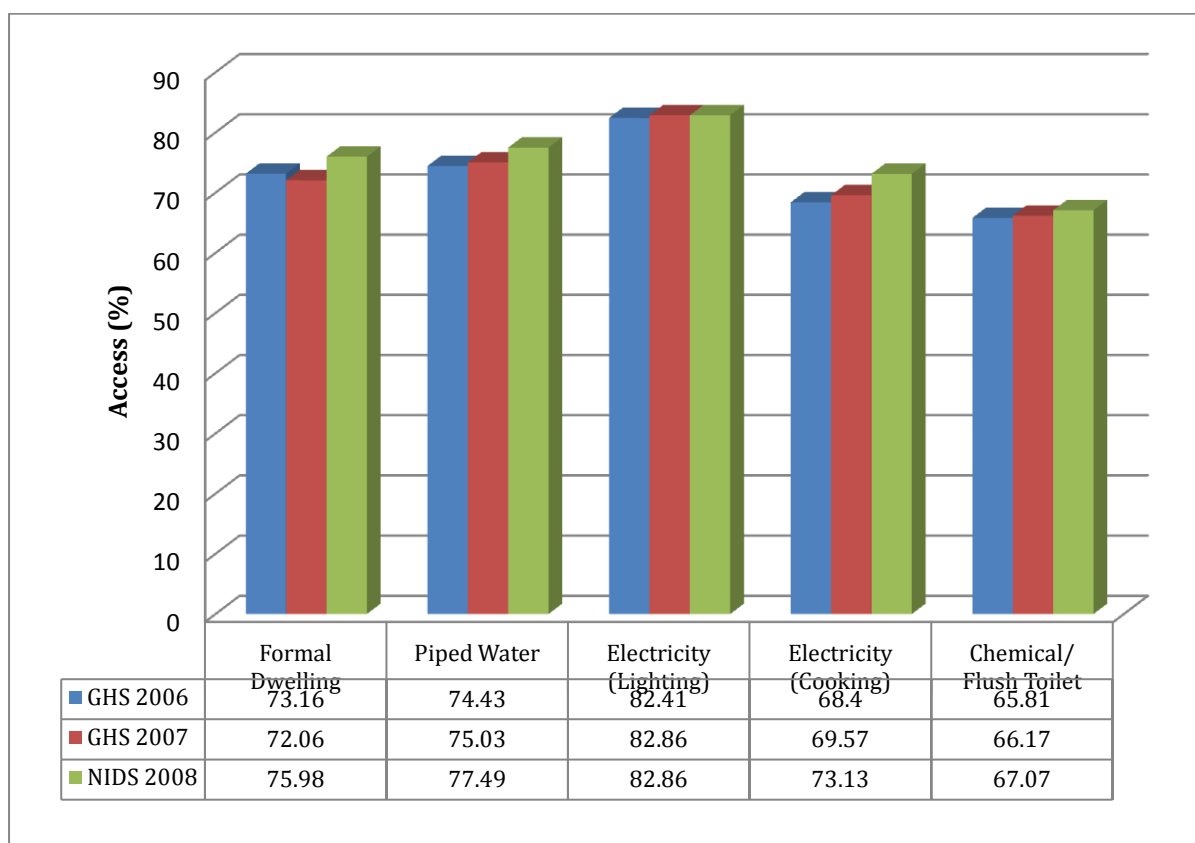
*Source: Statistics South Africa 2007, 2008 and NIDS 2009, own calculations*

The difference of almost four percentage points in the access rate to a formal dwelling between 2007 and 2008 is, however, statistically significant. In 2008, just more than 94 percent of White households resided in a formal dwelling, in comparison with 98 percent in 2007. Again, the absolute number of White households without access to a formal dwelling was relatively low in 2008, at about 95 000. The access of White households to piped water in 2008 was 98.7 percent in comparison to 96.6 percent in 2007, with the difference statistically significant.

From the above, it is clear that the results from the 2008 NIDS display a pattern very similar to that of the results from the 2006 GHS and 2007 GHS. This trend is also consistent when access rates are compared across the population groups. As a starting point then, it should be evident that, in the case of the access data for public assets and services, the NIDS 2008 (Wave 1) data provides a generally consistent and robust set of estimates when compared again two other national datasets. For all public assets, the access rates of African households are lower than the national access rates as well as those for the other population groups. While all non-African households had access rates of 86 percent or higher to the various assets in 2008, White households displayed the highest access rates and the differences between White and African access rates are particularly stark in all three years. For example, in 2008 almost all White households had access to a chemical/flush toilet, while only about half of African households had access to this public asset. Similarly, about 94 percent of White households lived in a formal dwelling, while only about seventy percent of African households lived in a formal dwelling. The access rates at the aggregate and for African households would also seem to suggest that the most significant increase has occurred in the share of households using electricity for cooking. This result suggests, at least at the aggregate and for African households, a change in household patterns, with more households utilising electricity as source of energy for cooking.

Figure 4 and Figure 5 compare the access rates to public services for the three years according to the gender of the household head. The use of electricity for lighting is almost identical in all three years for male headed households, at around 85 percent. Between 79 and 81 percent of female headed households used electricity for lighting across the surveys and the small change between 2007 and 2008 is not statistically significant.

**Figure 4: Access to public assets: Male headed households, 2006, 2007 and 2008**

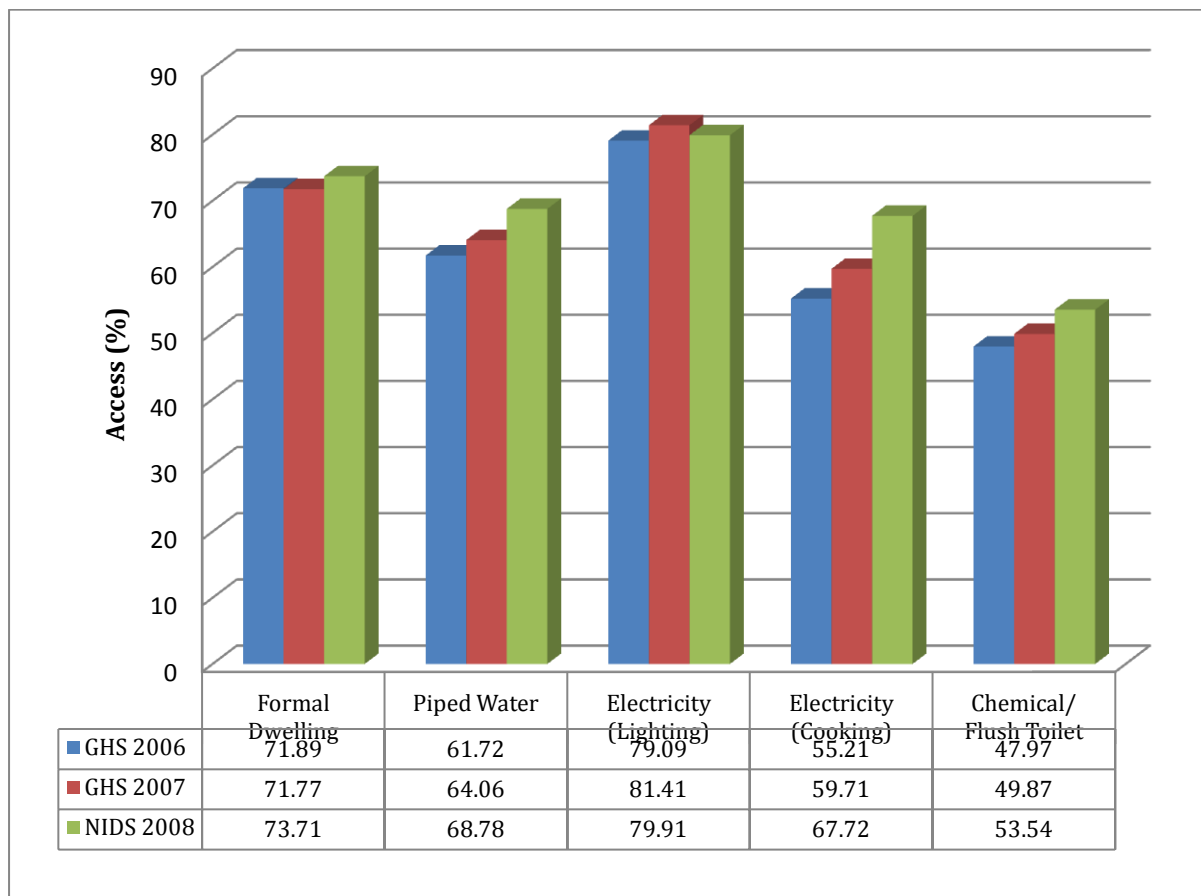


Source: Statistics South Africa 2007, 2008 and NIDS 2009, own calculations

The difference in the access to formal dwelling for male headed households is in line with the result at the aggregate level. Access to formal dwelling for individuals living in male headed households was almost 76 percent in 2008, which is almost 4 percentage points higher than the access rate in 2007. This difference is statistically significant. In contrast, the small difference in the access rate to formal dwellings for female headed households is not statistically significant, with access across the three surveys varying between 71.8 and 73.7 percent. Access to piped water was higher in 2008 for all households, irrespective of the gender of the household head, than in 2006 and 2007. For both male and female headed households, the difference in the access rates between 2007 and 2008 is statistically significant. According to NIDS, almost 78 percent of male headed households had access to piped water in 2008, while approximately 69 percent of female households had access to piped water in the same year.



**Figure 5: Access to Public Assets: Female Headed Households, 2006, 2007 and 2008**



*Source: Statistics South Africa 2007, 2008 and NIDS 2009, own calculations*

The use of electricity as source of energy for cooking was higher in 2008 than in 2006 and 2007, irrespective of the gender of the household head. In 2007, about 70 percent of male headed households used electricity for cooking. In 2008, this proportion is 73 percent, with the change between the two years statistically significant. The difference between the shares of female households using electricity for cooking is slightly larger between the two years, at 60 percent in 2007 and 68 percent in 2008. Again the difference between the 2007 and 2008 access rates is statistically significant. The largest increases in access rates were again in the use of electricity for cooking, irrespective of the gender of the household head. This again confirms our earlier result of a general increase in the use of electricity as source of energy for cooking.

The access to chemical/flush toilet for male headed households varied from 65.8 percent in 2006 to 66.2 percent in 2007 to 67.1 percent in 2008, with the difference in the rates between 2007 and 2008 not statistically significant. In 2006, 48 percent of female headed households had access to a chemical/flush toilet and in 2007 this proportion was slightly higher at almost 50 percent. In 2008, approximately 54 percent of female headed households had access to chemical/flush toilets, with the difference in the rate between 2007 and 2008 statistically

significant.

With the exception of formal dwellings, the results from NIDS also reflect the fact that female-headed households generally have lower access to public assets than male headed households and the survey therefore captured the fact that individuals living in female headed households in South Africa remain the most vulnerable in society. Access to chemical/flush toilet appears to be most unequal, with 54 percent of female headed households having access to a chemical/flush toilet in 2008, while more than 67 percent of male headed households had access to this asset in the same year. The difference in the access rates to formal dwelling is not statistically significant in 2008.

Table 1 presents the access rates to public assets by province for all three years. While we present the access rates for 2006, the discussion will focus on the difference between the provincial rates for 2007 and 2008. The shaded cells indicate that the 2008 access rate for that specific service as recorded by NIDS is statistically different from the access rate calculated using the 2007 GHS.

Households in the Western Cape enjoyed higher access rates in 2008 than in 2007 for formal dwelling and electricity used for lighting and cooking. In 2008 approximately 83 percent of households in the province lived in a formal dwelling, in comparison to 74 percent in 2007. The difference in the access rates to electricity for lighting and cooking is smaller, at 1.7 percentage points for lighting and 3.2 for cooking. For access to piped water and access to chemical/flush toilet, the rates were lower in 2008 than in 2007. The absolute number of households with access to these two services were, however, higher in 2008 than in 2007.

In the Eastern Cape, only the difference in the use of electricity for cooking between 2007 and 2008 is statistically significant. The proportion of households who use electricity for cooking was almost five percentage points higher in 2008 than in 2007. In 2008, access rates varied from 38 percent for chemical/flush toilet to 48 percent for piped water and 53 percent for electricity for cooking. The highest access rates in 2008 were recorded for formal dwelling (62 percent) and electricity for lighting (68 percent).

In the Northern Cape, only the higher access rates for formal dwelling and electricity for cooking are statistically significant. In 2008, 88 percent of households had access to a formal dwelling, in contrast to about 83 percent in 2007, and 82 percent of households used electricity for cooking, in comparison to 75 percent in 2007. About 90 percent of household in this province had access to piped water in both years, while 87 percent used electricity for lighting. Approximately 79 percent of households had access to a chemical/flush toilet in 2007 and 2008.

In the Free State, access rates were generally higher in 2008 than in 2007, with the exception of electricity for lighting where the difference in the access rate is not statistically significant. The differences in the access rates are also quite large for certain services. For example, in 2007, 72 percent of households in the Free State resided in formal dwellings. In 2008, this access rate was almost 14 percentage points higher at 86 percent. In 2007, 71 households used electricity for cooking and in 2008 this rate is almost 85 percent. Similarly, the rate of access to a chemical/flush toilet was 67 percent in 2007 and almost ten percentage points higher at 76 percent in 2008. The difference in access to piped water is about three percentage points.

KwaZulu-Natal stands out as the province in which all the access rates were lower in 2008 than in 2007. The difference varies between eight and seventeen percentage points, with the largest difference in the proportion of households with access to a chemical/flush toilet. The access rate to this service was almost 50 percent in 2007, but only about 33 percent in 2008. In 2008, the access rates to the other services vary between 54 and 69 percent.

**Table 1: Access to public assets by province, 2006, 2007 and 2008**

		<b>Formal Dwelling</b>	<b>Piped Water</b>	<b>Electricity (Lighting)</b>	<b>Electricity (Cooking)</b>	<b>Chemical/ Flush Toilet</b>
Western Cape	2006	78.27	93.18	94.72	86.61	94.97
	2007	73.95	91.38	95.81	89.01	93.12
	2008	82.55	90.56	97.55	92.22	89.18
Eastern Cape	2006	60.16	43.03	67.48	40.60	38.11
	2007	60.68	45.64	69.33	48.24	39.79
	2008	62.44	48.01	68.13	53.26	38.51
Northern Cape	2006	86.37	87.92	88.61	74.39	73.54
	2007	83.39	90.80	87.92	75.40	78.93
	2008	88.44	89.73	87.45	81.88	79.22
Free State	2006	72.52	89.88	89.15	69.09	62.85
	2007	72.26	88.31	88.43	71.34	66.86
	2008	85.87	92.50	89.60	84.81	75.52
KwaZulu-Natal	2006	67.40	61.30	74.72	65.55	49.61
	2007	67.46	62.68	76.69	66.89	49.96
	2008	57.50	53.59	69.13	55.60	33.15
North West	2006	77.18	65.14	84.87	59.32	42.52
	2007	76.06	65.66	85.92	64.05	45.89
	2008	77.34	66.56	77.09	71.15	48.73
Gauteng	2006	70.73	89.21	82.05	77.43	88.97
	2007	69.36	89.25	81.95	77.14	85.58
	2008	75.36	92.76	84.32	78.49	88.76
Mpumalanga	2006	81.51	69.95	85.03	50.34	43.20
	2007	81.23	73.29	86.35	55.89	46.61
	2008	82.81	80.00	90.19	75.70	59.51
Limpopo	2006	86.66	40.72	84.29	40.54	20.11
	2007	88.27	41.19	87.17	38.52	20.49
	2008	91.61	50.51	82.57	57.41	24.00
<b>Total</b>	<b>2006</b>	<b>72.69</b>	<b>69.69</b>	<b>81.17</b>	<b>63.48</b>	<b>59.15</b>
	<b>2007</b>	<b>71.95</b>	<b>70.93</b>	<b>82.32</b>	<b>65.87</b>	<b>60.06</b>
	<b>2008</b>	<b>74.87</b>	<b>73.03</b>	<b>81.31</b>	<b>70.52</b>	<b>60.36</b>

Source: Statistics South Africa 2007, 2008 and NIDS 2009

In the North West Province, the difference between 2007 and 2008 in the rates of access to formal dwelling, piped water and chemical/flush toilet is not statistically significant. In 2008, about 77 percent of households had access to a formal dwelling, while about two-thirds of households had access piped water. Less than half of the households in the province had access to a chemical/flush toilet. The use of electricity for lighting is lower in 2008, at 77 percent in comparison to 86 percent in 2007. In contrast, a larger proportion of households used electricity for cooking according to the 2008 survey (71 percent) than in 2007 (64 percent).

In Gauteng, only access to formal dwelling and access to piped water are statistically different in 2008 from 2007, with both rates higher in 2008. In 2008, about three-quarters of households in Gauteng had access to a formal dwelling, while in 2007 about 69 percent of households lived in formal dwellings. The access rate to piped water was almost 93 percent in 2008 in comparison to 89 percent in 2007. Use of electricity for lighting and cooking varies between 77 and 84 percent, while access to chemical/flush toilet was 86 percent in 2007 and 89 percent in 2008.

In Mpumalanga, household access to formal dwelling and electricity for lighting is not statistically different between the 2007 and 2008 surveys. In 2007 and 2008 access to formal dwelling was between 81 and 82 percent. Use of electricity for lighting varied between 86 and 90 percent over the two years. In 2008, 80 percent of households had access to piped water, which is almost seven percentage points higher than the access rate in 2007. Access to chemical/flush toilet was approximately 60 percent in 2008, which is more than thirteen percentage points higher than in 2007. The largest difference is in the use of electricity for cooking. In 2007, only 56 percent of Mpumalanga households used electricity as source of energy for cooking. According to the 2008 NIDS, almost 76 percent of households used electricity for cooking in 2008, which represents a difference of almost twenty percentage points.

In Limpopo, only the difference in access to chemical/flush toilet between 2007 and 2008 is not statistically significant. In both years, less than a quarter of households in the province had access to a chemical/flush toilet. Access to formal dwelling and piped water and use of electricity for cooking was higher in 2008 than in 2007. The difference in access to formal dwelling is marginal, with around 90 percent of households living in formal dwellings. Almost half of the households had access to piped water in 2008, which is about 9 percentage points higher than in 2007. In 2008, about 57.4 percent of households used electricity for cooking. This rate is significantly higher than the 38.5 percent in 2007. Finally, use of electricity for lighting was lower in 2008 at 83 percent, in comparison to 87 percent in 2007. The absolute number of households that used electricity for lighting was however higher in 2008 than in 2007.

When we compare access rates across provinces, there are small variations between 2007 and 2008, but generally the Western Cape, Gauteng and the Free States remained the relatively better off provinces in 2008, while Limpopo (with the exception of access to formal dwelling in both years), KwaZulu-Natal and the Eastern Cape had relatively lower rates of access to public services in both years. The results by province also suggest an increase in the use of electricity for cooking, with seven of the provinces reporting relatively large increases in the use of this source of energy for cooking.

From the findings presented in this section, it is clear that the results from NIDS are generally consistent with the results from the 2006 and 2007 GHS. This is true at the aggregate level, as well as across population groups and irrespective of the gender of the household head. The findings from NIDS also confirm that African households and female headed households remained relatively worse off in terms of access to public assets and services in 2008. The findings by province generally show no change or significant increases in access to public services. The notable exception is KwaZulu-Natal, where all the 2008 access rates are statistically significantly lower than the 2007 access rates.

The most significant increases (at the aggregate, for all population groups, for both male and female headed households, as well as across the majority of provinces) occurred in the use of electricity as source of energy for cooking, suggesting a possible change in households patterns.

## **2.2. Access to Services by Household Characteristics in the 2008 NIDS**

The section below provides a more detailed overview of access to services characteristics as captured by the 2008 NIDS by a relevant set of household characteristics. The specific objective here is to show the alternative sources of shelter, water, energy and sanitation accessed by those households who did not have access to the optimal (or most preferred) type of basic service in 2008. In the previous section the access rates to public assets in the three surveys were compared according to the nine provinces, as the 2006 and 2007 GHS did not record information according to rural and urban classification. NIDS, however, recorded information according to five geographical areas, namely rural formal, rural informal, tribal, urban formal and urban informal. The household characteristics according to these geographical areas are also discussed here.

A detailed breakdown of the type of dwelling that households occupied in 2008, by the race and gender of the household head, can be found in the appendix. The categories in italics refer to the types of dwelling that constitute a formal dwelling (the access rates in the previous section therefore refer to the total access to these types of dwellings). Focusing on these formal dwelling types first, it is clear that the different population groups lived in different types of formal structures in 2008. The majority of Coloured and White households that lived in formal dwellings lived in a separate dwelling/house or brick structure. In fact, about three quarters of all Coloured and White households lived in this type of structure. The remainder of White households that lived in a formal dwelling were most likely to reside in a town house (nine

percent), a dwelling<sup>5</sup> in a backyard (seven percent) of a flat (three percent). Approximately eight percent of Coloured households lived in a flat or in a dwelling in a backyard.

In contrast, only about half of African and Asian households lived in a separate dwelling/house or brick structure. Most of the remainder of the Asian households lived in a formal dwelling such as a flat/apartment (13 percent) or a town/cluster/semi-detached house (17 percent). Only a very small percentage lived in a dwelling/house/flat or room in a backyard. African households that indicated that they lived in a formal dwelling, but not in a separate structure, were most likely to reside either in a flat/apartment or a dwelling in a backyard. At about 7 percent a relatively larger share of African households lived in a formal structure in a backyard.

Only a substantial share of African households reported that they live in a traditional structure (12 percent), while more than 16 percent lived in an informal dwelling. Approximately 6.5 percent of Coloured households lived in an informal structure, while just over one percent of Asian households lived in an informal dwelling. Only a very small share (about one percent) of White households lived in an informal structure.

The share of households living in a separate formal structure was almost identical when compared according to the gender of the household head, with about 57 percent of male headed households and about 59 percent of female headed households living in these types of structures. Similar proportions of male and female headed households also lived in the other formal structures. In contrast, almost double the proportion of female headed households lived in traditional structures (12.55 percent) in comparison to male headed households (6.92 percent). A slightly larger share of male headed households lived in informal dwellings, driven by the relatively larger share of male headed households that lived in informal dwellings in a backyard.

Table 2 presents the type of dwelling according to the geographical area. Due to the small size of the rural informal sample and for ease of analysis, tribal and rural informal areas were combined into Tribal area. The majority of households in rural and urban formal areas lived in formal dwellings, with the majority of these households living in a separate dwelling/house/brick structure. The share was slightly higher for rural formal areas (71.5 percent) than for urban formal areas (62.4 percent), but a relatively larger share of urban formal households lived in a flat/apartment or a town/cluster/semi-detached house. These results very clearly reflect the relatively larger supply of apartments and townhouses in urban areas. The results also suggest that a relatively larger share of urban households lived in a

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<sup>5</sup> Dwellings in a backyard include a flat, house or room

formal dwelling in another household's backyard.

About ten percent of households in urban formal areas lived in an informal dwelling, with almost half of these households living in a backyard. In contrast, more than ten percent of households in rural formal areas lived in informal dwellings not in a backyard, while only about one percent lived in an informal dwelling in a backyard. Overall, the results show that backyard dwellings (both formal and informal) were more prevalent in urban areas. Finally, approximately eight percent of rural formal households lived in traditional dwellings.

**Table 2: Type of dwelling by geographical area, 2008**

	<b>Rural Formal</b>	<b>Tribal</b>	<b>Urban Formal</b>	<b>Urban informal</b>
<b>Formal dwelling</b>	<b>77.64</b>	<b>59.43</b>	<b>86.89</b>	<b>49.1</b>
Dwelling/house/brick structure (separate)	71.47	49.48	62.38	45.52
Traditional dwelling/hut/structure made	7.98	31.79	0.45	2.49
Flat or apartment in a block of flats	1.45	2.55	7.41	0.04
Town/cluster/semi-detached house	1.22	0.69	5.02	0.77
Unit in retirement village	0	0	0.11	0
Dwelling/house/flat/room in backyard	2.11	4.67	9.61	2.19
Informal dwelling/shack in backyard	1.11	3.27	5.14	11.55
Informal dwelling/shack not in backyard	10.23	4.49	4.55	34.87
Room/flatlet	1.39	2.04	2.36	0.58
Caravan/tent	0.41	0	0.32	0

Almost half of the households in urban informal areas lived in a formal dwelling, with a total of 46 percent of all households in these areas living in a separate structure. The majority of the remainder of the households that resided in formal dwellings lived in a structure in a backyard (2.2 percent). Not surprisingly, almost 45 percent of urban informal households lived in an informal dwelling, with about three-quarters of these dwellings not in a backyard.

In the tribal areas (which include the rural informal areas) about 60 percent of households lived in formal dwellings, with the majority of them living in separate structures. It is not surprising that more than 30 percent of households in these areas lived in traditional dwellings. About eight percent of households in tribal areas lived in informal dwellings, with most of these dwellings not in the backyard of another household.

The main source of water accessed by households in 2008, according to the race and gender of the household head, can be found in the appendix. As discussed earlier, the majority of Coloured, Asian and White households had access to piped water in 2008, either in the dwelling or on the site of the dwelling. The remainder of Asian households had access to a public tap,



while the remainder of the Coloured and White households (five and one percent of households respectively) utilised a variety of other sources as main source of water, including boreholes, dams and wells.

Only about two-thirds of African households had access to piped water in 2008. A further 21.4 percent of households used a public tap as main source of water. While the rest of the households accessed a variety of sources, about seven percent of households reported that they use water from a source such as a stream, dam, well or spring. These results from the NIDS clearly show that there remains a substantial backlog in the delivery of piped water to African households.

While the majority of both male and female headed households had access to piped water as their main source of water in 2008, still more than 30 percent of female headed households and approximately 23 percent of male headed households did not have access to piped water in their dwelling or on the site of their dwelling. The majority of these households had access to a public tap, with the rest of the households utilising a range of other sources. It appears as if female headed households were relatively more dependent on sources such as streams, dams, wells and springs than male headed households. These results again highlight the fact that female headed households appear to be more vulnerable than male headed households where it comes to access to basic services.

The table below shows household access to water according to geographical area. Households living in urban areas had relatively higher rates of access to piped water, with about 95 percent of formal households and just more than 70 percent of informal households utilising piped water as main source of water. The vast majority of the remainder of urban households had access to a public tap (4 percent in formal areas and 27 percent in informal areas).

**Table 3: Main source of water by geographical area, 2008**

	<b>Rural Formal</b>	<b>Tribal</b>	<b>Urban Formal</b>	<b>Urban informal</b>
<b><i>Piped Water</i></b>	<b>58.49</b>	<b>32.5</b>	<b>94.75</b>	<b>71.34</b>
Public tap	21.53	38.42	4.39	27.33
Water-Carrier/tanker	3.1	2.73	0.28	0
Borehole on site	4.09	1.38	0.08	0
Borehole off site/communal	3.58	1.08	0.02	0.79
Rain-water tank on site	1.92	1.52	0.04	0
Flowing water/stream	2.12	9.85	0.01	0
Dam/pool/stagnant water	1.86	5.68	0	0
Well	1.01	0.63	0.03	0
Spring	0.51	2.12	0	0
Other	1.36	0.82	0	0.26
From a neighbour	0.39	1.88	0.19	0.29

Households living in rural areas, particularly in tribal areas, had substantially lower rates of access to piped water. While about 60 percent of rural formal households had access to piped water, only about a third of households living in tribal areas had access to this source of water. Just more than 20 percent of rural formal households had access to a public tap, while almost 40 percent of tribal households had to use a public tap as main source of water. Almost 20 percent of tribal households had to use water from a stream, dam, well or spring as main source of water. These results show that a significant backlog in the delivery of piped water remains in the tribal areas.

The sources of energy for cooking and lighting by race and gender of the household head are presented in the appendix. As seen in the previous section, the majority of Coloured, Asian and White households used electricity from the main grid or a generator as source of energy for lighting in 2008. A very small share (5.5 percent) of Coloured households used paraffin or candles as source of lighting. In contrast, just more than three-quarters of African households indicated that their main source of energy for lighting is electricity from the main grid or a generator. Almost 17 percent of African households reported that they used candles for lighting, while four percent used paraffin as energy source for lighting.

The results according to the gender of the household head show that a slightly higher percentage of male headed households (83.6 percent) than female headed households (80.6 percent) used electricity from the main grid or a generator as source of energy for lighting. While the same share of male and female headed households used paraffin for lighting purposes (around 3.5 percent), a slightly higher share of female headed households made use of candles as source of lighting (15 versus 12 percent).

The slightly lower use of electricity as main source of energy for cooking reflects the fact that an appliance (for example an oven) is required when utilising electricity from the grid or a generator for cooking. This is true for all households, but the difference in the utilisation in electricity for lighting versus cooking is relatively larger for African households (almost 13 percentage points), indicating that these households are generally less able to purchase the required appliance. In 2008, only 65 percent of African households used electricity for cooking, while 16 percent used paraffin and a further 14 percent used wood for cooking purposes.

Table 4 and Table 5 compare the mains sources of energy for cooking and lighting by geographical area. In 2008, about 94 percent of households in urban formal areas used electricity from the main grid or a generator as main source of energy for lighting, while just fewer than seventy percent of households in each of the other three geographical areas used electricity for lighting. The remainder of urban formal households generally used candles as source of lighting. Approximately a quarter of households living in rural formal and tribal areas respectively reported that they used candles for lighting. In urban informal areas, just over 21 percent of households used candles as source of lighting. Outside urban formal areas, paraffin was the third most commonly used source of lighting, utilised by nine percent of households in urban informal area, six percent in tribal areas and about five percent of households in rural formal areas. Interestingly, about two percent of households in rural formal areas reported that they used solar energy for lighting, with no households in urban areas and only a small fraction of a percent of households in tribal areas utilising solar energy.

**Table 4: Main source of electricity for lighting by geographical area, 2008**

	<b>Rural Formal</b>	<b>Tribal</b>	<b>Urban Formal</b>	<b>Urban informal</b>
<b>Electricity from mains/generator</b>	<b>66.26</b>	<b>66.73</b>	<b>93.88</b>	<b>69.6</b>
Gas	0.02	0.17	0.11	0.04
Paraffin	4.76	6.32	0.97	9.12
Candles	25.78	25.72	4.68	21.01
Solar energy	1.98	0.18	0	0
Other	0.03	0.02	0	0
None	0.14	0.06	0.05	0.05

In 2008, the use of electricity as source of energy for cooking was lower in all areas, again highlighting the fact the some type of electrical appliance is required which may not be affordable to all households with access to electricity. In urban formal areas, almost 89 percent of households used electricity for cooking, while about 61 percent of rural formal households use electricity for cooking. In both areas, the use of electricity for cooking is about 6 percentage

points lower than the use of electricity for lighting. In urban informal areas the difference is slightly larger, at just more than ten percentage points, with about 58 percent of households using electricity for cooking. In tribal areas, the use of electricity for cooking is more than 23 percentage points lower than for lighting, suggesting that households in these areas are relatively poorer and less able to afford electrical appliances. In the rural formal areas, about a quarter of households used wood as source of energy for cooking, while more than a third of tribal households used this source of energy for cooking.

**Table 5: Main source of energy for cooking by geographical area, 2008**

	<b>Rural Formal</b>	<b>Tribal</b>	<b>Urban Formal</b>	<b>Urban informal</b>
<b>Electricity from mains/generator</b>	<b>60.64</b>	<b>43.39</b>	<b>88.76</b>	<b>57.82</b>
Gas	0.82	1.95	3.87	2.7
Paraffin	11.75	17.8	5.91	34.2
Wood	24.49	34.7	0.78	0.81
Coal	1.82	0.98	0.18	4.17
Animal Dung	0.23	0.28	0	0
Solar energy	0	0.01	0	0
Other	0.02	0	0.03	0.22
None	0	0.08	0.01	0.07

The use of wood for cooking was very low in urban areas, with paraffin the second most important source of energy for cooking. In fact, in urban informal areas more than a third of households used paraffin for cooking. In the rural areas, paraffin was used by about 12 and 18 percent of households in formal and informal areas respectively.

The type of toilet facility used by households in 2008 can be found in the appendix. As discussed earlier, ninety percent or more of the households from the Coloured, Asian and White population groups had access to a flush/chemical toilet. In contrast, only half of African households used a flush or chemical toilet. About a quarter of African households only had access to a pit latrine without ventilation, with a further ten percent using a pit latrine with ventilation. An even larger cause for concern is that while about four percent of African households reported that they used a bucket toilet, more than 8 percent had no access to a toilet facility. The majority of Coloured households without access to a flush/chemical toilet also reported that they did not have access to any toilet facility (about 3.4 percent). The majority of

Asian households without access to a flush/chemical toilet used a bucket toilet.<sup>6</sup>

The results by gender of household head show that with an access rate of 67 percent those in male headed households were more likely to have access to a flush/chemical toilet. Only slightly more than fifty percent of female headed households had access to a flush/chemical toilet, with about a quarter of female headed household using a pit latrine without ventilation. Only about 18 percent of male headed households used this type of toilet facility. A slightly higher share of female households had access to a pit latrine with ventilation (ten versus six percent). A slightly higher share of female headed households, however, reported that they had no access to a toilet facility.

The results by geographical area highlight the poorer access to this service for those living outside urban formal areas, particularly in tribal areas. While more than ninety percent of urban formal households had access to a flush/chemical toilet, only about six percent of households in tribal area had access to this type of toilet facility. About 44 percent of households in the rural formal and urban informal areas respectively had access to a flush/chemical toilet. The majority of urban informal households without access to a flush/chemical toilet used a pit latrine without ventilation (27 percent), followed by a bucket toilet (11 percent) and a pit latrine with ventilation.

**Table 6: Toilet facility by geographical area, 2008**

	<b>Rural Formal</b>	<b>Tribal</b>	<b>Urban Formal</b>	<b>Urban informal</b>
<b>Flush/Chemical Toilet</b>	<b>44.43</b>	<b>5.58</b>	<b>91.87</b>	<b>44.51</b>
Pit latrine with ventilation	8.14	19.44	2.19	9.34
Pit latrine without ventilation	28.25	55.48	3.02	27.28
Bucket toilet	4.26	4.15	0.61	11.34
None	13.34	14.88	1.34	7.14
Other	0.43	0.16	0.03	0

More than half of households living in tribal areas had to use a pit latrine without ventilation in 2008, with only about 19 percent having access to a pit latrine with ventilation. In rural formal areas, about 28 percent of households used a pit latrine without ventilation, while eight percent used a pit latrine with ventilation. In both formal and informal rural areas, about four percent of households used a bucket toilet. More alarming, about 15 percent of tribal households and 13 percent of rural formal households had no access to a toilet facility.

<sup>6</sup> The toilet type for almost three percent of Asian households was coded as “missing” in the dataset – which is quite high in comparison with the other population groups.

This section above has provided a more detailed look at access to services as captured by NIDS in 2008 by a range of household covariates. The results again confirm that female headed households and particularly African headed households remained worse off in terms of their access to basic services. Households in the tribal areas were worse off when access by geographical area was considered, with particularly low levels of access to piped water and flush/chemical toilets.

Looking at access to all these services in combination for each of the covariates also yield some interesting results. While a comparison of different combination of access rates falls outside the ambit of this paper, some general comments can be made here. While around 66 percent of African households had access to a formal dwelling and piped water, a larger share (77 percent) of African households used electricity for lighting. This suggests that a significant share of African households did have access to electricity while not living in a formal dwelling and not having access to piped water. Access to a flush/chemical toilet is relatively lower at around 50 percent, suggesting that while some African households may have lived in a formal dwelling (with access to both electricity and piped water), they did not have access to adequate toilet facilities.

Extending the above type of comparison to the geographical areas yields even more interesting results. In urban areas, the access rates to basic services were generally 90 percent or higher. In rural areas, about 78 percent of households had access to a formal dwelling, but only about 60 percent had access to piped water, while 66 percent used electricity for lighting and only 44 percent had access to a flush/chemical toilet. This again suggests that some rural households lived in a formal dwelling, but did not have access to electricity, piped water or a flush/chemical toilet. Further, some rural formal households lived in a formal dwelling with access to both electricity and piped water, but not a flush/chemical toilet.

In urban informal areas, the highest relative access rate was to piped water, at 71 percent. Almost seventy percent of households used electricity for lighting, while 49 percent lived in a formal dwelling while only 45 percent had access to a flush/chemical toilet. These results suggest that some households had access to piped water and electricity but did not live in a formal dwelling and also did not have access to a flush/chemical toilet. Further, some households lived in a formal dwelling with access to electricity and piped water, but not a flush/chemical toilet.

In tribal areas, about sixty percent of households lived in formal dwellings, while only 67 percent used electricity for lighting, 33 percent had access to piped water, and only six percent had access to a flush/chemical toilet. This suggests that some households had access to

electricity but did not live in a formal dwelling. Similarly, some households lived in a formal dwelling but did not have access to piped water. It also suggests that a very small share of tribal households that lived in a formal dwelling actually had access to a flush/chemical toilet

### 3. Access to Public Assets by the Poor in NIDS 2008

Table 7 and s source of energy for cooking.



Table 8 below present the access rates to basic services for our range of covariates according to two poverty lines. These rates indicate the share of poor households who had access to these services in 2008. We used a lower bound poverty line of R322 a month and an upper bound line of R593 a month in 2000 prices. Inflated to 2008 prices, these lines are R502 and R924 respectively.<sup>7</sup> Poor households were identified in terms of monthly per capita household expenditure.<sup>8</sup>

The first key result here is that the access rates of poor African households compare relatively well to the access rates of all African households. For example, 66 percent of all African households had access to a formal dwelling in 2008, while 66 percent of African households with a per capita expenditure of R502 a month or less had access to a formal dwelling. At the R924 poverty line, 67 percent of African households had access to a formal dwelling, which is marginally higher than the result for all African households. About 66 percent of African households had access to piped water in 2008, while 61 and 63 percent of African households at the two poverty lines had access to piped water. While half of all African households had access to a flush/chemical toilet, about 43 percent of African households at the R502 poverty line and 47 percent of households at the R924 poverty line had access to this type of toilet. In 2008, 78 percent of African households used electricity for lighting and 65 percent used electricity for cooking. The results at the two poverty lines were 72 and 74 percent for lighting and 58 and 60 percent for cooking.

In 2008, approximately 89 percent of Coloured households lived in a formal dwelling. Almost the same share of poor Coloured households (86 percent according to the R502 line and 88 percent according to the R924 line) lived in a formal dwelling. Access to piped water displays a similar pattern, with 95 percent of Coloured households having access to this service, and 90 percent of Coloured households poor according to the R502 line and 92 percent of Coloured households poor according to the R924 line, having access to piped water. Access to a flush/chemical toilet, as well as access to electricity for lighting, displays the same pattern. The access rates amongst poor Coloured households were just slightly lower than the rate for all Coloured households. The largest variation is for use of electricity for cooking, with the access

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<sup>7</sup> The 2008 values for the poverty lines were taken from Argent's report on poverty using the NIDS (2009).

<sup>8</sup> We used the crude "one-shot" household expenditure figure as the calculated total household expenditure (which is clearly preferable) was not available at the time of writing. This amount was divided by the household size to generate per capita household expenditure. 1503 of the households surveyed do not have a value for household expenditure – with the majority of these observations coded as "do not know". These values were coded to missing. It amounts to about 18 percent of the weighted households. Given this high level of non-response on this question, the results could be quite different when re-run on calculated household expenditure.

rate of poor Coloured households around 10 percentage points lower than for all Coloured households. This result reflects that fact that poor Coloured households were less able to afford electrically appliances used for cooking.

**Table 7: Access to formal dwelling, piped water & flush/chemical toilet at 2 poverty lines**

	Formal Dwelling (%)		Piped Water (%)		Flush/ Chemical Toilet (%)	
	R 502	R 924	R 502	R 924	R 502	R 924
African	65.22	66.75	60.98	63.36	43.32	46.61
Coloured	85.67	87.45	90.39	92.26	87.37	88.24
Asian	83.85	84.00	90.92	93.74	65.3	76.06
White	84.79	83.62	90.27	94.84	95.97	97.86
Male Headed	66.65	68.26	65.77	69.29	51.42	55.8
Female Headed	67.69	69.69	61.47	63.65	42.69	46.94
Rural Formal	79.03	79.11	53.42	56.41	38.42	42.5
Tribal	57.56	58.03	30.71	31.03	5.05	5.37
Urban Formal	80.69	81.41	90.6	91.84	85.3	86.76
Urban Informal	44.32	45.61	71.12	72.04	43.29	44.53

Asian households' access to all services except to flush/chemical toilet and electricity for cooking display a similar trend, with the access rates amongst poor Asian households 83 percent or higher, while the access rates for all Asian households are 87 percent or higher. The result for flush/chemical toilet is surprising. In 2008, 90 percent of all Asian households had access to this type of toilet facility. In contrast, only 65 percent of Asian households that was poor according to the lower poverty line had access to a flush/chemical toilet, while 76 percent of Asian households poor according to the R924 line had access to this type of toilet. The small sample size of Asian households, however, means that the difference in the absolute numbers of households with and without access is relatively small.

The results for White households show the relatively poorer households had only slightly lower access rates to basic services than all White households, with the exception of formal dwelling. In 2008, about 94 percent of all White households had access to a formal dwelling. In contrast only 85 percent of White households that were poor according to the R502 line and 84 percent of households poor according to the R924 line had access to a formal dwelling. While the access rates of the poor were still relatively high, the relatively larger gap between access by the poor and all households is interesting and can probably be explained by the fact that such a small share of White households (in comparison with the other population groups) were poor at both lines.

The results according to the gender of the households head show that poor households had only

slightly lower access to a formal dwelling than all households, irrespective of the gender of the household head. The difference in access to piped water for poor male headed households is slightly larger than for female headed households. Approximately 77.5 percent of all male headed households had access to piped water, while 69 percent of male headed households with expenditure of R924 a month or less had access to this service and 66 percent of households poor according to the R502 line had access to this service.

Sixty-seven percent of all male headed households had access to a flush/chemical toilet in 2008. Only 51 percent of male headed households poor according to the R502 line and 56 percent of male headed households poor according to the R924 line had access to a flush/chemical toilet. The difference in access rates for female headed households is slightly smaller, but displays the same pattern. Approximately 54 percent of all households headed by females had access to a flush/chemical toilet in 2008. In the same year, only about 43 percent of female headed households poor according to the R502 line, and 47 percent of female headed households poor according to the upper bound line, had access to a flush/chemical toilet in 2008.

The gender of the households head and poverty status of these households did not have a substantial impact on the variation in the use of electricity for lighting, with the access rates varying between 73 and 86 percent. The difference in use of electricity for cooking by all male headed households and by poor male headed households was larger than for female headed households, with the difference in access rates between 9 and 13 percentage points. In contrast, 68 percent of all female headed households used electricity for cooking, while 60 and 62 percent respectively of poor female headed households used this source of energy for cooking.

**Table 8: Access to electricity for lighting and cooking by two poverty lines**

	Electricity for Lighting (%)		Electricity for Cooking (%)	
	<i>R 502</i>	<i>R 924</i>	<i>R 502</i>	<i>R 924</i>
African	72.25	73.67	57.92	59.92
Coloured	88.22	90.44	79.00	82.99
Asian	89.33	91.66	76.14	82.56
White	100	100	95.97	97.42
Male	72.33	74.94	60.09	63.54
Female	75.72	77.00	60.16	62.25
Rural Formal	60.10	63.11	53.10	57.14
Tribal	65.13	65.33	40.15	40.81
Urban Formal	87.37	89.00	82.27	83.47
Urban Informal	64.25	64.43	51.23	51.8

Turning to the results by geographical area, poor households in formal areas (both rural and urban) appear to have similar levels of access to formal dwellings than all households in rural and urban formal areas. In rural formal areas, 78 percent of all households resided in a formal dwelling, while 79 percent of poor households (according to both poverty lines) lived in a formal structure. The access rates were only marginally lower for poor urban formal households (81 percent at both poverty lines) than for all urban formal households (87 percent). The pattern is repeated for households living in both urban and tribal areas, with virtually no difference in the access rates for all households and those for poor households.

Access to piped water was almost identical for all households and for poor households, for each of the geographical areas. In 2008, 58 percent of rural formal households had access to piped water, while 54 percent of households poor according to the R502 line had access to piped water and 56 percent of households poor according to the R924 line had access to piped water. While 95 percent of all households in urban formal areas had access to piped water, the corresponding rates at the two poverty lines were 91 and 92 percent. In tribal areas, the rates were 33 percent of all households and 31 percent for households considered poor at both poverty lines. In urban informal areas, 71 percent of all households had access to piped water, while 71 and 72 percent of households had access to this service at the R502 and R924 poverty lines respectively.

Access to a flush/chemical toilet also appears very similar for households (poor and total) in each of the geographical areas. The largest relative difference in the access rates is for households living in urban formal areas, where 92 percent of all households had access to a flush/chemical toilet, while only 85 percent of household poor according to the R502 line and 87 percent of households poor according to the R924 line had access to this type of toilet.

Finally, the results for the use of electricity for lighting and cooking suggest that there were very little difference in the access rates for all and for poor households in each of the geographical areas. The largest difference was in the use of electricity for cooking by rural formal households at the lower poverty line, with only 53 percent of these households using electricity for cooking, while 61 percent of all households in this area used electricity for cooking in 2008.

The section above has compared the access to basic services for households who were considered poor according to two poverty lines in 2008. While it is difficult to isolate clear trends, it does appear that households in a particular geographical area had relatively similar access rates to each of the services, irrespective of their levels of per capita expenditure. Similarly, there was virtually no difference between the access to basic services by all African households and by poor African households. The results for the other population groups and by the gender of the household head were more mixed.

## 4. Access to Private Assets

The objective of this section is to provide an initial overview of the access to private assets as captured by the first wave of NIDS and also, again, to provide a comparison of the findings from NIDS with estimates from the 2006 and 2007 GHS. While access to public assets reflects government's provision of basic services, access to or ownership of private assets is usually well correlated with the income of a household. In the first sub-section below the ownership of three assets, namely television, private vehicles and radios<sup>9</sup> is considered. While NIDS has recorded access to a range of private assets, these are the only three assets recorded in the GHSs. Section 3.2 provides an overview of the ownership of the broader range of private assets as recorded by NIDS.

### 4.1. Access to Private Assets: GHS 2006, GHS 2007 and NIDS 2008

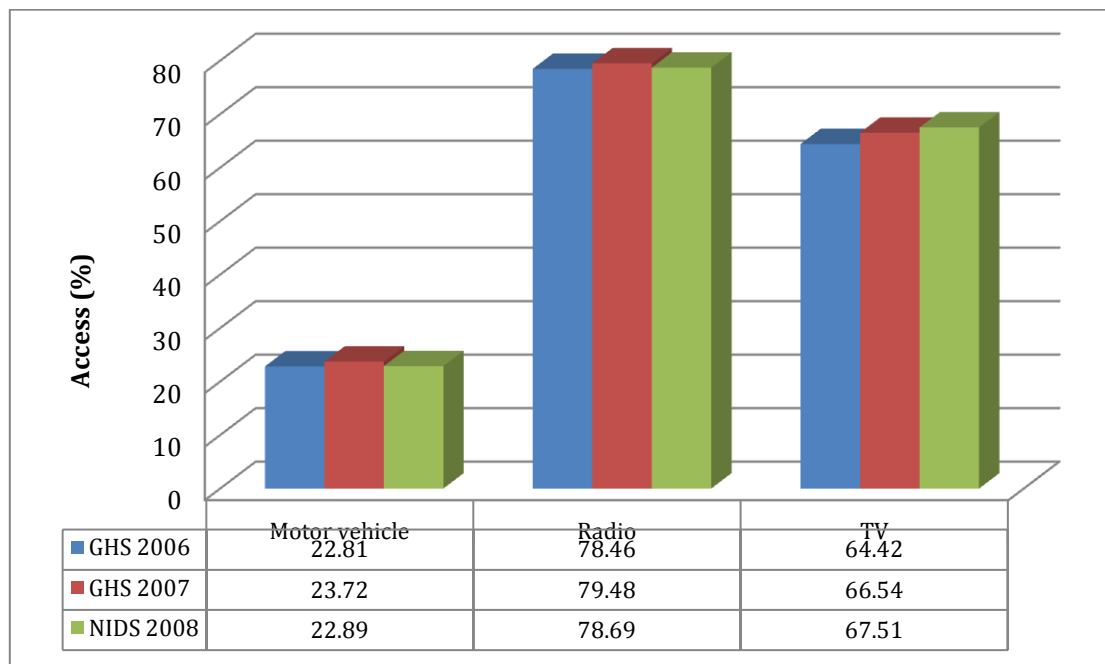
Figure 6 below presents household access to private assets as recorded by the NIDS 2008 and the 2006 and 2007 GHS. The private assets considered here are motor vehicles, radios and televisions. It must be noted that the ownership of a radio does not give any specific indicator of the quality of the asset, which can vary considerably.<sup>10</sup>

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<sup>9</sup> The radio variable includes hi-fi's, stereos and MP3 players as this was separate under NIDS data but one variable in the GHS.

<sup>10</sup> The NIDS does differentiate between "radio" and "Hi-Fi stereo, CD player, MP3 Player" in two separate categories, but it does not provide any information on the relative size and quality. The GHS only request the household to indicate if it owns a radio. For the purposes of our analysis, the two categories in the NIDS were combined into one category called radio.

**Figure 6: Access to private assets 2006, 2007, 2008**

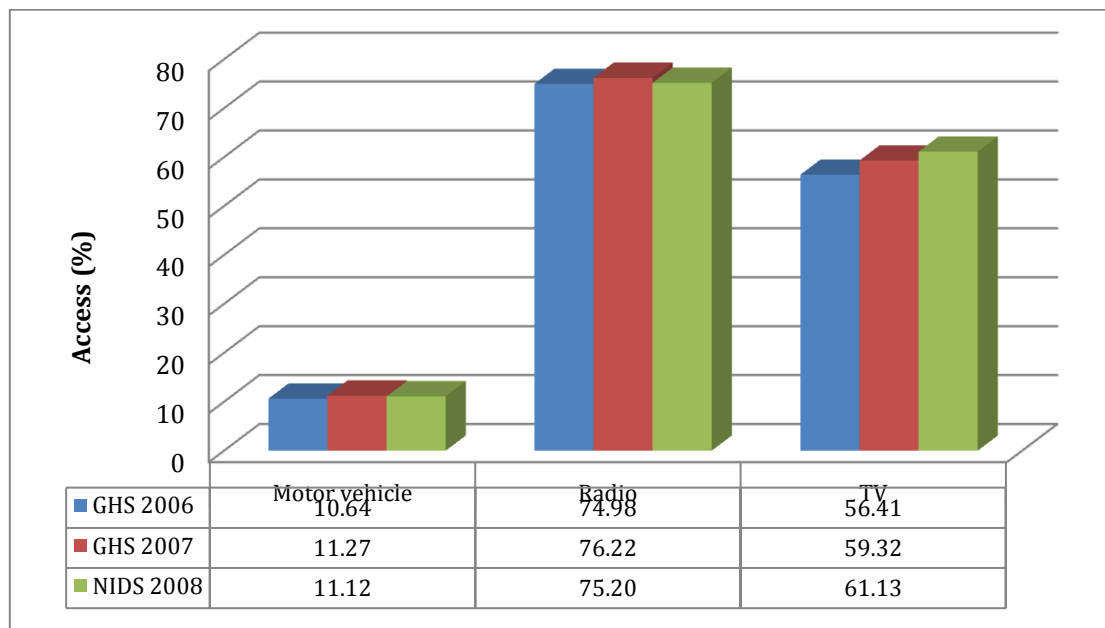


Source: Statistics South Africa 2007, 2008 and NIDS 2009

Ownership of household assets according to NIDS compare well with the results from the 2006 and 2007 GHS. Household ownership of a motor vehicle remained the lowest in all three years. In 2008, only 23 percent of households had access to a motor vehicle. This is almost a percentage point lower than in 2007, but the difference is not statistically significant. In 2008, almost 68 percent of households had access to a television. In 2007, this rate was slightly lower at about 67 percent, but the difference is again not statistically significant. Access to a radio was highest in all three years, with about 79 percent of households reporting that they owned a radio in 2008. The access rate was the same in 2007, and only slightly lower at 78 percent in 2006.

Figure 7 compares ownership of private assets by African households in 2006, 2007 and 2008. Household ownership of vehicles was the lowest in 2008 at only 11 percent, which is almost identical to the results from 2007 and 2006. Ownership of televisions was just more than 61 percent in 2008. In comparison, 59 percent of households owned a television in 2007, while about 56 percent owned a television in 2006. The difference in ownership between 2007 and 2008 is statistically significant. The ownership of a radio was highest in 2008, again similar to the patterns from 2007 and 2006. In 2008, 75 percent of African households owned a radio, compared to 76 percent in 2007 and 75 percent in 2006. The difference between 2007 and 2008 is not statistically significant.

**Figure 7: Access to Private Assets 2006, 2007, 2008: African Households**



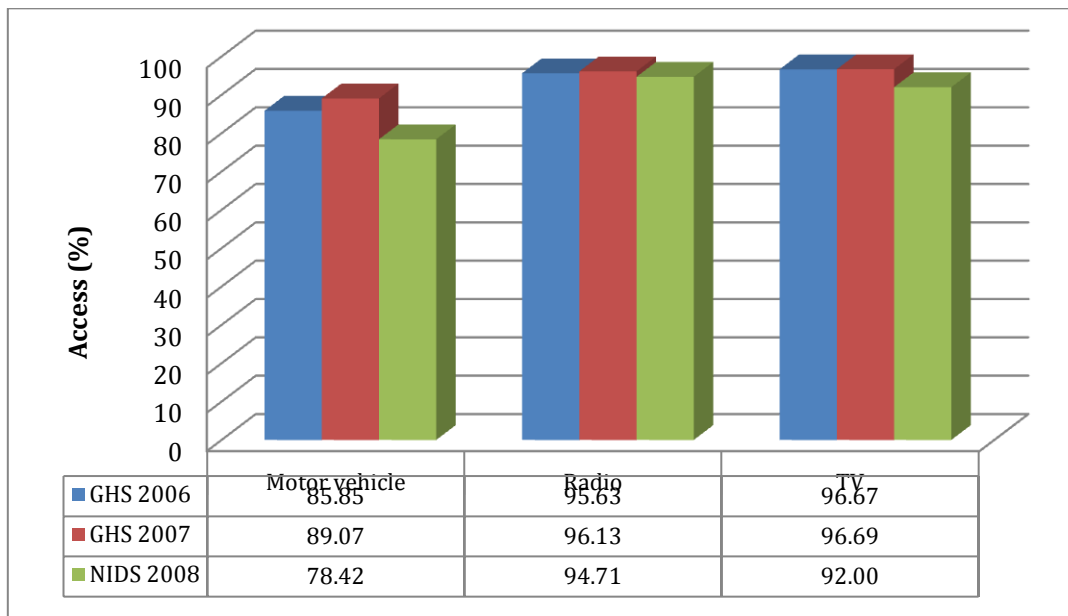
Source: Statistics South Africa 2007, 2008 and NIDS 2009

The appendix presents the ownership of private household assets in Coloured and Asian households respectively. There are no statistically significant differences in the access rates to the various assets between 2007 and 2008, with the exception of ownership of radios by Asian households. Vehicle ownership is lowest for both population groups, with 34 percent of Coloured households owning a vehicle in 2008 and 62 percent of Asian households owning a vehicle in 2008. For both race groups, ownership of television is slightly higher than that of radios in 2008, but the difference in ownership of radios and televisions is not statistically significant. Approximately 84 percent of Coloured households owned a radio in 2008, compared to 83 percent in 2007. About 84 percent of Asian households owned a radio in 2008. In 2007, this ownership was around 94 percent and the difference is statistically significant. About 83 percent of Coloured households and 90 percent of Asian households owned a television in 2008.

Figure 8 presents household ownership of a vehicle, radio and television for White households. In contrast to the results for the other race groups and at the aggregate, all access rates are lower in 2008 than in 2007, with the difference statistically significant for vehicles and televisions. In 2008, only 78 percent of White households owned a vehicle as opposed to 89 percent according to the 2007 GHS. Ownership of a television was more than four percentage points lower according to the 2008 NIDS, at 92 percent. Ninety-five percent of White households owned a radio, compared to 96 percent in 2007.



**Figure 8: Access to private assets 2006, 2007, 2008: White households**

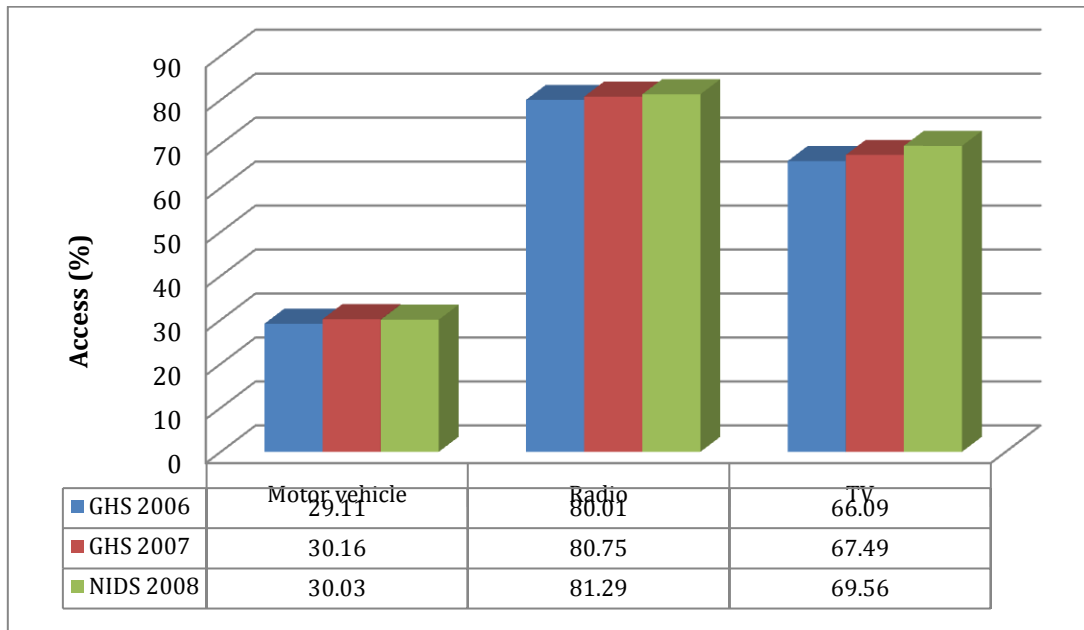


Source: Statistics South Africa 2007, 2008 and NIDS 2009

When the access rates to private assets are compared across the race groups, the results from NIDS confirm that White households had relatively higher rates of ownership of assets. The result is particularly pronounced when ownership of a motor vehicle is compared. In 2008, only about 11 percent of African households owned a vehicle, while about 34 percent of Coloured households owned a vehicle. Approximately 62 percent of Asian households owned a vehicle, while about 78 percent of White households owned a vehicle. The difference in ownership of a television according to race is slightly less pronounced, with about 60 percent of African households owning a television in 2008, followed by 83 percent of Coloured Households, 90 percent of Asian households and 92 percent of White households in that year. Generally the gap in ownership is largest between African and White households. The results also suggest that for those assets where ownership depends on relatively higher levels of income such as a vehicle, ownership is highest amongst White households and lowest amongst African households.

Figure and Figure present ownership of private household assets according to the gender of the household head. The ownership of the three assets remained very similar across the three years for both male and female headed households and none of the differences in the access rates between 2007 and 2008 is statistically significant, with the exception of radio ownership by female headed households.

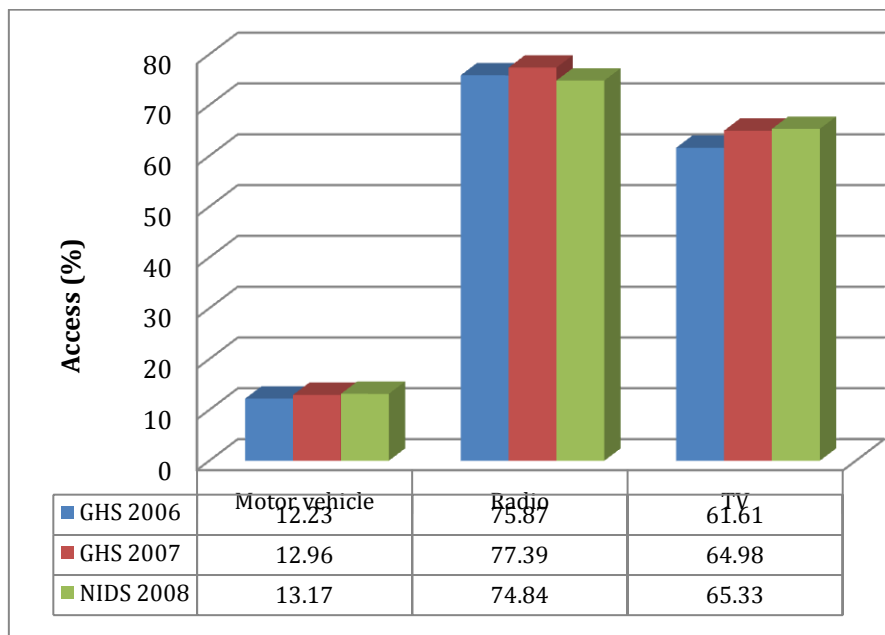
**Figure 9: Access to private assets 2006, 2007, 2008: Male headed households**



Source: Statistics South Africa 2007, 2008 and NIDS 2009

An additional very important result is that for all years, including 2008, ownership of all assets are lower for female headed households than for male headed households, with the difference particularly stark in the case of motor vehicles. In 2008, about 30 percent of male headed households owned a vehicle, while vehicle ownership in female headed households was about 17 percentage points lower. This may reflect that female headed households have lower levels of disposable income, making it more difficult to purchase a relatively expensive asset such as a vehicle. The low levels of vehicle ownership also imply that those living in female headed households are more dependent on public transport.

**Figure 10: Access to Private Assets 2006, 2007, 2008: Female Headed Households**



Source: Statistics South Africa 2007, 2008 and NIDS 2009

About 70 percent of male headed households owned a television, while only about 65 percent of female-headed households owned a television. In 2008 about 81 percent of male headed households owned a radio. In contrast, only 75 percent of female-headed households owned a radio and this was more than two percentage points lower than in 2007.

Table 9 below presents access to private household assets by province for 2006, 2007 and 2008. Again, the shaded cells indicate that the ownership of that particular asset is statistically different between 2007 and 2008. Similar to the results at the aggregate level, all provinces had lower levels of ownership of vehicles in comparison to the other two assets, while radio ownership was the highest in most provinces.

In the Western Cape, approximately 44.5 percent of households had access to a vehicle in 2008, which is about five percentage points higher than in 2007. Ownership of a television was 85 percent in 2008, more than three percentage points higher than in 2007. Ownership of a radio remained virtually unchanged at 83 percent in 2008 and 84 percent in 2007.

In the Eastern Cape, vehicle ownership was just less than 14 percent in 2008, about four percentage points lower than according to the 2007 GHS. About 55 percent of households in this province owned a television in 2008, while 72 percent of households owned a radio.

In the Northern Cape none of the differences in the results for 2008 was statistically different from the results from 2007. In 2008, about 27 percent of households owned a vehicle, while

three-quarters of households owned a television. Approximately 82 percent of households had access to a radio.

In the Free State province, all the 2008 access rates are statistically different from the 2007 rates. Vehicle ownership stood at 16 percent in 2008, while more than 21 percent of households had access to a vehicle according to the 2007 GHS. About 87 percent of households in this province owned a radio in 2008, which is about five percentage points higher than radio ownership in 2007. Vehicle ownership was also higher in 2008, at 74 percent versus 67 percent in 2007.

In KwaZulu-Natal, about 20 percent of households owned a vehicle in 2008, which is not statistically significantly different from vehicle ownership in 2007. Both ownership of a radio and a television were lower according to the 2008 NIDS than in 2007, at 76 percent and 55 percent respectively.

**Table 9: Access to Private Assets by Province: 2006, 2007, 2008**

		Vehicle	Radio	TV
Western Cape	2006	40.55	85.48	85.48
	2007	39.39	83.69	81.40
	2008	44.47	83.32	85.05
Eastern Cape	2006	13.45	71.85	51.25
	2007	17.11	73.33	55.87
	2008	13.61	72.46	55.36
Northern Cape	2006	24.96	77.09	68.41
	2007	26.43	76.89	69.98
	2008	26.75	76.90	75.31
Free State	2006	20.94	82.19	67.51
	2007	21.18	81.37	66.98
	2008	16.10	86.98	73.71
KwaZulu-Natal	2006	19.73	80.41	59.47
	2007	21.38	84.62	63.70
	2008	20.19	75.57	54.83
North West	2006	21.37	79.49	68.4
	2007	21.85	76.33	67.62
	2008	20.99	78.07	67.12
Gauteng	2006	29.40	68.97	69.28
	2007	24.13	79.99	69.90
	2008	28.52	79.30	73.86
Mpumalanga	2006	19.67	82.22	63.78
	2007	22.03	78.53	66.91
	2008	31.47	83.34	74.79
Limpopo	2006	12.43	73.04	53.95
	2007	12.69	74.59	60.81
	2008	11.05	77.54	57.81

Source: Statistics South Africa 2007, 2008 and NIDS 2009

In the North West province, 21 percent of households owned a vehicle in 2008, while 67 percent of household owned a television. These results compare well with the results from the 2007 GHS. The difference in radio ownership was not statistically significant, with 78 percent of households owning a radio in 2008.

In Gauteng, almost 29 percent of households owned a vehicle in 2008, which is about four percentage points higher than the result from the 2007 GHS. Radio ownership was the same as in 2007, at 79 percent. Ownership of a vehicle was 74 percent in 2008, versus 70 percent in 2007.

In the Mpumalanga province, the ownership of vehicles and televisions was higher in 2008 than in 2007. Thirty-one households owned a vehicle, while about three quarter of households owned a television in 2008. The difference in radio ownership was not statistically significant,

with about 83 percent of households owning a radio in 2008. Finally, in Limpopo, none of the changes in assets ownership between 2007 and 2008 is statistically significant. Eleven percent of households owned a vehicle, while about 78 percent of households owned a radio and 58 percent of households owned a television.

When we compare the access rates in 2008 across all the nine provinces, it is clear that radio ownership showed the smallest variation between provinces, with ownership varying from 72 to 87 percent. Television ownership varied from 55 to 85 percent, with the highest rates of ownership in the Western Cape (85 percent), followed by Mpumalanga and Gauteng (75 and 74 percent respectively). The lowest rates of television ownership were in the Eastern Cape and KwaZulu-Natal (both 55 percent) and Limpopo (58 percent).

The ownership of a motor vehicle is highest in the Western Cape, with about 45 percent of households in the province owning a vehicle in 2008. The second highest levels of vehicle ownership were in Mpumalanga (31 percent) and Gauteng (29 percent). On the other end of the scale, the lowest levels of vehicle ownership were in Limpopo (11 percent) and the Eastern Cape (14 percent). Not surprisingly then, vehicle and television ownership are strongly linked to relative income levels, with the “richer” provinces such as the Western Cape and Gauteng displaying higher rates of access to these two assets.

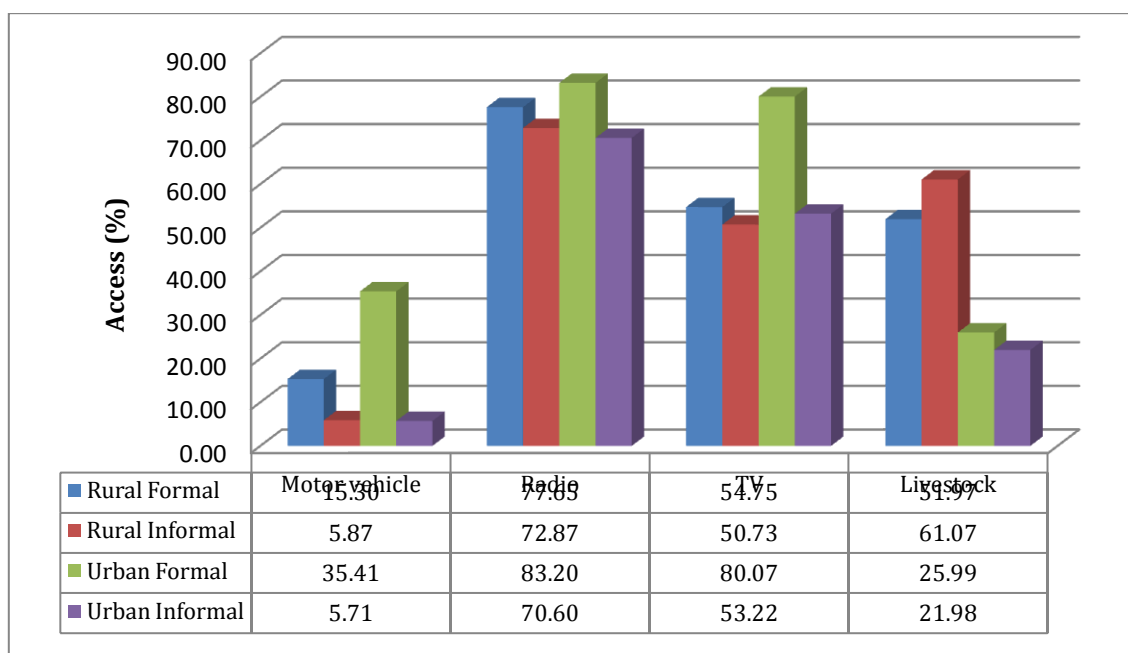
Generally the ownership of radios showed the smallest variation between 2007 and 2008, with only the Free State recording a higher access rate, while ownership of radios declined in KwaZulu-Natal. Vehicle ownership increased in the Western Cape, Gauteng and Mpumalanga, while it decreased in the Eastern Cape and the Free State. Television ownership increased in the Western Cape, Free State, Gauteng and Mpumalanga, while it decreased in KwaZulu-Natal.

To summarise, the results from NIDS in terms of access to private assets compare well with the results from the 2006 and 2007 GHS. At the aggregate, there were no changes in access rates between 2007 and 2008 and when the results by race were considered, only White households experienced any changes in access rates. For White households, vehicle and television ownership were lower in 2008. The results according to the gender of the household head also show little variation between 2007 and 2008, with only radio ownership by female headed households lower in 2008. The results by province generally show no change from 2007 or statistically significant increases. Only vehicle ownership was lower in two of the provinces (Free State and the Eastern Cape), while access to radios and vehicles were lower in 2008 in KwaZulu-Natal.

## 4.2 Ownership of Assets: More Detailed Results from NIDS 2008

Figure 11 presents access to private assets according to the geographical location of households in 2008. Livestock is included here, given the value attached to this asset by rural households in South Africa.

**Figure 11: Access to private access by geographical location**



Access to televisions and particularly to vehicles was clearly much higher in urban formal areas and reflects the higher levels of earnings in these areas. Approximately 35 percent of households in urban formal areas owned a vehicle in 2008. In contrast only about 6 percent of households in rural and urban informal areas owned a vehicle. Vehicle ownership was slightly higher in rural formal areas, at 15 percent.

More than 80 percent of households in urban formal areas owned a television in 2008. Levels of ownership in the other areas were substantially lower at between 50 and 55 percent. This differential again reflects the relatively higher levels of earnings in urban formal areas.

Radio ownership shows the smallest variation across geographical areas, varying between 71 percent in urban informal areas and 83 percent in urban formal areas. In rural areas, 78 percent of households in formal areas owned a radio, while 73 percent of households in informal areas owned a radio.

Not surprisingly, ownership of livestock was highest in rural areas, with just more than half of formal households owning livestock and more than sixty percent of informal households

owning livestock. Only about 26 percent of urban formal households and 22 percent of urban informal households reported that they owned livestock in 2008.

The table below presents access to landline telephones and cellular phones in 2008 according to our range of covariates. Access to mobile phones was high for all households, with no cohort experiencing an access rate of less than 73 percent. The highest access rates were displayed by White and African households - 92 and 85 percent respectively. Approximately 73 and 77 percent of Coloured and Asian households respectively had access to a cellular phone. There was very little difference in the access to a cellular phone according to the gender of the household's head, with 86 percent of male headed households having access to a cellular phone and 84 of female headed households having access to a cellular phone.

**Table 10: Access to landline and mobile phones, 2008**

	Landline		Cellular Phone
	<i>Working</i>	<i>Not working</i>	
African	5.43	5.39	85.46
Coloured	35.59	3.45	73.06
Asian	55.79	4.12	77.19
White	54.21	2.54	92.38
Male	18.41	4.94	85.65
Female	11.79	4.69	84.19
Rural Formal	7.64	3.36	76.29
Tribal	1.88	3.49	83.18
Urban Formal	25.36	6.04	87.4
Urban Informal	2.36	2.08	84.88

Geographical location also does not appear to have a substantial impact on access to a cellular phone. More than eighty percent of households in tribal, urban formal and urban informal areas had access to a mobile phone. Access was slightly lower in rural formal areas, at about 76 percent.

Access to a landline displays a very different pattern and was generally substantially lower. More than half of White and Asian households had a landline telephone in their dwellings, while only 36 percent of Coloured households had a landline phone. Access to a landline phone was very low for African households, at just more than five percent. Male headed households were more likely to have a landline phone in their dwellings. About a quarter of urban formal households had access to a landline, while about eight percent of households in rural formal areas had access to a landline phone. Only two percent of households living in informal areas had access to a landline. (Between two and six percent of households reported that they had



access to a landline, but that it was not in a working order). These results clearly highlight the enormous importance of cellular phones in providing access to telecommunication in the South African society.

### **4.3 Access to Private Assets by the Poor in NIDS 2008**

This section presents access to private assets by poor households in 2008. Again the results are presented according to two poverty lines (R502 and R924 per capita per month) and by a selection of covariates.

The results confirm that the majority of poor households (according to both poverty lines) owned a radio in 2008, with the rate of ownership 67 percent or higher. About 90 percent of poor White households owned a radio, which compares relatively well with the ownership rate of 95 percent for all White households. Approximately 79 percent of poor Coloured households owned a radio, which again compares well with the aggregate ownership of 84 percent. Almost three-quarters of all African households and of poor African households (at both lines) owned a radio in 2008. In contrast, radio ownership by poor Asian households (according to both lines) was substantially lower than radio ownership by all Asian households. More than 80 percent of all Asian households owned a radio in 2008, while between 67 and 68 percent of poor Asian households owned a radio. Access to a radio by poor Asian households is in fact lower than access to a radio by the poor from the other three population groups. The results for Asian households, however, are probably distorted by the small absolute number of poor Asian households. (In fact, in 2008, only about 105 000 Asian households were considered poor according to the R924 line, while just more than 72 000 households were considered poor according to the lower poverty line.)

Radio ownership by poor households compared well with radio ownership by all households when the gender of the household head was considered. In 2008, 81 of all male headed household owned a radio; while about 76 percent of poor male headed households (at both poverty lines) owned a radio. The corresponding results for female headed households were 75 percent for all female headed households, 71 percent for female headed households poor according to the R502 line and 72 percent for households poor according to the R924 line.

The results of radio ownership by poor households according to geographical area also compare well with the result for all households in the relevant area. Radio ownership by poor households (according to both poverty lines) was only slightly lower than total ownership by area. Further, radio ownership was highest in formal areas, and lowest in urban informal areas.

The overall trend in the results for television ownership suggests that, for the relatively wealthier cohorts (that is non-African households, male-headed households and urban formal households) the gap between ownership between poor households and all households was relatively larger. Television ownership for poor households from these categories was up to ten percentage points lower than for all households. For poor African households, television ownership was only between 3 and for percentage points lower than for all African households, while for poor female headed households, television ownership was between five and six percentage points lower. For all other areas outside of the urban formal areas, the gap between poor and all households was between two and three percentage points.

**Table 11: Access to household assets at two poverty lines, 2008**

	TV (%)		Vehicle (%)		Radio (%)	
	R 502	R 924	R 502	R 924	R 502	R 924
African	57.13	58.52	6.82	7.87	72.65	73.69
Coloured	73.28	75.24	14.27	17.02	78.35	79.05
Asian	80.73	81.03	51.52	51.17	68.16	66.73
White	81.61	85.86	57.95	54.09	90.43	90.53
Male Headed	58.63	61.02	12.35	13.90	75.50	76.48
Female Headed	59.08	60.63	4.57	6.09	70.76	72.04
Rural Formal	51.44	52.00	10.99	10.54	74.49	74.35
Tribal	48.72	49.21	4.29	4.92	72.94	72.98
Urban Formal	71.31	72.90	13.16	15.66	75.10	77.20
Urban Informal	49.91	51.28	5.12	5.47	68.11	69.36

Similar to all trends at the aggregate levels, vehicle ownership amongst the poor is much lower than ownership of radios and televisions. The difference in vehicle ownership amongst the poor relative to vehicle ownership amongst all households display pattern similar to that for televisions. Again the gap between poor households and all households is relatively larger for the wealthier cohorts. For example, vehicle ownership by poor Coloured households was between 17 and 20 percentage points lower than vehicle ownership by all Coloured households. Vehicle ownership by poor White households was between 24 and 27 percentage points lower than ownership by all White households. In the case of urban formal households, the proportion of the poor that owned a vehicle was less than half the proportion of all households in those areas that owned a vehicle.

While vehicle ownership by female headed households was significantly lower than for male headed households, the gap between poor and all non-poor households was around fifty percent.

Generally, the results appear to suggest that in the case of relatively more expensive assets (such as television and vehicles) the difference in ownership between the poor and all households is smaller for the relatively “poorer” cohorts. A discussion of poverty falls outside the ambit of the paper and, given the relatively large share of households without household expenditure values, care should be taken when drawing conclusions. These results, however, may be a reflection of the generally lower overall levels of income and expenditure of these cohorts. Put differently, given that relatively larger proportions of total African, total non-formal urban and female headed households are poor, it is not surprising that the aggregate rates of ownership were not that different from the rates of ownership by the poor households.

## 5. Conclusion

The objective of this paper was twofold. The aim was to provide an overview of the findings from the first wave of the National Income Dynamics Survey (NIDS) in terms of household access to public and private assets, but also to assess the veracity of the results produced by NIDS by comparing it against findings from the 2006 and 2007 GHS.

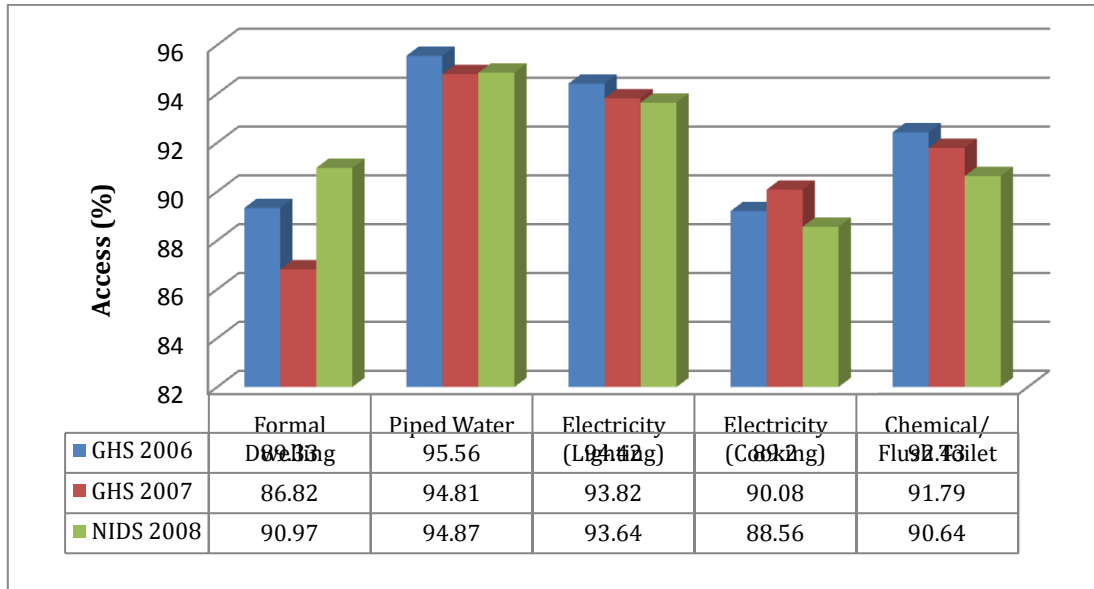
The initial results suggest that in the case of access data for public assets and services, the NIDS 2008 data provides a generally consistent and robust set of estimates when compared against the GHS 2006 and 2007. At the aggregate level and according to the race and gender of the household head, access rates in 2008 were generally similar or slightly higher than the access rates in 2006 and 2007. The results from NIDS also show that African households and female headed households remained relatively worse off in terms of access to public assets and services in 2008, in comparison to the other population groups and male headed households. At the aggregate, for African households and for male as well as female headed households, the most significant increases occurred in the use of electricity as source of energy for cooking, suggesting a possible change in households patterns.

The findings by province generally show no change or statistically significant increases in access to public services between 2007 and 2008. Households in the Western Cape, Gauteng and the Free States generally experienced the highest access rates in 2008 (similar to the estimates from the 2007 GHS), while households in Limpopo (with the exception of access to formal dwelling in both years), KwaZulu-Natal and the Eastern Cape had relatively lower rates of access to public services in both years. The results by province also suggest an increase in the use of electricity for cooking, with seven of the provinces reporting relatively large increases in the use of this source of energy for cooking.

NIDS also provides generally consistent and robust findings when estimates of access to private assets are considered. At the aggregate, there were no changes in access to private assets between 2007 and 2008, and when the results by race are considered, only White households experienced any changes in access rates. For White households, vehicle and television ownership were lower in 2008. The estimates according to the gender of the household head also remain unchanged between 2007 and 2008, with only radio ownership by female headed households lower in 2008. The results by province again show no change from 2007 or statistically significant increases between 2007 and 2008. The exceptions were lower vehicle ownership in two of the provinces (Free State and the Eastern Cape), while access to radios and vehicles were lower in 2008 in KwaZulu-Natal.

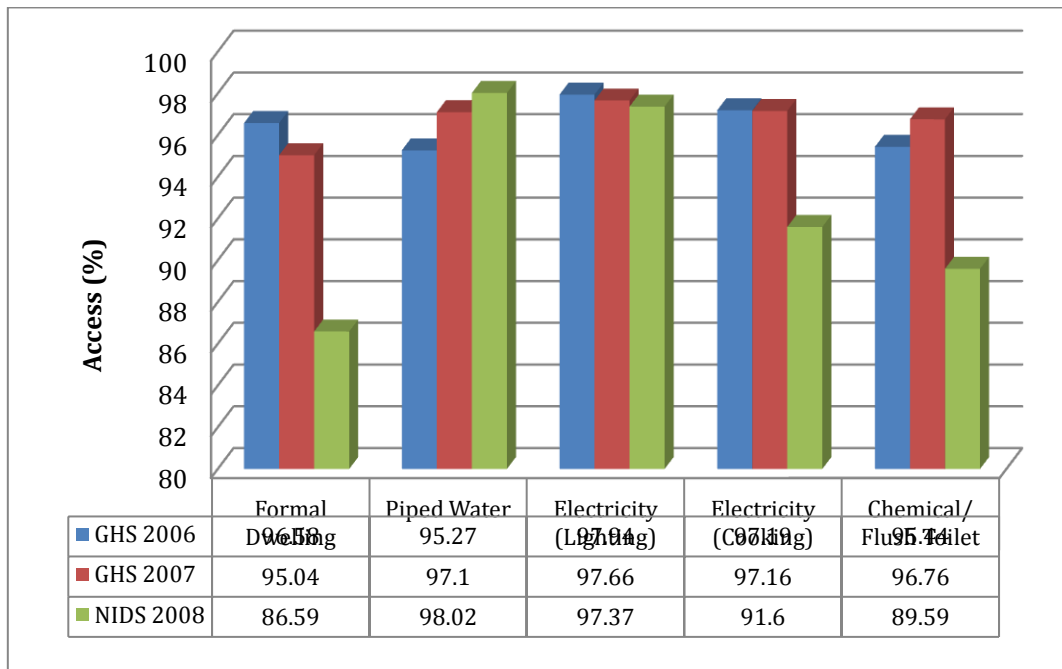
# Appendix

**Access to public assets: Coloured households in 2006, 2007 and 2008**



Source: Statistics South Africa 2007, 2008 and NIDS 2009

**Access to public assets: Asian households: 2006, 2007 and 2008**



Source: Statistics South Africa 2007, 2008 and NIDS 2009

### Type of dwelling by race and gender of household head, 2008

Type of Dwelling	Race of Household Head				Gender of Household Head	
	African	Coloured	Asian	White	Male	Female
<b>Formal Dwelling</b>	<b>66.11</b>	<b>89.33</b>	<b>96.58</b>	<b>98.81</b>	<b>73.16</b>	<b>71.89</b>
Dwelling/house/brick structure (separate)	52.8	77.6	54.59	74.07	57.33	58.65
Traditional dwelling/hut/structure made	11.91	1.13	2.98	0	6.92	12.55
Flat or apartment in a block of flats	5.25	4.33	12.85	3	5.23	4.78
Town/cluster/semi-detached house	1.68	3.9	16.88	9.1	3.57	2.66
Unit in retirement village	0	0.02	0	0.49	0	0.16
Dwelling/house/flat/room in backyard	7.39	3.74	2.26	7.12	7.4	6.07
Informal dwelling/shack in backyard	5.88	4.47	0.52	1.1	6.08	3.49
Informal dwelling/shack not in backyard	10.67	2.24	1.03	0.03	8.21	8.37
Room/flatlet	2.38	1.38	0	0.63	2.44	1.39
Caravan/tent	0.03	0.29	0	1.33	0.31	0.08

### Main source of water by race and gender of household head, 2008

	Race of Household Head				Gender of Household Head	
	African	Coloured	Asian	White	Male	Female
<b>Piped Water</b>	<b>66.48</b>	<b>94.87</b>	<b>98.02</b>	<b>98.67</b>	<b>77.47</b>	<b>68.79</b>
Public tap	21.37	2.17	1.98	0.28	14.29	19.63
Water-Carrier/tanker	1.43	0.55	0	0.05	1.49	0.59
Borehole on site	0.86	0.3	0	0.57	0.8	0.68
Borehole off site/communal	0.71	0.64	0	0.03	0.45	0.81
Rain-water tank on site	0.76	0.1	0	0	0.51	0.71
Flowing water/stream	3.53	0	0	0	1.89	3.84
Dam/pool/stagnant water	2.09	0.59	0	0	1.15	2.35
Well	0.26	0.24	0	0.28	0.18	0.37
Spring	0.68	0.01	0	0.01	0.37	0.73
Other	0.46	0.02	0	0	0.25	0.51
From a neighbour	0.79	0.42	0	0	0.59	0.68

### Main source of energy for lighting by race and gender of household head, 2008

Race of Household Head	Gender of Household Head
------------------------	--------------------------

		African	Coloured	Asian	White	Male	Female
<b>Electricity mains/generator</b>	<b>from</b>	<b>77.6</b>	<b>93.8</b>	<b>97.37</b>	<b>99.77</b>	<b>83.63</b>	<b>80.58</b>
Gas		0.11	0.15	0	0	0.12	0.06
Paraffin		4.48	2.52	0	0	3.55	3.65
Candles		17.03	3.01	0.09	0	12.01	14.91
Solar energy		0.26	0.01	0	0	0.17	0.23
Other		0	0.03	0	0	0	0
None		0.05	0.14	0.31	0	0.05	0.07

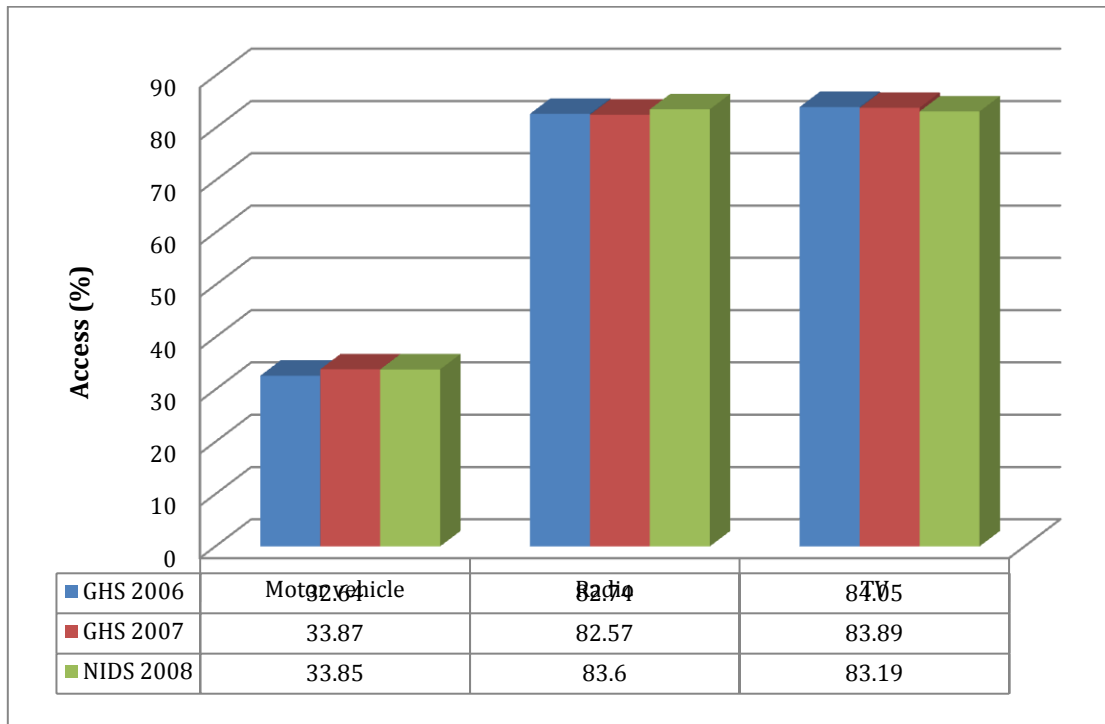
### Main source of energy for cooking by race and gender of household head, 2008

		Race of Household Head				Gender of Household Head	
		African	Coloured	Asian	White	Male	Female
<b>Electricity mains/generator</b>	<b>from</b>	<b>64.98</b>	<b>88.69</b>	<b>91.6</b>	<b>95.93</b>	<b>71.72</b>	<b>74.08</b>
Gas		2.78	4.61	3.2	3.53	3.04	3.73
Paraffin		16.24	2.58	1.73	0	12.58	12.68
Wood		13.94	3.86	3.46	0.09	11.01	8.07
Coal		1.26	0	0	0.2	0.98	0.9
Animal Dung		0.13	0	0	0	0.1	0.06
Solar energy		0	0	0	0	0	0
Other		0.05	0	0	0.01	0.04	0.04
None		0.04	0.08	0	0	0.04	0.04

### Toilet facility by race and gender of household head, 2008

	Race of Household Head				Gender of Household Head	
	African	Coloured	Asian	White	Male	Female
<b>Flush/Chemical Toilet</b>	50.9	90.64	89.6	99.24	67.05	53.55
Pit latrine with ventilation	9.76	1.8	1.98	0	6.13	9.89
Pit latrine without ventilation	26.83	1.82	0	0.28	18.06	24.18
Bucket toilet	3.62	0.94	5.58	0	2.23	4.05
None	8.12	3.43	0	0	5.67	7.55
Other	0.08	0.4	0	0.01	0.13	0.05

### Access to private assets 2006, 2007, 2008: Coloured households



### Access to private assets 2006, 2007, 2008: Asian households

