CHAPTER SIX: FINDINGS OF THE STUDY IN RESPECT OF OHS 1997

6.1 Introduction

The previous chapter presented the findings emanating from the analysis of the Data for OHS 1998. Chapter six will present the findings arising from the analysis of the data for OHS 1997. Like in the previous two chapters dealing with the study's findings, results of chapter six are divided into two broad categories. The first category deals with the findings in respect of discriminant function analysis. Discriminant function analysis in the context of this study, provides a description of the indicators which differentiate between groups of households experiencing different QOL conditions. Put in a different way, discriminant function analysis enables the study to identify the key indicator or indictors that are responsible for the existence of the different measurable living conditions observed among the QOL groups. Secondly the findings in respect of discriminant function analysis highlight the extent to which households are correctly classified into the QOL groups they belong to on the basis of the QOL indicators used in the study – a validity check. Finally as will be showed in due course, the results of discriminant function analysis provide a basis for ranking the QOL groups emanating from cluster analysis. The two models - cluster analysis and discriminant function analysis– have been applied in the study; the former to classify households into QOL groups, and the latter to validate the results as well as identifying the discriminating QOL indicators.

The second category of results deals with findings arising from cluster analysis. This category of results describes the characteristics of the various QOL groups, highlighting how the groups differ from one another in terms of the QOL indicators considered. Finally a description of the subjective assessment of QOL is provided in the attempt to find out whether there is a relationship – not statistical though - between the distribution of the QOL groups in the QOL index (i.e. the measurable living conditions) and households' subjective evaluation of quality of life.

6.2 Applying discriminant function analysis to the OHS (1997) data

As you may recall from chapter three dealing with the methodology as well as chapters four and five, discriminant function analysis was applied to identify the indicator or indictors that discriminate between quality of life groups. In analysing the data for OHS 1997 a total of fourteen indicators or multiple response variables were used in discriminant function analysis (see Table 6.3 and Appendix F). The same variables were used to classify households (i.e. cluster analysis, to be dealt with later on) into groups experiencing different QOL conditions; details regarding cluster analysis follow in Sections 6.3 and 6.4. Once again the reader is notified that this study has not succeeded in selecting the same indicators for all four datasets (OHS 1996-OHS1999). This is because in some cases, data was collected in such a way that the methodology applied in the study could not be meaningfully applied to such data. In some cases indicators were not consistently included in the four surveys, forcing the study to incorporate other indicators considered relevant within the context of the conceptual model in chapter three.

Just like in the explanations regarding discriminant analysis for OHS 1999 and OHS 1998, several quality of life indicators (i.e. multiple response variables) were used to classify households into groups which experience different QOL conditions; seven QOL groups emerged in this case. The multiple response variables - the fourteen QOL indicators - were used in cluster analysis to classify households. The same indicators were used in discriminant function analysis. In discriminant function analysis the seven QOL groups (i.e. QOL1 – QOL7) form the grouping variable. The grouping variable is used in discriminant function analysis, in conjunction with the multiple response variables to derive the discriminant functions. Since the number of indicators is bigger than the number of degrees of freedom for the seven groups (i.e. six), the maximum number of discriminant functions for this analysis is six. Like in OHS 1999 and OHS 1998, the seven QOL groups emanating from cluster analysis constitute the quality of life index.

Table 6.1 shows the output summarizing the Canonical Discriminant Functions - the Eigenvalue, percentage of variance, Cumulative percentage of variance accounted for by each function, and the Canonical Correlation for each discriminant function. The Eigenvalues associated with the discriminant functions indicate the relative proportion of between – group variability accounted for by each function. Results in this case indicate that 59.1% of the variation between the groups is accounted for by the first discriminant function and 25.7% of the variation is accounted for by the second discriminant function. The additional variance accounted for by functions three to six is also shown with a combined discriminating power of 15.2%. The first two discriminant functions account for close to 85% of the variation between quality of life conditions in the seven groups which is substantial. Accordingly the interpretation of discriminant function results will be limited to these two functions.

Table 6.1:Summary of canonical discriminant functions for OHS 1997

Function	Eigenvalue	Percentage of Variance	Cumulative percentage	Canonical Correlation
1	7.9553	59.1376	59.1376	0.9425
2	3.4626	25.7399	84.8775	0.8809
3	1.5583	11.5837	96.4612	0.7805
4	0.4089	3.0394	99.5006	0.5387
5	0.0633	0.4707	99.9714	0.2440
6	0.0039	0.0287	100	0.0620

NB. The first six canonical discriminant functions were used in the analysis.

The association between the QOL groups and the indicators is depicted by the canonical correlations for each function (Last column of Table 6.1). The first two discriminant functions indicate strong correlations (i.e. 0.94 and 0.88 respectively) between the QOL groups and the indicators. The third discriminant function shows a 0.78 correlation between the QOL groups and indicators which is also fairly high. Functions four to six reveal substantially reduced correlations between the QOL groups and the indicators. The interpretation of the strength of these correlations however, is enhanced by taking into consideration the Chi - square results in Table 6.2. The Chi – square results indicate that with all six functions tested together, the $\chi^2(78)$ of

144151.8 indicates a high relationship between the six QOL groups and the QOL indicators which serve as the predictors. With the first discriminant function removed, there is still a reliable relationship between the QOL groups and the indicators as indicated by χ^2 (60) of 81392.12, p = 0.000. The same goes for all the six functions as one function is systematically removed. All of the six functions indicate reliable relationships between the QOL groups and the indicators despite the systematic decline in the magnitude of the canonical correlations for the respective indicators.

Table 6.2: Wilks' lambda and chi – square results – OHS 1997

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 6	0.0065	144151.8	78	0.00
2 through 6	0.0583	81392.12	60	0.00
3 through 6	0.2599	38572.39	44	0.00
4 through 6	0.6650	11681.28	30	0.00
5 through 6	0.9368	1867.896	18	0.00
6	0.9962	110.11	8	3.62E-20

The associations indicated by Chi-square values are reliable but, it is important to note that they emanate from a relationship between seven QOL groups and fourteen indicators. Since there are numerous indicators in the analysis, there is a high likelihood of at least one indicator to discriminate between QOL groups for each discriminant function. As a resultant all of the six functions show reliable associations between the QOL groups and the indicators although each function has one or two outstanding indicators as revealed by the within correlations between discriminating variables and discriminant functions (Table 6.3). The outstanding indicators are marked with (*) and these are the focal points in discriminant function analysis.

6.2.1 Interpretation of discriminant function results

Results in table 6.3 indicate that *Type of dwelling occupied by the household* is the outstanding QOL indicator that correlates highly (0.697) with the first discriminant function. This indicates that the type of dwellings occupied by households in the various groups differ substantially, a feature to be described in detail in section 6.4.

As a synopsis, it suffices to indicate at this point that none of the households in groups three and six (i.e. QOL 3 and QOL 6) occupies a permanent brick house on a separate stand. Details pertaining to differences between QOL conditions among groups are provided in section 6.4.

Witt regard to the second discriminant function, *Highest class/standard completed* by a household head loads highly with this function, with an absolute correlation of 0.729. This indicator as will be shown in section 6.4, differentiates particularly QOL7 – with the best living conditions – from the rest of the groups. This group, accounting for 37.5**%** the of the sampled households has the highest percentage of households headed by people with tertiary education (close to 20%). The rest of the groups have less than 3% of household heads having tertiary education (Details are in Table 6.8).

Table 6.3: Pooled within correlations between discriminating variables and standardised canonical discriminant functions – OHS 1997

	Function					
	1	2	3	4	5	6
Type of dwelling occupied by h/hold	0.6974*	-0.6368	-0.3181	-0.0327	-0.0514	0.0343
Highest class/standard completed	0.4304	0.7287*	-0.5156	-0.0014	0.0876	0.0519
Does h/hold have to pay for water?	0.2211	0.1037	0.2545*	0.2154	0.1176	0.1656
H/hold's main water source	0.3501	0.1767	0.5986	-0.6522*	0.1921	0.1052
Is there a land line phone in h/hold?	0.2049	0.0861	0.1194	0.3647	0.6446*	0.0015
How h/hold refuse is disposed of	0.2810	0.2226	0.4296	0.3477	-0.4335*	0.3462
H/hold transport to health facility	0.0875	0.0798	0.0025	0.2593	0.4314*	0.3679
Facility the h/hold usually seeks medical help	0.1367	0.0993	0.0769	0.2611	0.3942*	0.3486
H/hold's main fuel for cooking	0.3826	0.2019	0.3999	0.4026	-0.0044	-0.5418*
H/hold's main fuel for heating	0.3826	0.2019	0.3999	0.4026	-0.0044	-0.5418*
Did person work for pay during past 7 days?	0.1008	0.1278	0.0685	0.0221	-0.08	0.4511*
H/hold's main fuel for lighting	0.2811	0.1124	0.3411	0.2214	-0.0508	-0.3531*
Does anyone in h/hold have a cellular phone?	0.0749	0.0505	0.0505	0.1388	0.1853	0.2784*
H/hold distance from health facility	0.0597	0.0414	0.1184	-0.0550	-0.1158	0.1403*

NB. Pooled within correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

*Largest absolute correlation between each variable and any discriminant function.

6.2.2 Prediction of group membership

The results above emanate from the application of discriminant function analysis to the grouping variable (QOL 1 – QOL 7) and the multiple response variables, also referred to as the QOL indicators. Table 6.4 provides results on the extent of fit between the cases predicted by the discriminant function model and the cases originally classified in cluster analysis. These results indicate that 96% of the cases classified by cluster analysis are correctly classified in the discriminant function analysis model. With the exception of QOL5, the fit between the classification results of the two models is above the overall result of 96%, with the best fit being in QOL7 where 97.4% of the original cases are correctly predicted under discriminant function analysis. The poorest fit between the two models is found in QOL 5 where 88.3% of the original cases are correctly classified by the discriminant function model. In this case 4.3% of the households which were classified as belonging to QOL5 are predicted as belonging to QOL1. Another 4.3% of the cases originally classified as belonging to QOL5 are predicted as belonging to QOL2.

The prediction of 8.6% cases as belonging to QOL1 and QOL2 is likely to have been caused by the fact that all three groups – QOL1, QOL2 and QOL5 - have large percentages of households headed by people with education levels below standard nine (see Table 6.8). In QOL5, virtually all household heads (99.9%) have their education level below standard nine.

Table 6.4: Classification results of original and predicted group membership for OHS 1997

	Predicted Group Membership								Total
	Cluster Number of Case	1	2	3	4	5	6	7	
Original Count	1	**4290**	51	40	1	2	1	46	4431
	2	57	**4162**	0	1	22	3	89	4334
	3	11	0	**1782**	30	5	12	0	1840
	4	0	3	17	**2107**	9	45	5	2186
	5	109	109	20	0	**2224**	58	0	2520
	6	0	3	41	25	24	**2497**	0	2590
	7	63	130	0	102	0	0	**10443**	10738
	Percentages								
	1	**96.8**	1.2	0.9	0.02	0.05	0.02	1.04	100
	2	1.3	**96.0**	0	0.02	0.51	0.07	2.1	100
	3	0.6	0	**96.9**	1.6	0.3	0.7	0	100
	4	0	0.1	0.8	**96.4**	0.41	2.1	0.2	100
	5	4.3	4.3	0.8	0	**88.3**	2.3	0	100
	6	0	0.1	1.6	1.0	0.9	**96.4**	0	100
	7	0.6	1.2	0	1.0	0	0	**97.4**	100

NB. 96.0% of original grouped cases correctly classified.

In the previous two chapters dealing with the study's findings, and indeed throughout the study, the quality of life clusters have been ranked as indicated in section 6.4 (dealing with cluster analysis results). The distribution of group centroids for the first discriminant function has been used in each case to rank the QOL clusters. In the case of OHS 1997, results of the discriminant functions, evaluated at the group means are shown in Table 6.5. The results of the ranking process are shown in Table 6.7 where they play a critical role in describing the results pertaining to cluster analysis and the QOL index as such.

Table 6.5: Unstandardised canonical discriminant functions at group centroids

	Discrimiminant Function number					
QOL/Cluster Number	1	2	3	4	5	6
1	0.1677	-2.9507	1.3401	-0.3771	-0.0997	-0.0704
2	0.6126	-0.8507	-2.0563	-0.8089	-0.1468	0.0518
3	-4.5875	0.1098	2.1480	-0.6408	0.4146	0.1420
4	-2.3711	3.5894	1.2044	-0.0655	-0.6528	0.0008
5	-4.2617	-2.0545	-1.0108	1.5530	-0.0858	0.0270
6	-3.8992	2.1752	-1.197	-0.3342	0.3414	-0.1201
7	2.8930	0.7689	0.1897	0.3214	0.1000	0.0063

NB. Unstandardised canonical discriminant functions are evaluated at group means

6.3 Formation of quality of life groups using cluster analysis

As indicted in the introduction, cluster analysis was applied on the OHS 1997 data to group households into QOL groups. In the application of cluster analysis to the OHS 1997 data, seven QOL groups emerged when households were classified on the basis of fourteen indicators. Table 6.6 shows the indicators involved in the analysis and the final cluster centres for the seven QOL groups that emerged. Details of the findings pertaining to the results of cluster analysis follow in Section 6.4 where aspects of the seven quality of life groups are described.

Table 6.6 Final cluster centers for OHS 1997

Variables in analysis	Cluster number						
	1	2	3	4	5	6	7
Did person work for pay during past 7 days?	2.2805	2.5187	2.3098	3.4790	1.5337	2.3073	3.5732
Type of dwelling occupied by h/hold	10.8626	10.9486	4.4473	4.0544	7.4163	4.6950	10.7088
Does anyone in h/hold have a cellular phone?	1.0289	1.0127	1.0185	1.0517	1.0028	1.0046	1.1477
H/hold's main fuel for cooking	5.6840	4.2958	4.1609	6.2150	3.2929	3.6193	7.8575
H/hold's main fuel for heating	5.6840	4.2958	4.1609	6.2150	3.2929	3.6193	7.8575
H/hold's main fuel for lighting	4.7362	3.4938	3.5696	4.7987	2.6683	2.8363	5.9460
Highest class/standard completed	2.0273	9.5803	1.6435	10.0631	1.9452	9.2614	11.7999
Does h/hold have to pay for water?	2.9616	1.9700	2.1870	3.1135	1.2984	1.4417	4.3571
Is there a land line phone in h/hold?	1.1451	1.0321	1.011957	1.0691	1.0052	1.0062	1.5407
H/hold distance from health facility	3.6084	3.3057	3.5120	3.8079	2.8587	3.1189	3.7704
H/hold transport to health facility	3.4593	3.6599	3.57120	3.7635	3.8587	3.8761	4.9600
Facility the h/hold usually seeks medical help	4.8310	4.7077	4.7147	5.1066	4.5956	4.7174	6.2713
How h/hold refuse is disposed of	5.0643	3.3159	4.0576	7.0009	2.5782	2.7085	7.4147
H/hold's main water source	10.8883	8.9003	10.3223	10.6981	4.3008	7.6552	11.7244

6.4 Comparing different aspects of the seven quality of life

Before comparing the quality of life conditions in the various QOL groups, there is a need to determine how the QOL groups differ from each other in terms of the conditions experienced. In other words, there is a need to assess the objective conditions in the quality of life groups, which brings in the issue of ranking. Like in chapters four and five, ranking the QOL groups has been based on findings of the discriminant function model.

Discriminant function analysis provides a distribution of groups of cases along particular dimensions or discriminant functions. As detailed in section 6.2, the first discriminant function (DF) accounts for most of the between - group variation. Clusters will have their centroids distributed along a particular DF on the basis of the indicator characteristics used in the analysis. A group of households with the best access to the selected QOL indicators will have its centroid located farthest on the positive side of the first dimension or discriminant function. Similarly a group of households with the poorest access to the selected QOL indicators will be have its centroid located farthest on the negative side of the first dimension. This enabled the study to rank the QOL groups whose results are provided in Table 6.7.

Findings in this respect indicate that group seven with its centroid located 2.89 units on the right side (i.e. the positive side) of the first DF is ranked number one. It has the best access to the QOL indicators considered in the study, hence judged to experience the best quality of life. It is followed by group two whose centroid is located 0.61 units on the positive side of the DF. By contrast group three with its centroid located - 4.59 units on the left side of the DF is ranked seventh on the QOL index. This group is judged to experience the poorest QOL as it has the least access to the indicators considered in the study.

Table 6.7: Distribution of QOL groups and their respective ranks based on group centroids

QOL Group number	1	2	3	4	5	6	7
Group centroids – First discriminant function	0.17	0.61	-4.59	-2.37	-4.26	-3.9	2.89
Rank of QOL Group	3	2	7	4	6	5	1

Having looked at how households experiencing similar QOL conditions were grouped, the study will embark on describing the characteristics of the QOL groups themselves. Table 6.8 provides a summary of the demographics for the seven QOL groups that emerged in cluster analysis. Details pertaining to these results are provided hereafter.

Table 6.8: Demographics, employment and income of the QOL groups (OHS 1997)

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Population group							
Asian	5.4	0.02	0.1	0.5	-	-	0.05
Black	48	93.7	81	89	97.8	98.5	96.3
Coloured	20	6.0	17.4	7.7	2.1	1.5	3.6
White	26.4	0.2	0.5	2.4	0.1	-	0.05
Age of head of the household							
15 -19 years	0.4	3.1	0.1	1.1	2.4	0.12	0.1
20 - 29	10.6	17.4	2.9	18.2	17.5	2.6	3.4
30-49 years	52.7	48.1	28.0	60.1	51.6	27.2	36.3
50 - 69	29.7	25.4	45.4	18.3	23.1	47.5	41.6
70 years and older	6.5	6.0	23.6	2.3	5.6	22.5	18.5
Median age	44	41	59	38	40	60	55
Sex of head of the household							
Male	72	51	53	66.3	50	42	52.3
Female	28	49	47	33.7	50	58	47.7
Education Level							
Standard 9 and below	61.4	85.2	99.7	86.6	94.1	99.9	100
Standard ten (Matric)	19.2	8.9	0.2	13.4	5.9	0.04	-
Certificate or Diploma	13.0	2.8	0.1 (5)	2.3	1.9	0.04	-
Degree or post graduate Degree	6.2	0.4 (16)	0.05 (2)	1	0.1	-	-
Gross monthly **Household) Income**							
R0–R500	7.2	16.2	16.9	20.9	16.7	9.1	19.3
R501– R2500	15	13.8	9.6	23.7	10.2	3.4	9.3
R2501-6000	10.5	2.3	0.8 (37)	2.9	1.5 (38)	0.4 (9)	0.5 (10)
R6001-R 16000	2.6	0.3 (11)	0.1 (6)	0.1 (2)	0.3 (7)	0.04 (1)	0.1 (2)
R16001-R30000	0.17 (18)	0.02 (1)	0.07 (3)	0.05 (1)	-	-	-
R30001 +	0.4 (41)	-	0.02 (1)	0.05 (1)	-	-	-
Response rate	34	33.9	28.4	49.1	29.9	13.9	30.7
Median income (Rands)	1803.91	495.00	400.30	760.83	431.38	339.50	375.27

Table 6.8:: Demographics, employment and income of the QOL groups (OHS 1997)- continued

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Employment Status							
Full time	62.5	35	30.3	58	29.7	11.7	29.6
Part – time	2.2	3.0	1.8	4.9	3.2	1.5	3.5
Casual	1.0	1.5	1.3	2.3	2.6	1.9	2.0
Unemployed	34.4	60.0	66.5	35.0	65.0	84.9	64.8
Number of cases (N = 28639)	10738	4334	4431	2186	2590	2520	1840
Percentage	37.5	15.1	15.5	7.6	9	8.8	6.4

NB. The numbers in brackets indicate the number of cases – included in situations where percentages are small.

6.4.1 Analysis of Demographics (OHS 1997)

(a) Demographics of Quality of Life (Group 7)

Group seven contains the biggest percentage of the sampled households (37.5%). It is also judged to be enjoying the best QOL in terms of access to the selected quality of life indicators. More than half of the households (52.7%) are headed by people aged 30 – 49 with 27.1% of them falling in the 30 – 39 age category. Some forty seven households (0.4%) are headed by people aged 15 – 19 while 10.6% of the households are headed by people aged 20 – 29. Close to thirty percent of the households (i.e. 29.7%) are headed by people aged between fifty and sixty nine years. Households headed by elderly people aged seventy and older constitute 6.5%. Males dominate the household headship (72%) and, the majority of these households are urban (89%).

When it comes to racial composition 48% of the households are African or Black the other population groups feature substantially while 26.4% are white. One in five households is Coloured and 5.4% of the households are Indian households.

The language profile of the group is diverse, with Afrikaans dominating at 35.5% followed by English at 16.9%.

Zulu is spoken by 12.6% of the households while 8.1% speak Xhosa at home. Sotho languages follow with Setswana being spoken by 7.8% of the households, South Sotho (7.7%) and, Sepedi by 5% of the households. Shangani – speaking households constitute 2% while 1.7% of the households speak Siswati at home.

The level of completed education for household heads in this group is comparatively high although there are households with low education levels. Close to twenty percent (19.9%) of the households are headed by people with tertiary qualifications. Households headed by a person having a tertiary certificate constitute 3.8% while 9.2% of the households are headed by a Diploma holder. Bachelors Degree holders head 4.6% of the households while 40 households (i.e. 0.4%) are headed by someone with Bachelors Degree plus a Diploma. Thirty eight households (0.4%) are headed by people possessing a Bachelors Degree and an Honours Degree while sixty seven households (0.6%) are headed by someone with a Masters Degree. PhD holders head 23 households which is approximately 0.2% of the households in this group. As for the 80% or so household heads without tertiary education, 19.2% have completed Standard ten while the rest (61.6%) have education levels ranging between standard one and standard nine.

The relatively high level of education in group seven could be responsible for the high percentage of household heads being employed on a full time basis (62.5%). Household heads with a part time job make up 2.2% while one percent of the household heads are employed on a casual basis. Compared with other groups, unemployment is lowest in group seven (34.4%), a figure that compares only with 35% in group four (see Table 6.8).

In all seven groups, disclosure of household income is poor as indicated in Table 6.8; 34% of the households in group seven disclosed income earned by working household heads. Of the households which provided household income 7.2% earn at most R500 a month while 15% earn between R500 and R2500. Some 10.5% of the households earn between R2500 and R6000 while 2.6% earn between R6000 and R16 000 a month. Basing on households which provided information on household income, group seven is relatively better off with a median income of R1803.91.

Given the income profile of group seven, however inconclusive it might be with close to 90% of the households being urban, it may not come as a surprise that the majority of households (51.8%) visit private health facilities when in need of health care services; 47.4% visit a private clinic or specialist. Households which visit public health facilities constitute 44.5% with 20.4% of them visiting a public clinic.

(b) Demographics of Quality of Life (Group 2)

Group two ranks second on the QOL index. The age profile of household heads in group two differs slightly from that of group seven. With a median age of forty one, 45.7% of the household heads are younger than 40 years. Group two however, differs substantially from group seven when it comes to households headed by teenagers; 3.1% of the households in group two – the biggest in al groups – are headed by people aged 15 – 19 years. Households headed by people aged 20 – 29 constitute 17.4% while close to half of the household heads (48.1%) fall in the 30 – 49 age category. Around a quarter of the households (25.4%) are headed by people aged 50 - 69 and, households headed by elderly people (70 years and older) make up six percent. The sex distribution of household headship is almost balanced with males having a slight edge at 51%. Unlike in group seven the majority of households in group two (83.7%) are found in rural areas.

When it comes to population composition, African households constitute the majority (93.7%) followed by Coloureds (6%). White households make up a small percentage of 0.2% while Indian households constitute an even smaller percentage of 0.02%.

As far language spoken at home is concerned, Sotho – speaking households constitute the majority (41.7%), with Sepedi accounting for 16.1% and Setswana, 16%; households which speak South Sotho at home make up 9.6%. Nineteen percent of the households speak Xhosa while 15.6% speak Zulu. Shangani and Afrikaans are spoken by 6.3% each while Tshivenda is used by 3.1% of the households.

The level of education completed by household heads or acting household heads is lower than that in group seven. While none of the households is headed by a person without education, 85.2% of the household heads have education level below Standard nine; those who have completed Standard ten make up 8.9%. A hundred and thirty six households (i.e. 3.1%) are headed by people with tertiary education. Of the 3.1% household heads, 2.8% are Diploma holders while sixteen (i.e. 0.4%) have at least a Bachelors Degree.

Unemployment is high with 60% of the household heads being unemployed. Household heads who reported having a full time job at the time of the survey make up 35% while 3% indicated being employed on a part time basis (see Table 6.8 for details).

A third of the households in group two provided information in respect of household income. With a median income of R495, 16.2% of the households earn at most R500 a month while 13.8% earn between R500 and R2500. Some 2.3% of the households earn between R2500 and R6000.

Information in respect of household income indicates that a substantial number of households in this group are low income earners. This income profile coupled with the employment status of household heads and, given that the majority of households are rural, could be contributing to most of the households relying a lot on public health services. Fifty six percent of the households visit a public clinic while 30% visit a public hospital. Households which make use of private health services (private clinic, hospital or private doctor) make up 11.8%.

(c) Demographics of Quality of Life (Group 1)

Group one with 15.5% of the sampled households ranks third on the QOL index. Compared with groups seven and two, households in group one are headed by generally older people with a median age of 59. A few households (0.1%) are headed by people aged 15 – 19 while 2.9% of the households are headed by people aged 20 – 29. In most cases, the 30 – 49 age category contains the majority of household heads but this is not the case with group one where 28% of the household heads fall in this category.

Households headed by people aged 50 – 69 make up 45.5%; close to a quarter of the households (25.4%) are headed by someone aged 60 – 69. Elderly people (aged 70 years and older) account for 23.6% of the household headship, the biggest of all QOL groups. Male headed households outnumber female headed households (53%) and, the majority of households in this group (54.7%) are rural.

As far as race is concerned, African households dominate group one at 81% followed by Coloured households which make up 17.4%. Asian and White households are in the minority, 0.1% and 0.5% respectively.

When it comes to language spoken at home, Afrikaans is the most commonly spoken language (18.2%) followed by Setswana and Isizulu, 14.4% and 14.3% respectively. Sepedi is used by 13.3% of the households while South Sotho and Xhosa are used by 10.7% and 10.2% of the households respectively. Ndebele and Shangani are spoken by 4.8% and 4.3% households respectively while Tshivenda is spoken by 2.1% of the households.

The level of completed education by household heads or people acting in this capacity is low; 99.7% of them have an education level that is below standard nine or grade 11. Three quarters (75.8%) have had no education and, 0.2% have completed standard ten. Seven households constituting 0.2% are headed by people with tertiary qualifications five of whom possess a Diploma while the remaining two possess at least a Bachelor's Degree.

Unemployment is comparatively high with 66.5% of the household heads being unemployed. Households headed by people with full time employment make up 30.3% while 1.8% are part time employees.

Information pertaining to household income is inconclusive as a few households (28.4%) provided such information. Of these households 16.9% earn less than R500 a month while 9.6% earn between R500 and R2500.

This income profile, however questionable it may be and, the high level of unemployment could be contributing to most of the households to rely on public health services–54.2% visit a public clinic while 27.3% visit a public hospital. Households which make use of private health services make up 16.1%.

(d) Demographics of Quality of Life (Group 4)

Group four ranks fourth on the QOL index. Relatively few households in this group are headed by people on both ends of the age continuum. On the young side of the age continuum, 1.1% of the households are headed by people aged 15 – 19 while 18.2% are headed by a people aged 20 – 29 years. The majority of household heads 60.1% fall in the 30 – 49 age category, the biggest of all QOL groups. Households headed by people aged 50 – 69 make up 18.3% while at the older side of the age continuum lies a small percentage of households, (2.3%) headed by people aged seventy years and older. Almost two thirds of the households (66.3%) are headed by males and, the majority of the households (83.5%) are urban.

African households are in the majority (89%) followed by Coloured households (7.7%). White households constitute 2.4% while Indian households are the least in proportion at 0.5%.

Zulu and Xhosa are the most commonly spoken languages at home, 23.5% and 23.2% respectively followed by South Sotho (17,8%). Afrikaans is spoken by 9.4% of the households while Setswana – speaking households make up 9.2%. Sepedi is spoken by 6.7% of the households while Shangani is spoken by 4.7% households.

The level of completed education for household heads in this group is relatively high compared with the situation in group one. Household heads in possession of tertiary education make up 3.3% compared with 0.15% in group one. Of the 3.3%, 1.3% of the households have got a Diploma while 1% have got a certificate and another 1% have a Degree or Masters Degree.

For household heads without tertiary education, 13.4% completed Standard Ten while the rest (86.6%) have education levels ranging between standard one and standard nine.

The relatively high level of education for household heads in this group could be contributing to the comparatively low unemployment rate of 35%. The majority of household heads (58%) are employed on a full time basis while part time employment accounts for 4.9%.

Close to half of the households in group four (49.1%) provided information pertaining to household income. Results in this regard indicate that in spite of the low unemployment rate several households live on low monthly incomes as reflected by the group's median income of R760.83. For instance 20.9% of the 49.1% households earn at most R500 a month and 23.7% earn between R500 and R2500. Close to 3% of the households earn between R2500 and R6000 with the remaining five households (i.e. 0.2%) earning at least R6000 a month.

Even though 83.5% of the households are urban, 77.2% of the households in group four rely on public health services; 44.4% of the households seek medical help from public clinics. Households which make use of private health services in this group constitute 21.2%. The high reliance on public health services could be due to the generally low household incomes.

(e) Demographics of Quality of Life (Group 6)

This group is fifth on the QOL index and, accounts for 9% of the sampled households. The distribution of age of households heads is slightly skewed towards the young side with a median age of 40 years. A relatively large proportion of households (2.4%) – in comparison with other groups - are headed by young people aged 15 – 19 while 17.5% of the household heads are aged 20 – 29. At least half of households (51.6%) are headed by people aged 30 – 49 while 23.1% of the household heads are aged 50 – 69. Elderly people – aged seventy and older – head 5.6% of the households in this group.

There is parity when it comes to male and female headed households and, the majority of the households (79%) are rural.

When it comes to population composition 97.8% of the households are African while 2.1% are Coloured. White households constitute around 0.1%.

Xhosa is the most spoken language with 35.7% of the households using it at home, followed by Zulu (26.2%). One in ten households speaks South Sotho while North Sotho or Sepedi is spoken by 7% of the households. Households which speak Setswana at home make up 6.6% while Shangani is spoken by 6% of the households. Households which speak Tshivenda constitute 3.2%.

The level of education completed by household heads in this group is relatively low with just 2% of them having a tertiary qualification. Of the two percent, 1.9% of the household heads have got a Diploma or certificate and, three household heads or 0.1% possess a Degree. Besides the household heads with tertiary education, 5.9% have completed Standard ten with the reset having education levels varying between Standard one and Standard nine.

Unemployment is high with 65% of the households being headed by someone without a job. Close to 30% of the households are headed by people with a full time job while 3.2% are headed by people employed on a part time basis.

Around thirty percent of the households in group six provided information pertaining to household income. Out of this percentage, 16.7% earn at most R500 a month while 10.2% earn between R500 and R2500. Thirty eight households (i.e. 1.5%) earn between R2500 and R6000 a month.

Given the income profile above however inconclusive it might be coupled with high unemployment and, 79% of the households being rural, it may not be surprising that just around one in ten households (10.5%) seeks medical help from private health services.

The majority of households (88.6%) rely on public health facilities with 55.5% visiting a public clinic when the need for medical help arises.

(f) Demographics of Quality of Life (Group 5)

This group which accounts for some 8.8% of the sampled households ranks sixth on the QOL index. It consists of households headed by relatively old people with a median age of sixty. Three households (0.12%) are headed by people aged 15 – 19 while 2.6% of the household heads are aged 20 – 29. This group has the smallest proportion of household heads in the 30 – 49 category (27.2%). Close to half of the household heads (47.5%) are aged between fifty and sixty nine years. Households headed by elderly people make up 22.5%, of whom 5.3% are eighty years and older. Female headed households constitute the majority (58%) and all households but 1.3% are rural.

As far as race is concerned, African households are predominant (98.5%) with Coloured households complementing them. Most of the households (42%) speak Zulu followed by Xhosa speaking households which make up 32%. One in ten households speaks Sepedi while 4.5% speak Setswana.

The level of education completed by household heads is low with just one household head having a tertiary certificate (not a degree certificate). Virtually all household heads (99.9%) have not completed standard ten; 78.1% of the households are headed by people with no education while 22.3% have got education levels varying between grade zero and grade six or standard four.

Unemployment is high with 84.9% of the household heads having been without a job at the time of the survey. Close to 12% of the household heads had full time jobs with the rest working either on a casual or part time basis (see Table 6.8).

Quite a few households (13.9%)-the smallest proportion among the seven QOL groups-provided information regarding household income. Of the 13.9% households, 9.1% indicated to be earning at most R500 a month while 3.4% earned between R500 and

R2500 a month. Nine households or 0.4% indicted that they earn a monthly income that is between R2500 and R6000. Much as information pertaining to household income is inconclusive, the high rate of unemployment and the majority of the households being rural could be contributing substantially to close to 92.4% of the households relying on public health services when a need for such services arises. Households which seek medical help from private health services (Private doctor, clinic and hospital) constitute 6.5%.

(g) Demographics of Quality of Life (Group 3)

This group ranks seventh on the QOL index. It is thus judged to have the poorest access to the selected QOL indicators. This group, with a median age of 55, is one of three groups (the other two being groups one and five) where large proportions of households are headed by elderly people– aged 70 and older. In the case of group three 18.5% of the households are headed by elderly people. At least four out of ten households (41.6%) are headed by someone aged between 50 and 69 years. Households headed by people aged 30 to 49 are relatively few, constituting 36.3%. Sixty two households (i.e. 3.4%) are headed by someone aged 20 – 29 and two households or 0.1% are headed by people aged 15 – 19. The majority of households are rural (60%) and, male headed households slightly outnumber the female headed households (52.3%).

As far as race is concerned, African households are predominant (96.3%) with Coloureds accounting for 3.6%. Indian and White households make up 0.05% each.

Isizulu is the most spoken language at home (24.4%) followed by South Sotho (16.4%) and Xhosa (16.2%). Households speaking Setswana constitute 10.5% while households speaking Shangani or Tsonga make up 9.1%. Eight percent of the households speak Sepedi or North Sotho while 4.6% speak Tshivenda at home. Siswati is spoken by 4.2% of the households while 3.9% of the households speak Afrikaans.

The level of education completed by household heads in this group is quite low with 83.4% of them having had no education at all. In fact none of the household heads got

closer to completing Standard ten. The highest level completed by 2.8% of the household heads is standard two. The remaining 13.8% of the household heads have education levels varying between grade zero and grade three or standard one.

The level of unemployment among household heads is high with 64.8% of them having had no employment at the time of the survey. Household heads who were employed on a casual basis constitute 2% while 3.5% were employed on a part time basis. Households headed by people employed on a full time basis make up 29.6%.

In group three, 30% of the households provided information pertaining to household income. Of these households close to 19.3% earn at most R500 a month while 9.3% of the households earn between R 500 and R 2500 a month (see Table 6.8 for details). With an unemployment level of 64.8% and majority of the households being rural, it may not be surprising that 85.9% of the households rely on public health services; 60.3% of the households seek medical help from public clinics. Households which make use of private health services constitute 12.7%.

6.4.2 Analysis of Residence (type of dwelling)

This section provides a description of the type of dwelling occupied by households in various QOL groups. Information pertaining to this aspect is summarised in Table 6.9 below. In addition to type of dwelling, a description of the geographical distribution of households by province is provided. Like in chapters four and five, the description provides additional information which may not be appearing in Table 6.9. Please note that description of the findings is presented according to the ranking results of the quality of life groups.

Table 6.9: Type of dwelling and geographical distribution of households by QOL group (OHS 1997)

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Type of dwelling							
Formal dwelling	99.95	100	99.9	13.6	4.2	42.5	4.3
Informal dwelling	-	-	-	68.1	28.7	2.4	43.5
Traditional dwelling	0.05	-	0.1	10.3	66.0	54.8	49.5
Caravan/tent	-	-	-	0.4	0.1	-	0.2
Other	-	-	-	7.5	0.9	0.2	2.5
Province							
Gauteng	26.0	2.4	9.2	27.8	7.7	0.3	9.8
Western Cape	20.8	3.5	11.0	14.5	2.6	0.4	3.8
Northern Cape	6.8	3.0	8.9	3.4	0.8	1.0	3
Eastern Cape	7.4	18.3	6.8	9.1	33.3	33.9	10
Free State	8.6	7.5	8.7	14.0	7.4	0.7	15.5
Limpopo	4.4	23.6	16.7	3.2	12.9	13.8	18.3
North West	6.8	18.4	14.4	9.5	6.4	4.7	10.3
Mpumalanga	6.2	10.4	15.6	4.3	8.5	6.0	15.5
KwaZulu-Natal	12.8	13	8.7	14.2	20.5	39.2	13.8

(a) Residence for households in Group 7 (QOL7)

This group (ranked number one on the QOL index) has the best access to accommodation with 99.95% of the households living in formal dwellings. The majority of households (85%) live in permanent brick houses occupying separate stands while 5.3% live in town houses or simplexes. Flats in a block of flats accommodate 7.5% of the households while twenty one households or 0.2% occupy a unit in a retirement village. Thirty six households (i.e. 0.3%) occupy a room on a separate stand while 1.6% live in a room or two roomed house in a backyard.

In terms of spatial distribution, Gauteng province has the biggest proportion of households in this group (26%) followed by Western Cape (20.8%) and KwaZulu-Natal

(12.8%). Free State province accounts for 8.6% of the households while 7.4% are found in Eastern Cape. The least number of households are found in Limpopo province as indicated in Table 6.9.

(b) Residence for households in Group 2 (QOL2)

The situation regarding type of dwelling is quite similar to that in group seven which it precedes in terms of ranking. All households in group two have got access to a formal dwelling; 96.8% of the households live in permanent brick houses occupying a separate stand. Town houses and simplexes accommodate 1.5% of the households and, the same number of households (1.5%) live in a flat in a lock of flats.

When it comes to geographical distribution, the biggest percentage of households (23.6%) are found in Limpopo province followed by North West with 18.4%. Eastern Cape has 18.3% of the households while 13% are found in KwaZulu-Natal. Close to ten percent of the households (10.4%) are in Mpumalanga and 7.5% are found in Free State province. Gauteng province has the least number of households, constituting 2.4%.

(c) Residence for households in Group 1 (QOL1)

Like in groups two and seven, the majority of households in group one (99.9%) live in formal dwellings with 93.3% of them living in brick houses on separate stands. Close to 3% of the households (i.e. 2.9%) live in town houses (Duplex or Simplex) while 2.4% live in a flat in a block of flats. Relatively few households occupy a house in the backyard (0.7%) or a room on a separate stand (0.5%).

When it comes to spatial distribution, 16.7% of the households are found in Limpopo province while 15.6% are in Mpumalanga. North West province accounts for 14.4% of the households while Western Cape has got 11%. Close to nine percent of the households are in Northern Cape while Free State and KwaZulu-Natal have 8.7% each. Eastern Cape has the smallest number of households making up 6.8%.

(d) Residence for households in Group 4 (QOL4)

Group four ranks fourth on the QOL index and, the situation regarding type of dwelling is poorer for households in this group than in the three groups described so far. For instance 13.6% of the households live in formal dwellings. Of these households, 7.5% live in a one roomed house on a separate stand while 5.6% live in a room or two roomed house in a backyard. Two households (i.e. 0.1%) live in a flat in a block of flats. Unlike in groups one, two, and seven, the majority of households in group four (68.1%) live in informal dwellings, 52.9% of which are informal dwellings on separate stands. Close to one in ten households (10.3%) lives in a traditional dwelling.

When it comes to geographical distribution, 27.8% of the households are found in Gauteng province while 14.5% are in Western Cape. KwaZulu-Natal and Free State accommodate almost similar proportions, 14.2% and 14.0% respectively while North West accounts for 9.5% of the households. Northern Cape has the least number of households constituting 3.4%.

(e) Residence for households in Group 6 (QOL6)

Group six ranks fifth on the QOL index and, access to formal dwellings is a problem to most households in this group. Close to two thirds of the households (66%) reside in traditional dwellings while 28.7% live in informal dwellings; 24.4% of the informal dwellings are on separate stands. Six households (i.e. 0.2%) live in a flat in a block of flats while 2.4% of the households live in a room or two-roomed house on a separate stand; 1.6% of the households occupy a room or two roomed house in the backyard.

As far as spatial distribution is concerned, a third of the households are in Eastern Cape and a fifth are in Kwazulu-Natal. Close to 13% of the households are in Limpopo while Mpumalanga, Gauteng and Free State have got 8.5%, 7.7% and 7.4% of the households respectively. Northern Cape has the least number of households in this group as indicated in Table 6.9.

(f) Residence for households in Group 5 (QOL5)

Accommodation is better off in this group than in group six which it precedes in terms of ranking. At least four out of ten households live in formal dwellings; 39.7%) of them occupy permanent brick houses on a separate stand. Thirty one households (1.2%) live in one-roomed houses on a separated stand while fifteen households (0.6%) occupy a room or house in the backyard. Households living in a flat in a block of flats constitute 0.8%. Putting the formal dwellers aside, the majority of households in group five (54.8%) live in traditional houses while 2.4% live in informal dwellings; 1.9% of the informal dwellings are on separate stands.

When it comes to geographical distribution, KwaZulu-Natal accounts for the biggest proportion of households (39.2%) followed by Eastern Cape (33.9%). Limpopo province accounts for 14% of the households while 6% are in Mpumalanga.

(g) Residence for households in Group 3 (QOL3)

Group three ranks seventh on the QOL index and the situation regarding type of dwelling for households in the group reflects the ranking. Close to half of the households (49.5%) live in traditional houses and 43.5% live in informal dwellings. Of the 43.5% households living in informal dwellings, 33.7% are informal dwellings on a separate stand. Eleven households (i.e. 0.6%) live in a flat in a block of flats while 2.3% of the households live in a room or house in the backyard; 1.4% of the households live in a room on a separate stand.

When it comes to geographical distribution of households, Limpopo has the biggest percentage (18.3%) followed by Mpumalanga and Free State, each having 15.5%. Kwazulu-Natal has got 13.8% of the households while 10.3% are in North West province. One in ten households is found in Eastern Cape and 9.8% are found in Gauteng province. Northern Cape has the least number of households belonging to group three as indicated in Table 6.9.

6.4.3 Analysis of Fuel used by households

This section provides a description of the type of fuel used by households in respect of cooking and lighting. Table 6.10 shows the fuel types focused upon in this study. In some cases the description includes details pertaining to fuel types other than those indicated Table 6.10. The focus however, is on fuel types in the table which are considered as key indicators in this respect. In general, results indicate a tendency for households to use electricity more for lighting than for cooking purposes across QOL groups.

Table 6.10: Fuel used by households for cooking and lighting

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Fuel for cooking							
Electricity	94.0	11.7	43.5	49.8	2.0	1.9	10.7
Paraffin	1.6	39.6	18.8	38.0	38.5	13.2	36.4
Wood	0.2	37.3	24.5	1.2	51.0	78.8	39.9
Fuel for lighting							
Electricity	98.4	31.8	66.6	65.7	13.6	11.2	34.2
Paraffin	0.5	20.2	7.9	15.1	28.4	21.6	19.8
Candles	0.9	47.0	25.5	18.5	57.6	67.0	45.9

(a) Fuel used by households in Group 7 (QOL7)

This group has the best access to quality fuel for household use. At least nine out of ten households (94%) use electricity for cooking while 301 households (i.e. 2.8%) use gas for the same purpose. A hundred and thirty two households (i.e. 1.3%) use coal for cooking while 177 households (1.6%) use paraffin.

When it comes to fuel used for lighting, the majority of households (98.4%) use electricity while 21 households (i.e. 0.2%) use gas. A few households use paraffin and candles as indicated in Table 6.10.

(b) Fuel used by households in Group 2 (QOL2)

The situation regarding fuel for household use differs substantially in group two from that in group seven. For instance 11.7% of the households in group two use electricity to cook, a figure that is quite lower than the 94% recorded in group seven. (see Table 6.10). Close to forty percent of the households use paraffin to cook while 37.3% use wood for the same purpose. Some 5.7% of the households use gas while 4.8% cook with coal. Thirty seven households (0.9%) use animal dung as fuel for cooking.

When it comes to fuel used for lighting, almost half of the households use candles to provide light in dwellings. Households which use electricity constitute 31.8% while 20.2% light with paraffin. Minute proportions of households (0.4% each) use gas and solar energy to provide light in dwellings.

(c) Fuel used by households in Group 1 (QOL1)

The fuel situation in group one is better than that in group two even though the former is ranked third. For instance use of electricity for cooking purposes in group one stands at 43.5%, a figure that is almost four times that in group two (see Table 6.10). Close to a quarter of the households in group one use wood for cooking while 18.8% use paraffin. Nine percent of the households use coal while 3.6% use gas for cooking.

As for fuel for lighting in dwellings, at least one in four households uses candles while 7.9% use paraffin. Close to two thirds of the households use electricity to light the dwellings while a few households constituting 0.2% use gas.

(d) Fuel used by households in Group 4 (QOL4)

Group four is relatively better off than some of the first three groups (particularly group two) when it comes to fuel for household use. Almost half of the households in this group use electricity for cooking while 38% use paraffin for the same purpose. Some 6.3% of the households use gas to cook while 4.7% cook with coal. A few households use wood as fuel for cooking as indicated in Table 6.10.

With regard to fuel used for lighting purposes, close to two thirds of the households use electricity, a figure that is close to that in group one, while 18.5% use candles.
Close to fifteen percent of the households use paraffin while a few households constituting 0.5% use gas.

(e) Fuel used by households in Group 6 (QOL6)

Group six ranks fifth on the QOL index and the fuel situation in a way, reflects the group's rank. At least half of the households use wood as fuel for cooking while 38.5% use paraffin to cook. Some 4.9% of the households use coal to cook while 2.1% use animal dung. Just 2% of the households in this group use electricity for cooking while 1.5% use gas for the same purpose.

With regard to fuel used for lighting, close to 60% of the households use candles while 28.4% use paraffin. Close to 14% of the households use electricity for lighting and, six households (i.e. 0.2%) use gas.

(f) Fuel used by households in Group 5 (QOL5)

The fuel situation in group five (ranked sixth on the QOL index) differs slightly from the situation in is group six which the former proceeds in terms of rank. This is particularly the case in respect of use of electricity. Close to two percent of the households in group five use electricity to cook just like in group six. However, marked differences exist between the two groups with regard to the use of paraffin and wood. For instance 78.8% of the households in group five rely on wood as fuel for cooking compared with 51% in group six. The use of paraffin is lower in group five (13.2%) than the 38.5% recorded in group six. Use of gas in group five is low (0.8%) just like in group six with 0.2%. Animal dung provides fuel for cooking to 2.4% of the households in group five while 2.9% use coal.

When it comes to fuel for lighting in dwellings, relatively few households in group six (11.2%) use electricity. The majority of households (67%) use candles while 21.6% use paraffin. A few households constituting 0.2% use gas for lighting purposes.

(g) Fuel used by households in Group 3 (QOL3)

The fuel situation in group three is not as bad as the group's rank (i.e. seventh). Proportionally more households in group three use electricity than in groups five and six which are judged to be better off in rank terms (see Table 6.10). For instance 10.7% of the households in group three use electricity to cook, a figure that is five times that of groups five and six. Almost forty percent of the households in group three use wood to cook while 36.4% use paraffin. Close to one in ten households uses coal for cooking and close to 1% of the households use animal dung.

With regard to fuel for lighting, at least a third of the households use electricity while 45.9% use candles. Close to a fifth of the households use paraffin and, a few households constituting 0.1% use gas.

6.4.4 Analysis of households' water source

Section 6.4.4 describes the sources of water accessed by households in the various QOL groups. In the description, attempt is made to provide details on water sources including bore holes, dams and rivers which are deemed to provide water that is unsafe for human consumption. However, the focus will be on household access to piped water and the hassles that households face to access piped water in situations where it is not readily available. Table 6.11 provides information in respect of access to piped water by the seven QOL groups and the distance that households travel to fetch water.

Table 6.11: Access to clean water and distance from water source

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Water							
Piped in dwelling	77.8	7.6	29.6	12.7	0.9	-	5.7
Piped on site	18.6	24.3	40.9	55.9	9.7	-	34.4
Public tap	2.9	35.9	24.6	28.4	41.6	0.2	53.9
Distance from water source (where fetching is applicable)							
Within 100 metres	1.4	20.0	10.4	16.7	27.1	17.1	26.4
101 – 200 metres	0.9	17.8	7.5	9.0	22.9	21.6	18.1
201 – 500 metres	0.4	14.7	5.3	2.5	16.2	22.4	10.7
501 metres – 1 Kilometre	0.2	9.0	2.2	0.9	13.0	21.5	3.8
More than 1 Kilometre	0.1	6.4	1.1	0.7	8.3	15.6	1.4

(a) Source of water for households in Group 7 (QOL7)

Group seven has the best access to clean water with 96.4% of the households having water either in the dwelling or on site; the former constitutes 77.8%. Households which depend on the public tap make up 2.9% while 42 households (i.e. 0.4%) have their own bore holes in the yards. Ten households (i.e. 0.1%) depend on water delivered by the water tanker while another 0.1% get water from a communal borehole.

From the information above, at least 96% of the households in this group do not have to fetch water. Of the remaining four percent or so, 1.4% fetch water within a hundred meter radius while the rest travel at least two hundred meters to fetch water (see Table 6.11).

(b) Source of water for households in Group 2 (QOL2)

Access to clean water by households in group two is not as high as in group seven. In group two 7.6% of the households have piped water in the dwelling compared with 77.8% in group seven. As for water on site (but not in dwelling), 24.3% of the households in group two have water on site compared with 18.6% in group seven. There is a higher reliance on water from public taps in group two; 35.9% of households obtain water from

public taps. In other words as far as access to water is concerned, group two differs from group seven mainly because the latter has more access to water in dwelling. (see Table 6.11 for details). So fetching water is more of a task for households in group two than it is for households in group seven.

Households with their own boreholes (i.e. group two) constitute 3.7% while 7.8% rely on communal boreholes. The water tanker or carrier provides water to 2.7% of the households while 9% rely on river or stream water. Close to 5% of the households rely on water from springs and wells while 2% rely on stagnant water from dams.

It is clear from the above findings that fetching water is a burden to some 68% of the households in group two. Of the households which have to fetch water, one in five households gets water in a hundred meter radius while 17.8% travel between 100 and 200 meters to get water. Three out of ten households travel at least 200 metres to get water as indicated in Table 6.11.

(c) Source of water for households in Group 1 (QOL1)

Access to clean water is better for households in group one than in group two in spite of the latter being ranked higher (i.e. second). At least seven out of ten households have piped water either in the dwelling or in the yard, the former constituting 29.6%.This percentage is higher than the 31.9% recorded in group two. Close to a quarter of the households in group one get water from a public tap, a figure that is smaller than 35.9% recorded for group two. Households in group one which have boreholes on site constitute 2.3% while forty one households (0.9%) get water from communal boreholes. The water carrier provides water to some 0.9% of the households while twenty three households (i.e. 0.5%) rely on stream or river water for their water needs.

The water situation described above indicates that fetching water is a task to some 30% of the households in group one. For households which have to fetch water, 10.4% get water within a distance of a hundred meters while 7.5% travel between 100 and 200 metres to fetch water. The remaining 9% or so travel at least 200 metres to get water.

(d) Source of water for households in Group 4 (QOL4)

The situation regarding access to clean water in group four differs slightly from that in group one which precedes it in rank terms. Proportionately fewer households in group four (12.7%) have piped water in the dwelling compared with 29.6% in group one. However, group four has proportionately more households with water on site (55.9%) than group one with 40.9%. Households which get water from public taps in group four make up 28.4%, a figure that is higher than 24.6% recorded in group one. The water tanker provides water to 1.0% of the households in group four while 0.8% get water from communal boreholes; households with their own boreholes make up 0.4%.

The water situation described above indicates that 68.6% of the households do not face the inconvenience of having to fetch water. As for the complement, 16.7% of the households fetch water within a hundred meter radius while 9% travel between a hundred and two hundred meters to fetch water. The remaining 4% or so households travel over 200 metres to get water.

(e) Source of water for households in Group 6 (QOL6)

Group six ranks fifth on QOL index and it is one of the groups in which reality greatly tallies with the group's ranking. For instance, twenty four households (i.e. 0.9%) have piped water in the dwelling while households with water on site (but not in the dwelling) constitute 9.7%. Households which get water from public taps make up 41.6%. Two percent of the households rely on the water carrier for their water needs while close to a quarter of the households (24.5%) rely on river or stream water. A hundred and seventeen households or 4.5% get water from springs. The dam or a similar stagnant water source provides water to 3.7% of the households while 1.7% get water from wells. Communal boreholes provide water to 8.2% of the households while 1.1% have their own boreholes in the yard.

From the figures above, it is clear that fetching water is a routine task to all but around 10% of the households in this group. Of the ninety percent or so households which have to fetch water, 27.1% fetch water from a hundred meter radius while 22.9% travel

between a hundred and two hundred meters to fetch water. Close to 40% of the households in this group travel over 200 metres to fetch water.

(f) Source of water for households in Group 5 (QOL5)

This group ranks sixth on the QOL index and, despite being ranked second poorest, it has the poorest access to clean water. None of the households has piped water in the dwelling or on site. Five households (i.e. 0.2%) get water from a public tap and 36 households (i.e. 1.4%) rely on the water carrier. Fourteen households (i.e. 0.6%) have their own boreholes while 16.8% rely on communal boreholes. Some 6.9% of the households fetch water from wells while 14.3% rely on springs for their water needs. A dam or pool provides water to 13.3% of the households while 41.1% rely on stream or river water.

With just 0.6% of the households having water on site in form of their own boreholes, fetching water is a task to virtually all households in group five. Some 17% of the households fetch water within a hundred meter radius while 21.6% travel between a hundred and two hundred meters for the same reason. Close to 60% of the households travel over two hundred meters to fetch water.

(g) Source of water for households in Group 3 (QOL3)

The water situation in group three is better than the situation in group five even though group three is ranked seventh. Forty percent of the households in group three have piped water on the premises while no household in group five is in this situation. Households with piped water in the dwelling make up 5.7% while 34.4% have piped water in the yard. The majority of households (53.9%) get water from public taps. Some 1.8% of the households have their own boreholes while 1.6% rely communal bore holes for their water needs. The water carrier provides water to 2.3% of the households.

The findings above indicate that some 60% of the households in group three have to fetch water, 26.4% of which fetch water within a distance of hundred meters while 18.1% travel between 100 and 200 metres for the same reason. Close to 17% of the households travel at least 200 meters to get water.

6.4.5 Analysis of sanitation

Section 6.4.5 looks at sanitation services accessed by households in the seven QOL groups. In all chapters dealing with the study's findings (i.e. chapters four to seven), sanitation has been operationalised in terms of "type of toilet facility" a household accesses and, "rubbish removal services". In analysing data for OHS 1997 it was realised that data on "toilet facility" was captured in such a way that households with toilet on site (i.e. either in the dwelling or in the yard) were separated from households accessing toilets from elsewhere. Much as the two are mutually exclusive, substantial inconsistencies in responses were picked up in the analysis – the cases in the two variables could not tally up. A decision was made to leave out the variable on "access to toilet off site" firstly due to the inconsistencies and, secondly due to the relatively small number of cases involved in that variable. The most unfortunate outcome of this decision however, is that households with no access to toilet are left out in the analysis because data pertaining to this aspect was captured under the variable labeled "access to toilet off site". Table 6.12 provides information in respect of access to sanitation services by households in the seven QOL groups. Once again in some instances, the description of findings provides details that go beyond the information provided in Table 6.12 depending on the magnitude of the response in a particular instance.

Table 6.12: Access to sanitation by households

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Sanitation							
Flush toilet on site	66.6	8.5	28.1	47.3	2.8	2.8	18.8
VIP Pit latrine	5.2	13.5	11.3	8.4	17.4	14.0	11.7
Ordinary pit latrine	15.4	71.7	47.3	21.9	75.7	82.3	54.1
Bucket	10.2	5.7	11.8	20.8	3.4	0.7	14.6
Refuse disposal							
Removed at least once a week	84.3	9.9	40.4	72.9	0.6	0.3	24.8
Own rubbish dump	7.5	69.4	43.0	11.5	73.0	64.6	49.5
No rubbish removal services	0.9	15.4	8.3	1.9	20.3	23.6	18.3

(a) Sanitation for households in Group 7 (QOL7)

Group seven has the best access to sanitation among the seven QOL groups. Two thirds of the households have got a flush toilet on site and, there is less reliance on pit latrines. Households which use ventilated improved pit latrines (VIP) constitute 5.2% while ordinary pit latrines are used by 15.4% of the households. Close to ten percent of households rely on the bucket toilet.

As far as refuse disposal is concerned, 84.3% of the households have their refuse collected once a week by local authorities while 4% have theirs collected by local authorities less often. Community members collect refuse once a week for 168 households (i.e. 1.6%) and, they [community members] collect refuse less often than a week for 26 households (i.e. 0.2%). Some 7.5% of the households make use of their own rubbish dumps while 1.2% make use of communal rubbish dumps.

(b) Sanitation for households in Group 2 (QOL2)

The sanitation situation in group two is poorer than the situation in group seven. As far as the flush toilet is concerned group two has proportionately far fewer households (8.5%)

which use a flush toilet, compared with 66.6% in group seven. Households in group two rely more on pit latrines; close to 72% of the households use an ordinary pit latrines while 13.5% use the VIP. In group seven around 20% of the households use pit latrines be it VIP's or ordinary latrines (refer to Table 6.12 for details). However, when it comes to the bucket toilet, one finds a higher percentage of households using this type of toilet in group seven (10.2%) than in group two (5.7%).

As far as refuse disposal is concerned, Close to 10% of the households have their refuse removed by local authorities on a weekly basis while 2% have theirs removed by local authorities less often than once a week. The majority of households (69.4%) make use of their own rubbish dumps while 1.8% of the households rely on communal rubbish dumps. One percent of the households have their refuse removed by community members on a weekly basis and, 15.4% of the households have no access to rubbish removal services.

(c) Sanitation for households in Group 1 (QOL1)

Proportionately more households in group one experience better sanitation than households in group two even though the latter is ranked second while the latter is ranked third on the QOL index. Households which have a flush toilet on site in group one make up 28.1% compared with 8.5% in group two. In both groups however, the majority of households make use of pit latrines, with 47.3% of the households in group one using ordinary pit latrines and, 11.3% using a Ventilated improved pit latrine (see Table 6.12). In group one, households which use bucket toilets make up 11.8%, a figure that is lower than 14.6% recorded in group two.

With regard to refuse disposal, four out of ten households in group1 have their refuse removed by local authorities on a weekly basis while 3.1% have theirs removed less regularly. Households which make use of their own rubbish dumps constitute 43% while 2.4% rely on communal rubbish dumps. Community members regularly remove refuse for 2% of the households and, 8.3% of the households in group one have no refuse removal services.

(d) Sanitation for households in Group 4 (QOL4)

The sanitation in group four is generally better than the situation in groups one and two which are judged to be better off in terms of ranking. This is particularly the case with regard to access to the flush toilet and pit latrine. In case of access to flush toilet, 47.3% of the households in group four have it on site while three out of ten households use pit latrines; 8.4% use a VIP. The situation is different when it comes to the use of bucket toilets. There is a relatively high incidence of the bucket toilet as a toilet facility in group four (20.8%) than in groups one and two, 11.8% and 5.7% respectively.

With regard to refuse removal, close to 73% of the households have their refuse removed by local authorities at least once a week while 6.3% have theirs removed less often. Community members remove refuse for 4% of the households while 3% of the households make use of communal rubbish dumps. Households which make use of their own rubbish dumps constitute 11.5% and 1.9% have no access to refuse removal services.

(e) Sanitation for households in Group 6 (QOL6)

Group six ranks fifth on the QOL index and, the sanitation situation seems to agree with the rank. For instance only 2.8% of the households have a flush toilet on site. Around three quarters of the households use ordinary pit latrines while 17.4% use ventilated improved pit latrines. Households which use a bucket toilet make up 3.4%.

When it comes to refuse removal, sixteen households (0.6%) have their refuse removed by local authorities at least once a week. The majority of households (73%) use their own rubbish dumps while 4.6% of the households rely on communal rubbish dumps. One percent of the households have their refuse removed by community members and, close to a fifth of the households have no access to refuse removal services.

(f) Sanitation for households in Group 5 (QOL5)

Group five ranks sixth on the QOL index. Sanitation in this group differs slightly from that in group six which it follows in rank terms.

Households with access to a flush toilet on site make up 2.8% just like in group six. The majority of households (82.3%) use ordinary pit latrines, a figure that is higher than 75.7% recorded in group six. Fourteen percent of the households use a VIP and contrary to the other groups, quite a few households in group five (0.7%) make use of the bucket toilet.

When it comes to refuse removal, eight households (i.e. 0.3%) have their refuse removed once a week by local authorities while twelve households (i.e. 0.5%) have their refuse removed by local authorities less often. Close to two thirds of the households make use of their own rubbish dumps. Community members render refuse removal services to ten households (i.e. 0.4%) on a weekly basis and, almost a quarter of the households have no such services.

(g) Sanitation for households in Group 3 (QOL3)

Group three ranks seventh on the QOL index but the sanitation situation somehow contradicts the ranking results; sanitation is not entirely poorest in this group. Close to nineteen percent of the households have got a flush toilet on site which is more than double the 8.5% in group two. The majority of households in group three rely on pit latrines – 54.1% use ordinary pit latrines and 11.7% use VIP's. However, when it comes to the bucket toilet, close to 15% of the households in group three make use of this facility, a figure that is only surpassed by 20.8% in group four.

With regard to refuse disposal, close to a quarter of the households have their refuse removed by local authorities at least once a week while 3% have theirs collected less often than once a week. Almost half of the households use their own rubbish dumps while 3% rely on communal rubbish dumps to get rid of their refuse. Households with no access to rubbish removal services make up18.3%.

6.4.6 Analysis of durables

This section provides a description of possession of durable items by households in the various QOL groups.

A few indicators have been selected for use in this regard due to the limited information that is available. These indicators include possession of a cellular phone and, existence of a landline telephone in the dwelling (see Table 6.13 below). In addition to "possession of a telephone" in the dwelling, "time taken to get to the nearest telephone" has been incorporated in the analysis due to the fact a household without a telephone in the dwelling will have to seek for one when the need to make telephone call arises. Household items like radio, television and vehicle have not been included in the analysis due to unavailability of data. As for possession of a vehicle, a proxy indicator namely "transport used by a household to get to work" has been used. The assumption made is, households possessing a vehicle are likely to use it while getting to work as opposed to using public transport. Details regarding transport used to get to work are presented in order to further investigate possibilities regarding possession of a vehicle in situations where a household could opt not to use one even though it is available.

Table 6.13: Possession of durable items

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Durables							
Car	42.1	8.0	5.5	6.9	5.8	5.1	1.3
Cellular phone	14.8	1.3	2.9	5.2	0.5	0.3	1.8
Landline telephone	54.1	3.2	14.5	6.9	0.6	0.5	1.2
Travel time to nearest telephone							
Within 5 minutes	19.3	11.5	19.9	26.0	6.4	3.1	12.2
6 – 15 minutes	16.7	24.6	27.6	37.3	20.1	12.3	29.8
More than 15 minutes	7.7	60.0	36.9	28.8	72.2	83.7	55.7

(a) Possession of durable items by households in Group 7 (QOL7)

Group seven has the best access to durable items compared with the rest of the QOL groups. Possession of a cellular telephone stands at 14.8% and, over half of the households possess a landline telephone in the dwelling.

Results pertaining to possession of a telephone indicate that at least 55% of the households in group seven do not have to travel in order to make a telephone call. For the remaining households, 19.3% spend at most five minutes while traveling to a telephone facility while 16.7% spend between six and fifteen minutes to get hold of a telephone. Households which spend more than a quarter of an hour while traveling to a telephone facility make up 7.7%; sixty nine households (i.e. 0.6%) require at least an hour in travel time to get to a telephone facility.

Regarding transport used by households to get to work, 42.1% of the households indicated that they use their own cars for this purpose. Four percent of the household heads work from home while 15.9% walk to the place of work. Household heads that use minibus taxis to get to work constitute 17.6% while 9.2% use a bus. These results indicate that at least four out of ten households in group7 posses a car.

(b) Possession of durable items by households in Group 2 (QOL2)

Group two is in a worse situation than group seven as far as possession of durable items is concerned. For instance only 1.3% of the households in group two possess a cellular phone compared with 14.8% in group seven. Households in group two which possess a land line telephone in the dwelling make up 3.2% compared with 54.1% in group seven.

The telephone situation in group two implies that at least 95% of the households have to travel some distance to make a telephone call. Households which get hold a telephone within five minutes' travel time constitute 11.5% while 24.6% spend between six and fifteen minutes while traveling to a telephone facility. Six out of ten households spend more than a quarter of an hour while traveling to a telephone facility; 17.5% of the households travel for more than one hour to physically get hold of a telephone.

As far as transport used to get to work is concerned, 8% of the households indicated that they use their own cars for this purpose, an indication that relatively few households in this group possess cars.

Four percent of the household heads walk to the work place while 42.7% work from home. Thirty two percent of the households use buses and minibus taxis, the former constituting 15.7%.

(c) Possession of durable items by households in Group 1 (QOL1)

Inconsistencies in respect of possession of durable items exist in group one compared to the situation in group two. Possession of cellular phones in group one is higher than in group two (2.9%), just like possession of landline telephones (14.5%) as indicated in Table 6.13. Results in this respect indicate that just around 15% of the households have access to either a cellular phone or a landline telephone since the two are not necessarily mutually exclusive. It implies that making a telephone call for most of the households in group one involves some traveling. Close to 20% of the households access a telephone within five minutes of travel time while 27. 6% spend between six and fifteen minutes while traveling to make a telephone call. Close to 37% of the households spend more than fifteen minutes while traveling to a telephone facility; nine percent of the households spend more than an hour in travel time to get to a telephone facility.

When it comes to transport used when going to work, group two has more households which make use of private cars to get to work (8%) than 5.5% recorded in group one. At least half of the households in group one (51.1%) walk to the work place while 23.1% use minibus taxis and buses; the latter make up 12.7%. Some 5% of the household heads work from home. These results seem to suggest that possession of a car is relatively lower in group one than in group two.

(d) Possession of durable items by households in Group 4 (QOL4)

Possession of durable items in group four compares favorably with the situation in groups one and two which precede it in terms of ranking. Possession of a cellular phone in group four stands at 5.2%, a figure that is higher than the figures for groups one and two while possession of landline telephones is recorded at 6.9%, higher than 3.2% for group two (see Table 6.13). These findings reveal that at least 7% of the households in group four do not have travel in order to make a telephone call.

Of the remaining households (i.e. 93% or so), 26% get hold of a telephone within five minutes travel time while 37.3% spend between five and fifteen minutes to physically access a telephone. Close to 29% of the households require more than fifteen minutes to access a telephone, 3% of which require more than an hour for this purpose.

When it comes to transport used to get to work, 6.9% of the households indicated that they make use of their own cars to get to work, a figure that falls between the percentages for groups one and two. Proportionately more households in group four use buses and minibus taxis than groups one and two (42.6%) and, 10% of the households in group four use a train; neither of the other two groups comes close to this figure. These results indicate that around 7% of the households in group four possess a car.

(e) Possession of durable items by households in Group 6 (QOL6)

Group six ranks fifth on the QOL index. Access to selected QOL indicators is quite poor with just twelve households (i.e. 0.5%) possessing a cellular phone and sixteen (i.e. 0.6%) being in possession of a landline telephone in the dwelling. This implies that communication by telephone requires traveling for around 99% of the households. Of the households which have to travel in order to make a telephone call, 6.4% of them spend at most five minutes while traveling to a telephone facility while a fifth of the households spend six to fifteen minutes while traveling to a telephone facility. More than seventy percent of the households (i.e. 72.2%) spend at least a quarter of an hour to get to a telephone facility; 30% of these households require at least an hour to get hold of a telephone.

When it comes to transport used to get to work, 54 households (5.8%) indicated that they use their own cars to get to work. A third of the household heads (33.5%) walk to their place of work while 33.4% use minibus taxis and buses; the former constitutes 19.7%. Seven percent of the household heads use trains to get to their places of work and, 5.7% of the household heads work from home make. These results indicate that possession of a car in group six is relatively low.

(f) Possession of durable items by households in Group 5 (QOL5)

The situation regarding access to durable items in group five (ranked sixth on the QOL index) differs slightly from that in group six which it follows. Seven households (i.e. 0.3%) possess cellular phones, compared with 0.5% in group six, while thirteen households (i.e. 0.5%) have a land line telephone in the dwelling (see Table 6.13). These results indicate that over 99% of the households in group five have to travel when they need to make a telephone call. Of these households, 3.1% spend at most five minutes to get hold of a telephone while 12.3% spend between six and fifteen minutes to get to a telephone facility. At least eight of ten households (83.7%) require more than fifteen minutes to access a telephone, 43.3% of which require more than an hour for this reason.

As for transport used by households to get to work, twenty households (i.e. 5.1%) indicated that they use their cars for this purpose. More than half of the households which need transport to get to work (55.5%) walk to the work place. It is important to keep the unemployment statistics in mind; for group five, 84.9% of the households do not form part of the households which need transport because the household heads are unemployed. Seventy nine households (20.4%) use minibus taxis and buses get to work while 5.9% use trucks. Five percent of the households are headed by people who work from home. So a scrutiny of mode of transport used shows that possession of cars by households in group five is low.

(g) Possession of durable items by households in Group 3 (QOL3)

Group three ranks seventh on the QOL index but the situation regarding possession of durable items is not entirely worst in this group. For instance thirty four households (i.e. 1.8%) possess a cellular phone while twenty two households (1.2%) have a land line telephone in the dwelling. In this respect, group three is better off than group five whether relatively or in absolute terms. All in all, the telephone situation in group three implies that communication by telephone necessitates traveling to as many as 97% of the households. Households which get hold of a telephone within five minutes of travel constitute 12.2% while 29.8% spend six to fifteen minutes while traveling to a telephone facility.

Over half of the households (55.7%) spend more than fifteen minutes while traveling to a telephone facility; fourteen percent of the households spend at least an hour in travel time to get to get to a telephone facility.

With regard to transport used when going to work, 23 households (i.e. 1.3%) indicated that they use their own cars for this purpose. Close to 28% of the households use minibus taxis and buses as transport to the work place while 4.4% use trains. The majority of household heads (45.6%) walk to the place of work while 3.8% work from home. Some 6.3% households use trucks as transport to the work place while 2.7% use bicycles. These findings suggest that a few households in group three possess cars.

6.4.7 Subjective evaluation of quality of life

This section provides a description of the results pertaining to household satisfaction with life in general. In OHS - 1997, households were asked to indicate how satisfied they felt, all things put together. Data pertaining to households' response in this regard was collected and, has been analysed in the current study. Table 6.14 provides the results pertaining to households' subjective evaluation of quality of life in the seven QOL groups.

Table 6.14: Subjective evaluation of quality of life

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	7	2	1	4	6	5	3
Perception							
Very satisfied	19.4	18.1	18.3	11.2	11.1	11.1	12.0
Satisfied with life	54.7	46.8	49.7	46.4	41.3	41.1	43.2
Satisfied and Very satisfied (combined)	**74.1**	**64.9**	**68.0**	**57.6**	**52.4**	**52.2**	**55.2**
Neither/Nor dissatisfied	16.1	20.2	19.2	21.2	24.8	27.5	22.9
Dissatisfied	7.8	11.4	9.7	14.4	17.9	15.8	16.1
Very dissatisfied	2.0	3.5	3.2	6.7	4.8	4.5	5.7
Dissatisfied and Very dissatisfied (combined)	**9.8**	**14.9**	**12.9**	**21.1**	**22.7**	**20.3**	**21.8**

Results pertaining to household life satisfaction show that proportionately more households in QOL groups with better living conditions reported to be satisfied with life than households in groups with poor living conditions. This is the case with groups one, two and seven in Table 6.14. When the results in Table 6.14 are compared with the findings relating to the ranks of the quality of life groups in Table 6.7, one finds that these same groups are ranked as the better off groups on the QOL index; group seven is ranked number one, followed by groups two and one respectively. In group seven - ranked number one on the index – close to three quarters of the households (74.1%) reported to be satisfied with life; 19.4% of them being very satisfied for that matter. Group two ranks second on the QOL index. When it comes to subjective quality of life evaluation, 64.9% of the households indicated that they are satisfied with life; 18.1% being very satisfied with life. In group one which ranks third on the QOL index, 68% of the households reported to be satisfied with life in general; 18.3% being very satisfied. The trend continues with group four which ranks fourth on the QOL index. Herein, 57.6% of the households indicated that they are satisfied with life, 11.2% of them being very satisfied.

When it comes to the remaining three groups, results are mixed. Group three ranks seventh on the QOL index, meaning that it has the poorest access to the selected QOL indicators. When it comes to subjective life satisfaction, this group has more satisfied households (55.2%) than groups five and six whose proportions of satisfied households are 52.2% and 52.4% respectively (see Table 6.14 for details).

When it comes to life dissatisfaction, results in a way relate with the results described above (i.e. for the satisfied category). The three groups with high proportions of satisfied households with life, contain fewer dissatisfied households. For instance group seven which ranks first on the QOL index, has 9.8% of its households reporting to have been dissatisfied with life; 2.0% of them being very dissatisfied. Close to 15% of the households in group two - ranks second on the QOL index - reported to be dissatisfied with life, 3.5% of them being very dissatisfied. Group one ranks third on the QOL index; 12.9% of the households herein reported to be dissatisfied with life - 3.2% of

them reported to be very dissatisfied. For the remaining four groups, the proportions of dissatisfied households vary slightly, from 20.3% recorded in group five (which ranks fifth on the QOL index) to 22.7% in group six (ranked fifth).

The third category of results pertains to households which reported indifference in life satisfaction. In this respect again relatively fewer households in the three groups with better living conditions reported to be neither satisfied nor dissatisfied with life in general. What comes out clearly is the inherently high proportions of households that are neither satisfied nor dissatisfied being found in QOL groups with poor living conditions. The group with the highest percentage of households whose life had neither improved nor deteriorated is group five – ranked sixth on the QOL index. In this group 27.5% of the households reported indifference in this regard. In group six – ranked fifth on the QOL index – 24.8% of the households indicated that life had neither improved nor deteriorated. Group three is judged to experience the poorest measurable living conditions among the seven QOL groups. In this group 22.9% of the households reported that they were neither satisfied nor dissatisfied with life. A closer look at these findings shows a higher level of indifference and dissatisfaction in the groups with poor measurable living conditions than in groups where households live a better life.

6.5 Summary

Chapter six has presented the findings arising from the analysis of the data for OHS - 1997. Findings in respect of cluster analysis yielded seven QOL groups. Group seven (i.e. QOL 7) ranks number one on the QOL index and, has been identified as the group experiencing the best QOL conditions. Group three (QOL 3) ranks seventh on the QOL index; it has the least access to the QOL selected indicators. As such it is identified as the group with the poorest QOL. Results emanating from Discriminant function analysis indicate that *Type of dwelling occupied by the household* and *Highest level of education completed by the household head* are the most crucial indicators differentiating between the QOL conditions experienced by the seven groups of households. Results pertaining to subjective evaluation of quality of life indicate an existence of association between household material living conditions and households'

life perception but this holds mainly for QOL groups that are distinctively better off. The following chapter – chapter seven - will present the results emanating from the analysis of the OHS 1996 data; the last dataset used in this study.

CHAPTER SEVEN: FINDINGS OF THE STUDY IN RESPECT OF OHS 1996

7.1 Introduction

Chapter six presented the findings arising from the analysis of the Data for OHS 1997. Chapter seven will present the findings arising from the analysis of the data for OHS 1996. Like in the previous three chapters dealing with the study's findings, results of chapter seven are divided into two broad categories. The first category deals with findings in respect of discriminant function analysis. Discriminant function analysis in the context of this study, facilitates a process through which indicators that differentiate between groups of households with different QOL conditions can be described. Put in a different way, discriminant function analysis enables the study to identify the key indicator or indictors that are responsible for the existence of different measurable living conditions existing among the QOL groups. Secondly the findings in respect of discriminant function analysis highlight the extent to which households are correctly classified into the QOL groups they belong to on the basis of the QOL indicators used in the study – a validity check. Finally as will be showed in due course, the results of discriminant function analysis provide a basis for ranking the QOL groups emanating from cluster analysis. The two models - cluster analysis and discriminant function analysis– have been applied in the study; the former to classify households into QOL groups, and the latter to validate the results as well as identifying the discriminating QOL indicators.

The second category of results deals with findings arising from cluster analysis. This category of results describes the characteristics of the various QOL groups, highlighting how the groups differ from one another in terms of the QOL indicators considered. Finally a description of the subjective assessment of QOL is provided in the attempt to find out whether there is an association – not statistical though - between the distribution of the QOL groups in the QOL index (i.e. the measurable living conditions) and households' subjective evaluation of quality of life.

7.2 Applying discriminant function analysis to the OHS (1996) data

As you may recall from chapter three - dealing with the methodology - as well as chapters four to six, discriminant function analysis was applied to identify the indicator or indictors which discriminate between quality of life groups. In analysing the data for OHS 1996 thirteen indicators or multiple response variables were used in discriminant function analysis (see Table 7.3 and Appendix I). The same variables were used to classify households (i.e. cluster analysis, to be dealt with later on) into groups experiencing different QOL conditions; details regarding cluster analysis follow in Sections 7.3 and 7.4. Just like in the explanations regarding discriminant analysis for OHS 1999, OHS 1998 and OHS 1997, several quality of life indicators (i.e. multiple response variables) were used to classify households into groups which experience different QOL conditions; five QOL groups emerged in this case. The multiple response variables - the thirteen QOL indicators - were used in cluster analysis to classify households. The same indicators were used in discriminant function analysis.

In discriminant function analysis the five QOL groups (i.e. QOL1-QOL5) form the grouping variable. The grouping variable is used in discriminant function analysis, in conjunction with the multiple response variables to derive the discriminant functions. Since the number of indicators (thirteen) is bigger than the number of degrees of freedom for the five groups (i.e. four), the maximum number of discriminant functions for this analysis is four. Like in OHS 1999 through OHS 1997, the five QOL groups emanating from cluster analysis constitute the quality of life index.

Table 7.1 shows the output summarizing the canonical discriminant functions - the eigenvalue, percentage of variance, cumulative percentage of variance accounted for by each function, and canonical correlation for each discriminant function. The eigenvalues associated with discriminant functions indicate the relative proportion of between-group variability accounted for by each function. Results in this case indicate that 75.4% of the between-group variability is accounted for by the first discriminant function and 18.3% is accounted for by the second discriminant function. The additional variance accounted for by functions three and four is also shown with a

combined discriminating power of 7.7%. Like in chapters four to six, interpretation of the discrimimnant function results in respect of OHS 1996 will be limited to the first two functions, which account for 92.2% of the variance.

Table 7.1: Summary of canonical discriminant functions for OHS 1996

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	7.6088	73.856	73.8560	0.9401
2	1.8847	18.2946	92.1506	0.8083
3	0.7518	7.2972	99.4478	0.6551
4	0.0569	0.5522	100	0.2320

Note: The first four canonical discriminant functions were used in the analysis

The association between the QOL groups and the indicators is depicted by the canonical correlations for each function (Last column of Table 7.1). The first two discriminant functions indicate strong correlations (i.e. 0.94 and 0.81 respectively) between the QOL and the indicators. The third discriminant function shows a 0.66 correlation between the QOL groups and indicators which is moderate. The correlation of 0.23 between the QOL groups and the indicators depicted by the fourth function is substantially low. Interpreting these correlations is enhanced by taking into consideration the chi - square results in Table 7.2.

The chi-square results indicate that with all four functions tested together, the $\chi^2(52)$ of 58800.61 indicates a reliable relation between the five QOL groups and the QOL indicators which serve as predictors. With the first discriminant function removed, there is still a reliable relation between the QOL groups and the indicators as indicated by χ^2 (36) of 25733.93, p = 0.000. The same goes for all the four functions as one function is systematically removed. All four functions indicate reliable relations between the QOL groups and the indicators despite the decrease in the magnitude of the canonical correlations.

Table7.2 Wilks' lambda and chi – square results – OHS 1996

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 4	0.0218	58800.61	52	0.00
2 through 4	0.1872	25733.93	36	0.00
3 through 4	0.5401	9461.03	22	0.00
4	0.9462	849.8541	10	0.00

7.2.1 Interpretation of discriminant function results

The associations indicated by Chi-square values are reliable but, it is important to note that they emanate from the classification of households into five groups on the basis of thirteen indicators. Because of the numerous indicators, there is a possibility that at least one indicator could differentiate a group of households from other groups of households (i.e. QOL groups). Resultantly all of the four functions show reliable associations between the QOL groups and the indicators although each function has one or two outstanding discriminating indicators. The outstanding discriminating indicators are marked with (*) in Table 7.3 and they are the focal points in discriminant function analysis.

Table 7.3: Pooled within correlations between discriminating variables and standardized canonical discriminant functions (OHS 1996)

	Function			
	1	2	3	4
Highest education level completed	0.759*	-0.634	-0.097	-0.029
Worked past 7 days	-0.139*	-0.00581	-0.0008	0.082
H/hold's main water source	0.487	0.761*	-0.391	-0.088
H/hold's fuel for cooking	0.428	0.287	0.559*	0.215
H/hold's fuel for heating	0.393	0.260	0.503*	0.209
H/hold's fuel for lighting	0.288	0.265	0.427*	0.004
H/hold refuse disposal	0.311	0.269	0.370*	0.300
Type of dwelling occupied by h/hold	0.161	0.143	0.362*	-0.302
Have access to the medical scheme	-0.145	0.014	-0.135	0.588*
Cellular phone telephone	-0.082	0.039	-0.067	0.521*
Telephone in dwelling	-0.23	-0.05	-0.332	0.442*
Health facility usually visited by h/hold	0.159	-0.014	0.193	-0.370*
H/hold distance from medical facility	0.086	0.132	0.022	0.166*

NB. Pooled within correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

*Largest absolute correlation between each variable and any discriminant function.

Results in table 7.3 indicate that two indicators correlate highly with the first discriminant function These are *highest level of education completed* by the household head (correlation = 0.76) and whether the household head was employed at the time of the survey (correlation = -0.139). Completed level of education contributes substantially in differentiating the QOL conditions experienced by the five households groups. This is particularly the case with group two in comparison with the rest of the groups. Group two happens to be the group with the best QOL and herein most of the households are headed by people with tertiary education (at least 98.8%), 33.5% of whom have at least degree. This is in contrast for instance with groups one and three wherein none of the households is headed by someone with Standard Ten (see Table 7.8); details regarding differences in QOL groups will be dealt with in section 7.4.

Employment status of the household head also emerges as an outstanding discriminating indicator. Again when one looks at Table 7.8 one sees that this indicator clearly differentiates groups two and four from the rest of the QOL groups. In groups two and four most households have full time jobs, 78.6% and 57.5% respectively. Unemployment levels are relatively low in these two groups, 18.8% in group two and 37.9% in group four. This is in contrast with the other three groups where the percentage of household heads with full time employment is lower than 40% and, unemployment at least half of the household heads are unemployed. As will be seen in section 7.4 this finding is symbolic of the multidimensional influence of education on the various aspects that impact on household QOL. Households in QOL groups where the household head is educated generally experience better living conditions than otherwise and this has several implications. It suffices to leave this aspect at this point for now; it will be dealt with later on during the discussion of the study's findings.

Witt regard to the second discriminant function, *household's main source of water* loads highly with this function, with an absolute correlation of 0.761. This indicator differentiates group three from the rest of the groups. As will be detailed in section 7.4, group three is the only group without a single household having access to piped water (see Table 7.12). The rest of the groups rely mostly on piped water in the dwelling (i.e. groups two and four at 87.8% and 77% respectively) or they rely on piped water in the yard and public tap water (see Table 7.12). This finding highlights the problem of access to clean water and by implication, the problem of fetching water. The finding should be viewed in a broader social and demographic context given the fact that the majority of households in group three are headed by females (53.2%), with low education and predominantly rural (96.6%). The rural situation of most of these households is likely to impact negatively on household access to other QOL indicators.

7.2.2 Prediction of group membership

The results above emanate from the application of discriminant function analysis to the five QOL groups obtained in cluster analysis. As indicated earlier on discriminant function analysis was applied through the use of pre-determined QOL groups (QOL 1-

QOL 5) serving as the grouping variable, and the multiple response variables or QOL indicators. As one may recall, the reason for applying dicriminant function analysis was two fold. Firstly to identify the discriminating indicators and describe the possible causes of the circumstances leading to such differences (DDA). The second reason for applying discriminant function analysis was to predict household group membership on the basis of the QOL indicators accessed (PDA). The thinking being, group membership depends on what indicators a household accesses.

Since the same indicators were used to classify households into the five QOL groups, predictive discriminant analysis (PDA) should be able to ascertain predict household group membership. Table 7.4 shows the results indicating the extent of fit between the cases predicted by the discriminant function model and the cases originally classified in cluster analysis. These results indicate that 95.5% of the original cases are correctly classified in the discriminant function analysis model. With the exception of QOL5, the fit between the classification results of the two models is above the overall result of 95.5%, with the best fit being in QOL3 and QOL4 where 98% and 97.8% of the original cases in the respective groups are correctly predicted under discriminant function analysis. The poorest fit between the two models is observed in group five where 87.6% of the original cases are correctly classified by the discriminant function model. Most of the misclassification is observed in group three (QOL3) where 8.8% of the cases originally classified under QOL5 are predicted to belong to QOL3 by discrminant analysis. This is likely to be a result of the similarities in education level of household heads, access to sanitation and type of dwelling occupied. With regard to education, both groups have low education levels, with 90.3% of the household heads in QOL5 having education below Standard 9 as compared to 100% of their counterparts. When it comes to sanitation almost equal proportions of households in both groups rely on pit latrines; 24.3% in QOL5 and 25.1% in QOL3. As for type of dwelling, 36.5% of the households in QOL5 live in formal dwellings while 28.6% in QOL3 enjoy similar conditions.

The prediction 2.9% of the cases as belonging to QOL4 instead of belonging to QOL5 as originally classified could be due to the fact that the two groups experience similar conditions with regard to access to water on site. Households with piped water on site make up 18.8% in QOL4 as compared with 18.3% in QOL5. Details of these results are provided in section 7.4 dealing with cluster analysis.

Table 7.4: Classification results of original and predicted group membership for OHS 1996

	Predicted Group Membership						
	Cluster Number of Case	1	2	3	4	5	Total
Original count	1	**3321**	0	10	44	43	**3418**
	2	0	**1343**	0	8	14	**1365**
	3	32	0	**1944**	0	8	**1984**
	4	18	25	1	**5180**	74	**5298**
	5	22	1	292	96	**2894**	**3305**
	Percent ages						
	1	**97.2**	0	0.3	1.3	1.3	**100**
	2	0	**98.4**	0	0.6	1.03	**100**
	3	1.6	0	**98.0**	0	0.4	**100**
	4	0.3	0.5	0.02	**97.8**	1.4	**100**
	5	0.7	0.03	8.8	2.9	**87.6**	**100**

In all the chapters presenting the study's findings, the quality of life clusters have been ranked as indicated in the results relating to cluster analysis. The distribution of the group centroids for the first discriminant function has been used in each case to rank the QOL clusters. This process has been applied to the results in OHS 1996. Table 7.5 shows results of the discriminant functions evaluated at the group means. The group centroids for the first discriminant function were used to rank the QOL groups in cluster analysis. According to these results, group two (QOL2) with its centroid located 4.94 units at along the first discriminant function is ranked as number one and QOL3 with its centroid located -4.55 units along the same DF, is ranked number five.

Table 7.5: Unstandardised canonical discriminant functions at group centroids

Cluster Number of Case	Function			
	1	2	3	4
1	-2.2728	1.8719	-0.4148	-0.2036
2	4.9480	-1.598	-0.0558	-0.5684
3	-4.5507	-1.8417	1.2804	-0.0494
4	2.1392	0.6332	0.6197	0.1809
5	-0.3905	-1.1853	-1.3100	0.1849

7.3 Formation of quality of life groups using cluster analysis (OHS 1996)

As indicated in chapter three – dealing with the methodology – and chapters four to six, cluster analysis enabled the current study to group households which access similar QOL indicators, into QOL groups. As part of the analysis a thorough scrutiny of the data with the intention of eliminating cases with missing variables was done for each data set. In the case of OHS 1996, this process reduced the number of households from 15917 to 15370. The 15370 households or cases were subjected to the clustering process based on thirteen indicators. This process resulted in five clusters of households (QOL1 – QOL5). Table 7.6 shows the indicators involved in the analysis together with the final cluster centres for the five QOL groups that emerged. (see also Appendix H). Details of the findings pertaining to the results of cluster analysis follow in Section 7.4 where aspects of the five quality of life groups are described.

A crucial indicator – *Type of toilet facility used by a household* – was not used in cluster and discriminant analyses because of the way it was captured; households accessing a particular type of toilet on site were captured separately from households accessing a toilet off site. In the latter category are households with no access to a toilet. Although data pertaining to the two variables should point to two mutually exclusive outputs, the analysis found numerous inconsistencies. As a result this indicator could only be used for descriptive purposes. Details of these findings are provided in section 7.4.4 which deals with sanitation.

Table 7.6: Final cluster centers for OHS 1996

Variables in analysis	Cluster				
	1	2	3	4	5
Cellphone telephone	1.9942	1.7985	1.9965	1.9360	1.9918
Type of dwelling occupied by h/hold	6.6524	8.5106	5.9723	8.2760	5.4678
Worked past 7 days	2.3297	1.40	2.6502	1.8020	2.1359
H/hold's fuel for cooking	4.4228	6.7861	3.2903	6.7641	3.8980
H/hold's fuel for heating	4.3847	6.6996	3.2767	6.6682	3.9029
H/hold's fuel for lighting	3.5731	4.8410	2.6885	4.9117	2.9474
Health facility usually visited by h/hold	4.7384	6.9473	4.6709	5.9621	4.7788
Have access to the medical scheme	1.8918	1.3172	1.9501	1.6506	1.9062
Telephone in dwelling	1.9155	1.2843	1.9924	1.5134	1.9828
H/hold refuse disposal	4.6934	7.1480	2.7893	7.5221	3.8596
H/hold's main water source	10.6656	11.71578	4.3468	11.7174	9.1652
H/hold distance from medical facility	3.4026	3.5421	2.6245	3.7809	3.1567
Highest education level completed	2.0661	18.0220	3.0625	10.4428	9.2590

7.4 Comparing the different aspects of the five quality of life groups

Before attempt is made to compare the quality of life conditions in the various QOL groups, one needs to determine how the QOL groups themselves differ from each other in terms of the conditions experienced. In other words, there is a need to assess objectively the conditions in the quality of life groups. This brings in the issue of ranking the QOL groups. Like in chapters four to six, ranking the QOL groups was based on the findings of the discriminant function model. Discriminant function analysis provides a distribution of groups of cases along particular dimensions or discriminant functions. As detailed in Section 7.2, the first discriminant function (DF) accounts for most of the between - group variation. Clusters or QOL groups will have their centroids distributed along a particular DF on the basis of the indicator characteristics used in the analysis. A group of households with the best access to the selected QOL indicators will have its centroid located farthest on the positive side of the first dimension or discriminant function. Similarly a group of households with the poorest access to the selected QOL indicators will be have its centroid located farthest on the opposite side of the first dimension or

discriminant function. This enabled the study to rank the QOL groups whose results are provided in Table 7.7.

Findings in this respect indicate that group two with its centroid located 4.95 units on the right side (i.e. the positive side) of the first DF is ranked number one. Households in this group have the best access to the QOL indicators considered in the study. As such group two is judged to experience the best quality of life. Group two is followed by group four whose centroid is located 2.14 units along the first DF. By contrast Group three with its centroid located -4.55 units along the first DF is ranked fifth. Households in this group have, in most cases, the poorest access to the QOL indicators considered in the study. Group three is thus judged to experience the poorest QOL. The entire distribution of the five ranked groups of households (i.e. QOL groups) constitute the QOL index.

Table 7.7: Distribution of QOL groups and their respective ranks based on group centroids

QOL Group number	1	2	3	4	5
Group centroids – First discriminant function	-2.27	4.95	-4.55	2.14	-0.39
Rank of QOL Group	4	1	5	2	3

Having looked at how households experiencing similar QOL conditions were grouped, the study will now embark on describing the characteristics of the QOL groups themselves. Table 7.8 provides a summary of the demographics for the five QOL groups which came out of the clustering process. Details pertaining to these results are provided in section 7.4.1.

Table 7.8: Demographics, employment and income of the QOL groups (OHS 1996)

	Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Population group					
Asian	5.3	8.6	0.2	1.3	0.1
Black	36.4	55.2	95.8	90	98.2
Coloured	7.7	15.2	3.5	8.3	1.8
White	50.6	21.1	0.5	0.4	-
Age of head of the household					
15-19 years	0.1	0.8	3.6	0.2	0.7
20 - 29	14.1	10.5	23.3	3.8	4.6
30-49 years	59.9	52.7	54.7	37.6	35.2
50 - 69	21.2	30	15.5	42.1	44.1
70 years and older	4.8	6.0	2.9	16.4	15.4
Median age	40	44	36	54	55
Sex of head of the household					
Male	77.8	69.1	56.5	54.6	46.8
Female	22.2	30.9	43.5	45.6	53.2
Education Level					
Below standard 9	-	70.3	90.3	100.0	100.0
Standard ten (Matric)	-	29.3	9.1	-	-
Certificate or Diploma	65.3	0.4	0.6	-	-
Degree or post graduate Degree	33.5	0.1	0.03	-	-
Employment Status					
Full time	78.6	57.5	39.8	30.8	15
Part – time	2.6	4.5	6.1	4.4	2.4
Unemployed	18.8	37.9	53.8	64.5	82

Table 7.8: **Demographics, employment and income of the QOL groups (OHS 1996)- continued**

	Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Gross monthly (Household) Income					
R1 – R200	0.6	1.0	3.4	4.7	3.3
R 201 – R500	0.7	2.8	9.0	8.8	6.5
R501 – R1000	1.1	7.0	10.5	7.7	3.1
R1001 – R1500	2.5	9.7	9.7	6.8	1.7
R1501 – R2500	6.7	13.7	5.8	3.0	0.6
R2501 – R3500	12.5	8.2	2.3	0.9	0.3
R3501 – R4500	10.1	5.0	0.8	0.3	0.1
R4501 – R6000	13.6	3.9	0.5	0.2	-
R6001 – R8000	8.1	1.7	0.4	0.2	-
R8001 – 11000	5.9	0.9	0.1	0.1	-
R11001– 16000	3.9	0.4	0.1	-	0.1
R16001 - 30000	1.9	0.2	0.1	-	-
R 30000 +	0.4	0.1	-	-	-
TOTAL RESPONSE RATE	990 (72.5 %)	3023 (57.1%)	1433 (43.4%)	1148 (33.6%)	329 (16.6%)
Median income (Rands)	4261. 37	1904.77	899.21	652.60	383.06
Number of cases (N = 15370)	1365	5298	3305	3418	1984
Percentage	8.9	34.5	21.5	22.2	12.9

7.4.1 Analysis of Demographics (OHS 1996)

(a) Demographics of Quality of Life (Group 2)

Group two is the smallest among all five QOL groups with just around 9% of the households involved in the study. It ranks first on the QOL index hence judged to experience the best access to the selected QOL indicators. The majority of households in group two are headed by relatively young people with a median age of 40 years. One household (0.1%) is headed by a person aged nineteen while 14.1% of the household heads are aged 20-29. The majority of household heads are in the 30-49 age category. In fact group two has the biggest proportion of households aged 30-49 of all QOL groups (see Table 7.8).

At least one in five households is headed by someone aged between fifty and sixty nine years while households headed by elderly people (70 years and older) constitute 4.8%. Households in group two are predominantly urban (84.2%) and, males dominate the household headship (77.8%).

When it comes to population composition, at least half of the households are White while 36.4% are African. Coloured households constitute 7.7% and Asian households are the least (5.3%).

Close to a third of the households (32.7%) speak English at home and 30.3% speak Afrikaans. Xhosa - speaking households constitute 9% while those speaking Zulu make up 6.5%. Five percent of the households speak Sepedi while 4.8% speak Sesotho at home. Households which speak Setswana constitute 3.7%.

The level of education completed by household heads in this group is substantially high with one in three household heads (33.5%) having a degree and 48% having a diploma with Standard ten. Sixty eight households or 5% for that matter have a diploma with Standard nine while 12.5% have a National Teachers' diploma.

The level of unemployment is relatively low (18.8%) with most of the household heads having full time jobs (78.6%). Households headed by people working on part time basis make up 2.6%.

Group two has the highest response (72.5%) when it comes to disclosing information on household income. Proportionately fewer households (1.3%) earn less than R500 a month compared with the rest of the QOL groups. Around ten percent of the households earn between R500 and R2500 while 36.2% of the households earn between R2500 and R 6000 a month. Group two has the biggest percentage of households (3.9%) which earn over R 11000 a month (see Table 7.8 for details).

The income and employment profile of this group suggests that households in group two are in a relatively better position to make use of private health services. Information in this regard shows that 66.4% of the households visit a private doctor or specialist and 4% visit a private hospital. Households which visit a private clinic constitute 3.8%. Public hospitals provide health services to 15.2% of the households while 9% visit a public clinic when the need arises. Twenty three households or 1.7% make use of other public health services to meet their health needs.

(b) Demographics of Quality of Life (Group 4)

This group, ranked second on the QOL index, contains the largest number of households involved in the study; a third of the sampled households are in group four. The age distribution of household heads is approximately normal with a mean of 45.5 and a median of 44. Unlike group two, this group has quite a number of households (44 households or 0.8%) headed by people aged 15-19. A comparatively smaller percentage of the household heads (10.5%) are aged 20-29. Similar to the situation in group two, the majority of households (52.7%) are headed by people aged 30-49 (see Table 7.8). Three out of ten households are headed by people aged between fifty and sixty nine years while 6% of the household heads are elderly people aged 70 and above. Males dominate the household headship (69.1%) and the majority of households are urban (91.2%).

With regard to population composition, Africans/Blacks constitute the majority (55.2%) followed by Whites (21.1%) while Coloureds and Asians make up 15.2% and 8.6% respectively. Afrikaans and English dominate the language spoken at home, 25.4% and 18.4% respectively while Zulu and Xhosa – speaking households account for 16% and 11.5% respectively. Households which speak South Sotho constitute 8.2% while those speaking Setswana make up 8.4%. Sepedi is used by 4.5% of the households in group four.

The level of education completed by household heads is comparatively low with six household heads (0.1%) having a degree and, twenty three households (0.4%) headed

by someone with a certificate or diploma. Close to three out of ten household heads have completed Standard ten while seven out of ten households are headed by someone with education below standard nine.

Despite the relatively low level of education, unemployment among household heads is moderate compared with most groups constituting the QOL index (37.9%). Close to six out of ten household heads are employed on a full-time basis while 4.5% are employed on a part-time basis.

Close to sixty percent of the households in group four provided information pertaining to household income. Of these households 3.8% earn less than R500 a month while 30.4% earn between R500 and R2500. Seventeen percent of the households which disclosed the households' monthly income earn between R2500 and R 4500 and (0.7%) earns at least R11 000 a month (see Table 7.8 for details).

Relatively fewer households rely on the public health sector when the need for health care services arises. At least half of the households (51.8%) rely on the public health service sector; 23.4% visit public clinics and 28.4% visit public hospitals. The private health sector provides health services to 45.5% of the households of which, 41.3% visit a private doctor or specialist while 2.5% visit a private hospital. Probably the high level of employment particularly on full time basis could be contributing to this kind of situation.

(c) Demographics of Quality of Life (Group 5)

Group five ranks third on the QOL index, consisting of 21.5% of the sampled households. With a median age of 36, the age distribution of household heads is skewed towards the old age groups. Group five happens to have the biggest number of households (118 or 3.6%) headed by people aged 15-19. Households headed by people aged 20-29 make up 23.3% while households headed by someone aged 30-49 constitute 54.7% (see Table 7.8). On the ageing side of the age continuum, group five has the smallest proportion of households headed by elderly people (2.9%).

Although males constitute the majority of household heads (56.5%), the dominance is not as high as in groups two and four (see Table 7.8). The majority of households in group five are rural (63.6%).

When it comes to racial composition African households dominate the group (95.8%) followed by Coloureds (3.5%). Indian and White households make up small proportions, 0.2% and 0.5% respectively.

No single language comes out prominently as the language spoken by most households in group five although Xhosa leads by 28.7% followed by Zulu (17.5%) and Sepedi (11.6%). Twelve percent of the households speak South Sotho while one in ten households speaks Setswana. Tsonga/Shangani – speaking households make up 6.7% while 3.9% speak Afrikaans.

The level of education completed by household heads is low with one household head (0.03%) having a degree while twelve household heads (0.4%) have a Diploma. Seven households or 0.2% have got a National Teachers' Certificate (NTC) and 9% of the households are headed by someone who has completed Standard ten. Nine out of ten households are headed by people without standard ten (see Table 7.8).

The level of unemployment is relatively high with 53.8% of the household heads having had no jobs at the time of the survey. Households headed by people with full time employment make up 39.8% while those with part-time jobs make up 6.1%.

Less than half of the households (43.4%) provided information in respect of income. The income profile of households which disclosed income shows a bias in distribution towards the low income categories. For instance 12.4% of these households earn less than R500 a month while 26% earn between R500 and R2500. Households which earn between R2500 and R6000 make up 3.6% and 0.2% earn at least R11 000 a month; no household in this group earns more than R 30 000 a month.

There is a strong reliance on public health services by households in group five; 85.2% of the households visit either a public clinic or public hospital. The public clinic provides health services to 51% while 34.2% visit a public hospital. The private health sector offers health services to 12.8% of the households. This situation could be due to the rural nature of most households, employment status of the household heads and the income profile described above.

(d) Demographics of Quality of Life (Group 1)

This group with 22.2% of the sampled households ranks fourth (i.e. second last) on the QOL index. Unlike in group five, the age distribution of household heads in group one is skewed towards young ages; the median age is 54. In fact group one has the biggest percentage of households headed by elderly people (16.4%). On the young side of the age continuum, six households constituting around 0.2% are headed by people aged 15–19 while 3.8% of the households are headed by people aged 20 – 29. In most cases as indicated in Table 7.8, the 30 – 49 age category contains the majority of household heads but this is not the case with group 1 where 37.6% of the household heads fall in this category. Instead, the majority of household heads (42.1%) are in the 50 – 69 age category. Male headed households outnumber female headed households, with the former constituting 54.6% and, 59% of the households in this group are rural.

As far as race is concerned, African households dominate group one at 90% followed by Coloured households which make up 8.3%. Asian and White households are in the minority, 1.3% and 0.4% respectively.

When it comes to language used at home, no single language comes out as the most commonly spoken language in this group. Xhosa is spoken by 15.7% while 15.4% of the households speak Zulu. Households speaking Sepedi make up 12.8% while Afrikaans - speaking households constitute 9.3%. South Sotho is spoken by 12% of the households while 11.7% speak Setswana. Nine percent of the households in group one speak Tsonga or Shangani while 4.6% speak Siswati.

The level of education completed by household heads or people acting in this capacity is low, with two thirds of them having had no education and, none has gone beyond standard three; only 3.5% of the household heads indicated to have completed standard three.

Unemployment is high with 64.5% of the household heads indicating that they had not been working during the seven days prior to the survey. Households headed by someone with a full time job constitute 30.8% while those employed on a part time basis make up 4.4%.

Information pertaining to household income is inconclusive as just a third of the households provided such information. Of these households 13.5% earn less than R500 a month while 17.5% earn between R500 and R2500. Households earning between R2500 and R6000 a month make up 1.4% (see Table 7.8 for details).

The high level of unemployment and the generally low household incomes could be contributing to most of the households to rely on public health services – 54.2% visit a public clinic while 28.2% visit a public hospital. Households which make use of private health services make up 14.3% - two percent of the households visit a private clinic or hospital.

(e) Demographics of Quality of Life (Group 3)

This group accounts for around 13% of the sampled households. It ranks lowest (i.e. fifth) on the QOL index hence judged to be experiencing the poorest measurable conditions. With a median age of 55, most households are headed by relatively old people; 15.4% of the household heads are aged 70 years and older. On the young side of the age continuum, thirteen households (0.7%) are headed by people aged 15-19 while 4.6% of the households are headed by a person aged 20 – 29. Group three has the smallest proportion of households (35.2%) headed by people aged 30-49. Group three has the largest proportion of household headed by people in the 50-69 category

(44.1%). Female headed households are in the majority (53.2%) and, at least nine out of ten households (96.6%) are rural.

As far as population composition is concerned, Blacks or African households are predominant (98.2%) with Coloureds making up 1.8% and Asians 0.1%.

As far as language is concerned, Xhosa - speaking households are in the majority (45.4%) followed by Zulu-speaking households (25.2%). Five percent of the households speak Setswana and 4% speak South Sotho.

The level of education completed by household heads in this group is low with 55% of them having had no education. None of the household heads completed Standard ten; the highest level completed by a household head is Standard seven, completed by just 0.5% of them.

The employment status of household heads portrays the education profile of the group as the majority of household heads (82%) are unemployed. In this group, 15% of the household heads or acting household heads are employed on a full – time basis while 2.4% are headed by someone with a part time job.

Information pertaining to household income is quite scanty; 16.6% of the households provided information in this respect. Of the 16.6% households which disclosed the household income, close to ten percent (9.5%) earn less than R500 a month while 5.4% earn between R500 and R2500. Six households or 0.4% earn between R2500 and R 4500 a month and one household (0.1%) earns between R11 000 and R 16 000 (see Table 7.8 for details).

The rural nature of the group coupled with a high level of unemployment and the generally low household incomes could be contributing to most of the households to rely on public health services – 55.5% visit a public clinic and 31.8% visit a public hospital.

Twelve households or 0.6% visit a traditional healer and, another twenty households or 1% make use other public health services. Households which make use of private health services make up 11.1%.

7.4.2 Analysis of residence (type of dwelling)

This section provides a description of the type of dwelling occupied by households in the various QOL groups. Information pertaining to this aspect is shown in Table 7.9 below. In addition to type of dwelling, a description of the geographical distribution of households by province is provided. Like in the previous three chapters dealing with the study's results, the description provides additional information which may not be appearing in Table 7.9. Once again it is brought to the reader's attention that the description of findings is presented according to the ranking results of the quality of life groups, starting with a group ranked as number one.

Table7.9: Type of dwelling and geographical distribution of households by QOL group (OHS 1996)

	QOL Group /Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Type of dwelling					
Formal dwelling	95.8	94.7	36.5	57.9	28.6
Informal dwelling	1.0	3.7	33.6	17.8	3.4
Traditional dwelling	3.0	1.3	29.3	23.6	67.9
Other	0.4	0.3	0.8	0.7	0.3
Province					
Gauteng	27	31.1	10.6	11.7	0.6
Western Cape	15.2	14.5	6.7	5.1	0.7
Northern Cape	2	5.4	1.6	5.8	2.0
Eastern Cape	15.3	11.2	21.9	12.1	45.3
Free State	8.5	7	9	9.8	1.6
Limpopo	9.5	3.8	17.5	23.3	14
North West	3.9	5.6	10.3	10.2	5
Mpumalanga	4.7	5.5	9	11.8	5
KwaZulu-Natal	13.9	16	13.5	10.1	25.8

(a) Analysis of residence for Group 2 (QOL2)

The majority of households in this group (95.8%) live in formal dwellings with 82% of them occupying permanent brick houses on separate stands. Households living in flats and town houses constitute 5.6% and 4.5% respectively while those occupying a room in the backyard make up 3.2%. Informal dwellings provide shelter to 1% of the households, 0.3% of which are in the backyard. Some eight households or 0.6% live in a room in a hostel or compound for workers and, three percent of the households in this group live in traditional houses.

When it comes to geographical distribution, the highest percentage of households (27%) is found in Gauteng for followed by Eastern Cape (15.3%) and Western Cape (15.2%). Close to 14% of the households are in KwaZulu-Natal while 9.5% are found in Limpopo. Northern Cape has the least number of households constituting 2% (see Table 7.9).

(b) Analysis of residence for Group 4 (QOL4)

The situation in group four regarding type of dwelling, differs slightly from that in group two. Most of the households in group four (94.7%) have access to formal dwellings. More than three quarters of the households (76.3%) live in a brick house on a separate stand while 5.7% live in a town house and 5.4% occupy a flat in a block of flats. Some 5.5% of the households occupy a room in the backyard while 1.8% live in a room in hostel or compound for workers. Informal dwellings provide shelter to 3.7% of the households with 0.8% of them being in the backyard. Traditional houses provide accommodation to 1.3% of the households in this group.

As far as spatial distribution is concerned, at least three out of ten households are found in Gauteng while 16% are in Kwazulu-Natal. Western Cape accounts for 14.5% of the households while 11.2% are found in Eastern Cape. Seven percent of the households are in Free State and 5.6% are in North West. The least number of households constituting 3.8% are found in Limpopo.

(c) Analysis of residence for Group 5 (QOL5)

Access to formal dwellings is poor in this group compared with the situation in groups two and four. Only 36.5% of the households in group five live in formal dwellings compared with over 90% in groups two and four (see Table 7.9). Households living in permanent brick houses on separate stands constitute 29.3% while 0.7% live in a town house. Flats accommodate 1.4% of the households while 3% live in a room in the backyard. Sixty nine households or 2.1% occupy a room in a hostel or compound for workers and, at least one in three households lives in an informal dwelling, with 5.8% of them being in the backyard.

When it comes to geographical distribution, close to 22% of the households are found in Eastern Cape while 17.5% are in Limpopo province. Kwazulu-Natal accounts for 13.5% of the households while Gauteng and North West have almost similar proportions of 10.6% and 10.3% respectively. Mpumalanga and Free State account for 9% each while 6.7% are in Western Cape (see Table 7.9).

(d) Analysis of residence for Group 1 (QOL 1)

Households in group one (ranked fourth on the QOL index) have better access to formal dwellings than households in group five which it follows. Close to sixty percent of the households in group one live in formal dwellings; 48.4% live in permanent brick houses occupying separate stands. Flats and town houses are less common, accommodating 1.4% and 2.4% of the households respectively. Fifty four households or 1.6% live in a room in a hostel or compound for workers while 17.8% live in informal dwellings. Close to a quarter of the households in group one live in traditional houses.

As far as spatial distribution is concerned, 23.3% of the households in group one are found in Limpopo province while 12.1% are in Eastern Cape. Mpumalanga has got 11.8% of the households while 11.7% are found in Gauteng. North West and KwaZulu-Natal have almost the same proportions 10.2% and 10.1% respectively while 9.8% are

in Free State province. The least number of households constituting 5.1% are in Western Cape (see Table 7.9 for details).

(e) Analysis of residence for Group 3 (QOL3)

Group three ranks fifth on the QOL index and, it has the poorest access to formal dwelling among all the five groups. In this group 28.6% live in formal dwellings, a quarter of which live in permanent brick houses on separate stands. Households living in a flat in a block of flats make up 1.2% while town houses provide shelter to three households or 0.2%. Informal dwellings accommodate 3.4% of the households with 0.6% of them being in the backyard. Over two thirds of the households in group three live in traditional houses.

In as far as spatial distribution is concerned, the majority of households this group (45.3%) are found in Easter Cape while 25.8% are found in KwaZulu-Natal. Limpopo province has got 14% of the households while North West and Mpumalanga have 5% each.

7.4.3 Analysis of fuel used by households

This section provides a description of the type of fuel used by households in respect of cooking and lighting. This section provides a description of the type of fuel used by households in respect of cooking and lighting. Table 7.10 shows the fuel types focused upon in this study. In some cases the description includes details pertaining to fuel types other than those indicated Table 7.10. The focus however, is on fuel types in the table which are considered as key indicators in this respect. The key indicators in respect of fuel for cooking include electricity, wood and paraffin while indicators considered in respect of fuel for lighting include electricity, paraffin and candles. Focusing on these indicators emanates from the fact that most households use these fuel types yet some of them, like paraffin can be hazardous to life in various ways particularly in informal dwellings. Results indicate that in spite of the differences in access to amenities and of course ability to access selected QOL indicators, households

tend to use electricity more for providing lighting in dwellings than for cooking purposes across QOL groups.

Table 7.10: Fuel used by households for cooking and lighting

	QOL /Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Fuel for cooking					
Electricity	91.1	88.8	6.2	23.0	2.7
Paraffin	2.4	4.3	46.9	27.4	13.7
Wood	2.3	0.4	37.5	38.2	76.4
Fuel for lighting					
Electricity	93.8	96.5	21.5	45.9	11.1
Paraffin	2.3	1.4	29.7	19.4	34.8
Candles	3.7	2.0	48.4	34.3	53.6

(a) Fuel used by households in Group 2 (QOL2)

Electricity is the most commonly used type of energy for household purposes in group two. As for fuel for cooking at least nine out of ten households use electricity while 2.4% use paraffin. Households which rely on wood as fuel for cooking make up 2.3%. Forty five households or 3.3% use gas to cook while twelve households (0.9%) use coal. With regard to fuel for lighting, 93.4% of the households use electricity while 3.7% use candles. Households which use paraffin to light dwellings constitute 2.3%.

(b) Fuel used by households in Group 4 (QOL4)

Group four is one of two groups – the other being group two – which are better off when it comes to fuel used for household purposes. With regard to fuel for cooking, 88.8% of the households in group four use electricity while 4.3% use paraffin. Households which use coal make up 2.4% while twenty two households or 0.4% in each case, use gas and wood. When it comes to fuel for providing light in dwellings, close to 97% of the households use electricity while 2.0% use candles.

Households which use paraffin make up 1.4% and, six households or 0.1% use gas to light the dwellings.

(c) Fuel used by households in Group 5 (QOL5)

Group five ranks third on the QOL index. This group is worse off than the first two groups when it comes to fuel used for household purposes. For example, just around six percent of the households use electricity to cook while 37.5% use wood. The majority of households use paraffin as fuel for cooking (see Table 7.10). Four percent of the households cook with gas while 3.9% use coal. Some forty seven households (1.4%) use animal dung to prepare meals. When it comes to fuel for lighting 21.5% of the households use electricity while 29.7% use paraffin. Close to half of the households use candles to provide light in dwellings.

(d) Fuel used by households in Group 1 (QOL1)

Group one ranks fourth on the QOL index but the situation regarding fuel for household use is better than that in group five which is ranked third. For instance 23% of the households in group one use electricity as energy for cooking, a figure that more than trebles the 6.2% in group five (see Table 7.10). Households in group one which use paraffin constitute 27.4% while 38.2% use wood to cook. Some 8.2% of the households use coal for cooking while 2.5% use gas. When it comes to energy for lighting, 45.9% of the households in group one use electricity while 19.4% use paraffin. At least a third of the households use candles to provide light in the dwellings and, eight households (0.2%) use gas for the same purpose.

(e) Fuel used by households in Group 3 (QOL3)

Group five is ranked lowest (i.e. fifth on the QOL index) and, household use for electricity as a form of energy is lowest in this group. With regard to energy for cooking, just 2.7% of the households use electricity while 13.7% use paraffin. More than three quarters of the households rely on wood to cook. Some 3.5% of the households use animal dung to cook while 2.3% use coal. Twenty six households (1.3%) use gas to prepare meals.

When it comes to fuel used for lighting, more than half of the households use candles while 34.8% use paraffin. Households which use electricity to provide light in dwellings make up 11.1% and, eight households (0.4%) use gas.

7.4.4 Analysis of sanitation

This section looks at the sanitation services accessed by households in the five QOL groups. Like in the previous three chapters dealing with the study's findings (i.e. chapters four to six), sanitation has been operationalised in terms of "type of toilet facility" a household accesses and, "rubbish removal services". Similar to the situation in OHS 1997, the variable "toilet facility" in the data for OHS 1996 was captured in such a way that households with a toilet on site (i.e. either in the dwelling or in the yard) were separated from households accessing toilets from elsewhere. Much as the two are mutually exclusive, substantial inconsistencies in responses were picked up in the analysis – the cases in the two variables could not tally up. It was decided to leave out the variable "access to toilet off site" because of the inconsistencies. Like in the case of OHS 1997, data on households with no access to toilet gets excluded from the analysis as it was captured under the variable labeled "access to toilet off site". The number of households (with the corresponding percentages) having a toilet on site are indicated in Table 7.11. This on its own indicates the gravity of this indicator even without toiling with the inconsistencies caused by the incorporation of households which access toilets elsewhere. Table 7.11 shows the results in respect of access to sanitation by households in the five QOL groups. Like in the previous chapters dealing with the study's findings, the description of findings provides details which in certain instances go beyond the information provided in Table 7.11.

Table 7.11: Access to sanitation by households

	Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Toilet on site					
Flush toilet	31.7	42.3	19.3	23.7	12.6
Ordinary pit latrine	55.0	43.7	66.2	62.8	78.5
Bucket	10.1	11.4	10.7	10.5	3.4
Number of cases involved in analysis	**347 (25.4%)**	**1168 (22%)**	**1052 (31.8%)**	**1001 (29.3%)**	**522 (26.3%)**
Refuse disposal					
Removed at least once a week	81.6	87.2	18.9	33.9	0.3
Own rubbish dump	13.0	5.9	58.1	48.7	74.5
No rubbish removal services	1.3	1.0	16.4	11.5	23.2

NB. The number of cases involved in the analysis on "Toilet facility" are reflected because they exclude households accessing toilets off site. As such they do not include the total number of cases in each QOL group. In the case of "Refuse disposal", all cases as reflected in Table 7.8 are involved in the analysis.

(a) Sanitation for households in Group 2 (QOL2)

Access to flush toilet in group two is not as high as one would have expected it given that it [group two] ranks number one on the QOL index (see Table 7.11). Close to 32% of the households involved in the analysis have a flush toilet while one in ten households uses a bucket. The majority of households (55%) use pit latrines.

As for rubbish removal more than 80% of the households have their refuse removed by local authorities at least once a week. Thirteen percent of the households have their own rubbish dumps while six households (0.4%) make use of communal refuse dumps.

(b) Sanitation for households in Group 4 (QOL4)

Access to a flush toilet is better in group four (ranked second on the QOL index) than in group two.

Findings in this respect indicate that 42.3% of the 1168 households in group four have access to a flush toilet on site. Households which use a pit latrine make up 43.7% while 11.4% use a bucket toilet.

When it comes to refuse disposal, the majority of households (87.2%) have their refuse removed by local authorities at least once a week. Another 3.4% of the households have theirs removed by local authorities less often than once a week. Almost six percent of the households make use of their own rubbish pits while 1.4% have their refuse removed by community members.

(c) Sanitation for households in Group 5 (QOL5)

Group five ranks third on the QOL index. Results indicate that close to a fifth of the1052 households analysed have a flush toilet on site while (66.2%) use a pit latrine. Close to eleven percent of the households use a bucket toilet.

As far as refuse disposal is concerned, 58.1% of all the households in group five make use of their own rubbish pits while 3.4% rely on communal rubbish dumps. Local authorities remove refuse for 19% of the households at least once a week while 1% of the households have such services less often than once a week. Households with no refuse removal services constitute 16.4%.

(d) Sanitation for households in Group 1 (QOL1)

The situation regarding sanitation in group one differs slightly from that in group five, the former being better off even though it ranked lower. Close to 24% of the 1001 households in group one with a toilet on the premises have it in form of a flush toilet. This is higher than 19.3% recorded in group five. As for households which use pit latrines, such households make up 62.8% in group one compared with 66.2% in group five (see Table 7.11). Households in both groups which use a bucket toilet differ slightly in proportion terms, 10.5% in group one and 10.7% in group five.

When it comes to refuse disposal, close to half of the households in group one have their own rubbish pits while 2% make use of communal rubbish dumps. At least a third of the households have their rubbish removed by local authorities at least once a week. Households with no refuse removal services make up 11.5%.

(e) Sanitation for households in Group 3 (QOL3)

Sanitation findings for group three show that around 26% of the households in this group have access to a toilet on site. The majority of these households (78.5% of 522 households) use pit latrines while 3.4% use bucket toilets. Households which have access to a flush toilet make up 12.6%, the smallest among all QOL groups in OHS 1996.

When it comes to refuse disposal, around three quarters of the households make use of their own rubbish pits while 1.2% rely on communal rubbish dumps. Six households or 0.3% have their refuse removed by local authorities at least once a week and, another 0.3% have theirs removed by community members. Close to a quarter of the households have no access to refuse removal services as indicated in Table 7.11.

7.4.5 Analysis of households' water source

Section 7.4.5 describes the sources of water accessed by households in the five QOL groups. In the description, attempt is made to provide details on water sources including bore holes, dams and rivers which are rather unsafe for household use especially for human consumption. However, the focus is mainly on household access to piped water and the hassles that households face to access piped water in situations where it is not readily available. Table 7.12 provides information in respect of access to piped water by the five QOL groups and the distance traveled by households to fetch water.

Table 7.12: Access to clean water and distance from water source

	Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Water					
Piped in dwelling	87.8	77.0	5.8	21	-
Piped on site	4.5	18.8	18.3	30.7	-
Public tap	5.1	3.7	49.6	43.9	-
Distance from water source (where fetching is applicable)					
Within 100 metres	6.1	4.7	19.7	17.5	19.0
101 – 500 metres	8.0	5.2	32.0	30.6	33.0
501 metres – 1 Kilometre	2.6	1.3	12.0	9.9	17.2
More than 1 Kilometre	1.3	1.1	11.7	8.3	18.3

(a) Source of water for households in Group 2 (QOL2)

Group two has the best access to piped water among all five groups. Close to nine out of ten households have piped water in the dwelling while 4.5% have it on site (but not in dwelling). Some 5% of the households get water from a public tap. Communal boreholes provide water to 0.4% of the households while 0.7% of the households have a borehole on site. Eight households (0.6%) rely on the rain water tank while one household (0.1%) fetches water from a stream or river.

Given the water situation above fetching water is not a huge task in the daily chores of many households. Around six percent of the households which have to fetch water, do so within a hundred metre radius while 8% travel between 100 and 500 meters to fetch water. Thirty five households (2.6%) travel between half a kilometer and a kilometer to fetch water while eighteen households (1.3%) travel more than a kilometer to get water (see Table 7.12).

(b) Source of water for households in Group 4 (QOL4)

Access to clean water in group four is better than the situation in group two. The two groups however, differ in terms of the source. Close to 96% of the households in group four have piped water either in the dwelling or on site; 77% of the households have it in the dwelling. This is higher than the 92% recorded in group two. Where group two happens to be better off is that proportionately more households have water in the dwelling (87.8%) compared with 77% in group four. Similarly fewer households in group four have water in the yard (4.5%) while group four has many such households (18.3%). A hundred and ninety seven households in group four (3.7%) rely on water from a public tap while sixteen households (0.3%) have their own boreholes.

With 96% of the households having no burden of fetching water (it is on site), 4.7% of the complement (i.e.1256 households with no water on premises) fetch water within a hundred meter radius while 5.2% travel between a hundred and five hundred meters to fetch water. Seventy one households (1.3%) travel between half a kilometer and one kilometer to fetch water while fifty nine households (1.1%) travel over a kilometer to fetch water (see Table 7.12).

(c) Source of water for households in Group 5 (QOL5)

The water situation in group five is worse than the situation in groups two and four which it follows in terms of ranking. Relatively few households (5.8%) have piped water in the dwelling while households with water on site constitute 18.3%. Close to half of the households rely on public tap water while 2.5% rely on water delivered by a water tanker or carrier. Ninety nine households (3.0%) have a bore hole at home.

Apart from the six percent of the households or so which have water in the dwelling, 19.7% of the households fetch water within a hundred meter radius while 32% travel between 100 and 500 meters. Twelve percent of the households travel between 500 meters and a kilometer to fetch water while 11.7% travel more than a kilometer to fetch water.

(d) Source of water for households in Group 1 (QOL1)

Access to clean water is better for households in group one than in group five. At least half of the households have piped water either in the dwelling or in the yard, the former constituting for 21%. This is better than the 24% recorded in group five. Three out of ten households in group one have water in the yard, a figure that is higher than 18.3% recorded in group five. The two groups however, differ slightly when it comes to reliance on water from public taps; virtually 44% of the households in group one rely on water from public taps which does not differ so much from 49.6% recorded in group five (see Table 7.12). Forty four households (1.3%) in group one have a borehole on site while six households (0.2%) rely on a communal borehole. Ninety three households (2.7%) rely on water from a water carrier.

With over 40% of the households having to fetch water, 17.5% do so within a hundred meter radius while 30.6% travel between 100 and 500 meters. One in ten households travels between half a kilometer and one kilometer to fetch water while 8.3% travel over a kilometer for this purpose.

(e) Source of water for households in Group 3 (QOL3)

This group (ranked fifth on the QOL index) has the poorest access to clean water. None of the households has piped water in the dwelling or on site. Over forty percent of the households (41.3%) rely on water from streams while 15.7% rely on stagnant water from dams. Two hundred and eighty one households (14.2%) fetch water from springs while 13.9% rely on water from communal boreholes; 2% of the households have their own boreholes. Wells provide water to 7.5% of the households and forty four households (2.2%) rely on rain water tanks on site.

The scenario above indicates that fetching water is a routine task for all but around 5% of the households in group three. Apart from the 5% or so, 19% of the households fetch water within a hundred mater radius while one in three households travels between a hundred and five hundred meters to fetch water.

Seventeen percent of the households travel between half a kilometer and one kilometer to fetch water while 18.3% travel over a kilometer to get water.

7.4.6 Analysis of durables

This section provides a description of possession of durable items by households in the various QOL groups. A few indicators have been selected for use in this regard due to the limited information that is available. These indicators include possession of a vehicle, possession of a cellular phone and, existence of a landline telephone in the dwelling (see Table 7.13). In addition to "possession of a telephone" in the dwelling, the variable "Distance from nearest telephone" has been incorporated in the analysis due to the fact a household without a telephone in the dwelling will have to travel in search of one when the need arises. Household items like radio, television and vehicle have not been included in the analysis due to unavailability of data. As for possession of a vehicle, a proxy indicator namely "transport used by a household to get to work" has been used. The assumption being, households possessing a vehicle are likely to use it while getting to work as opposed to using public transport. Like in chapters four to six, details regarding transport used to get to work are incorporated in order to investigate possibilities regarding possession of a vehicle in situations where a household could opts not to use one even though it is available.

Table 7.13: Possession of durable items

	Cluster number

Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Durables					
Car	53.8	21.3	2.4	1.8	0.5
Cellular phone	19.7	5.7	0.5	0.3	0.2
Landline telephone	71.3	48.5	1.7	8.3	0.7
Distance from nearest telephone					
Less than 100 metres	6.7	18.0	9.9	14.5	2.5
100 metres – less than 200 metres	4.0	11.9	13.5	13.4	5.5
200 metres – Less than 1 KM	4.4	10.3	17.8	18.8	8.1
1 KM – less than 5 KM	5.3	6.2	20.3	18.5	16.6
5 KM – less than 10 KM	2.6	1.0	13.8	10.0	19.5
10 KM or more	2.2	0.8	20.1	11.9	41.8
Don't know	1.0	1.1	2.2	3.0	4.6

(a) Possession of durable items by households in Group 2 (QOL2)

Group two has the best access to the selected durable items among the five QOL groups. Close to a fifth of the households possess a cellular phone and over 70% of the households have a land line telephone in the dwelling (see Table 7.13). This implies that at least 71% of the households do not have to travel in order to make a phone call.

For households which have to travel in search of a telephone 6.7% get hold of a telephone within a hundred metre radius while 4% travel between a hundred and two hundred meters. In this group one in ten households travels more than a kilometer to make a telephone call as indicated in Table 7.13.

As far as transport used to get to work is concerned, at least half of the households indicated that they use their own cars to get to the work place.

A hundred and twenty four households (9.1%) walk to the work place while 12.7% use mini bus taxis and buses; the latter constitute 4.2%. Thirty four households (2.5%) work from home and 18% do not need transport as the household heads are unemployed. All in

all these results indicate that possession of cars for households in this group is relatively high.

(b) Possession of durable items by households in Group 4 (QOL4)

Group four comes second after group two in terms of ranking and, results pertaining to possession of durable items reflect that kind of situation. Close to 49% of the households in group four possess a landline telephone in the dwelling while possession of a cellular telephone is relatively low (5.7%) when compared with the 19.7% for group two. Findings in respect of possession of a telephone indicate that around half of the 5298 households in this group do not have to travel in order to make a telephone call. For the remaining half or so households, 18% get hold of a telephone within a hundred meters while 12% travel between a hundred and two hundred meters to make a telephone call. Eight percent of the households travel at least a kilometer get hold of a telephone.

As for transport used to get to work, at least one in five households indicated that it uses its own car to get to the work place. Ninety seven household heads (1.8%) work from home while 8.5% walk to their places of work. Household heads that use buses and mini bus taxis constitute 21.5%, of which 14.5% use the latter. At least a third of the household heads (34.5%) are unemployed and therefore do not need transport for this purpose. These findings suggest that at least one in five households in group four has got a car.

(c) Possession of durable items by households in Group 5 (QOL5)

Group five ranks third on the QOL index and, possession of durable items is quite low in comparison with the first two groups. For instance 55 households (1.7%) have a landline telephone in the dwelling while fifteen households or 0.5% possess a cellular telephone (see Table 7.13). This implies that the majority of households in this group have to travel some distance to make a telephone call.

For the 98% or so households which have to travel in order to get hold of a telephone, one in ten households gets hold of a telephone within a hundred meter radius while 13.5% travel between 100 and 200 meters to make a telephone call. Over half of the households in group five (54.2%) travel more than a kilometer to get hold of a telephone; 20% of these households travel at least ten kilometers for this purpose.

Regarding transport used by households to get to work, 79 households out of a total of 3305 (i.e. 2.4%) indicated that they use their own cars to get to the work place. A fifth of the households (20.3%) use minibus taxis and buses, the former constituting 12.3%. A hundred and seventeen households (3.5%) use a train to get to work while 14.3% just walk. Over half of the household heads (53.6%) are unemployed and therefore do not need transport for this purpose. These results implicitly indicate that possession of cars by households in group five is relatively low.

(d) Possession of durable items by households in Group 1 (QOL1)

Access to durable items considered in this study is poor for households in group one. For instance just around 8% of the households have a landline telephone in the dwelling and, ten households or 0.3% have cellular phones. These results indicate that less than ten percent of the households in this group have access to either a cellular phone or a landline telephone. The implication is that making a telephone call involves traveling for most of the households in group one. Around 15% of the households get hold of a telephone within a hundred metre radius while 13.4% travel between a hundred and two hundred metres. Four out ten households travel over a kilometer to get hold of a telephone (see details in Table 7.13).

When it comes to transport used when going to work, 61 households or 1.8% indicated that they use their own cars to get to the work place. Sixteen percent of the household heads walk to the place of work while 11.2% use minibus taxis and buses; the latter constitute 6.1%. Forty six household heads (1.3%) use a train while 53 household heads (1.6%) make use of trucks to get to their place of work. Unemployment among household heads in group one stands at 64.5% which means that people heading such households

do not need transport in this regard. Results in respect of transport used to get to work, implicitly indicate a relatively low possession of cars by households in this group.

(e) Possession of durable items by households in Group 3 (QOL3)

Group three ranks fifth on the QOL index and seems to be the worst among all five QOL groups with regard to possession of durable items. For instance just three households in a group of 1984 households (i.e. 0.2%) have a cellular phone. Possession of a landline telephone in the dwelling stands at 0.7%; thirteen households possess a landline telephone.

The above findings imply that less than one percent of the 1984 households in group three are privileged by not having to travel in order to make a telephone call. For the 99% or so, forty nine households or 2.5% get hold of a telephone within a hundred meter radius while 5.5% travel between 100 and 200 meters to make a telephone call. Around 78% of the households in group three travel at least a kilometer to get hold of a telephone; 41.2% of these households travel over ten kilometers for this purpose.

As far as transport used to get to work is concerned, forty nine households (0.5%) indicated that they use their own cars to get to the work place. Eighty five households (4.3%) use minibus taxis and buses; household heads who use buses make up 1.9%. Household heads that walk to the place of work constitute 9.3% while the majority 82% are unemployed and therefore do not need transport for this purpose. These findings point to a likelihood of low possession of cars by households in this group.

7.4.7 Subjective evaluation of Quality of Life

Section 7.4.7 provides a description of the results pertaining to household satisfaction with life in general. In the OHS - 1996, households were asked to indicate how satisfied they felt, all things put together.

Data pertaining to households' responses in this regard was collected and, has been analysed. Results in respect of households' subjective evaluation of quality of life for the seven QOL groups are indicated in Table 7.14.

Table 7.14: Subjective evaluation of quality of life

	Cluster number				
Rank of group	1	2	3	4	5
Original cluster number	2	4	5	1	3
Perception					
Very satisfied	18.2	16.9	7.9	10.5	5.5
Satisfied with life	49.2	44.9	39.6	39.9	35.0
Satisfied and Very satisfied (combined)	**67.4**	**61.8**	**47.5**	**50.4**	**40.5**
Neither/Nor dissatisfied	20	20.2	26.0	26.7	31.9
Dissatisfied	10.7	14.3	20.4	17.8	22.0
Very dissatisfied	1.8	3.7	5.9	4.7	5.3
Dissatisfied and Very dissatisfied (combined)	**12.5**	**18.0**	**26.3**	**22.5**	**27.3**

Results pertaining to household life satisfaction show a tendency for households in QOL groups with better living conditions to be satisfied with life more than households in groups with poor living conditions. This is the case with groups two and four in Table 7.14. A comparison of results in Table 7.14 with the findings relating to the ranks of the quality of life groups in Table 7.7, shows that groups two and four rank first and second respectively on the QOL index. In group two over two thirds of the households (67.4%) reported to be satisfied with life; 18.2% of them being very satisfied for that matter. In group four which ranks second on the QOL index, 61.8% of the households indicated that they are satisfied with life; 16.9% being very satisfied with life. Variations in the association between objective and subjective QOL assessments emerge in the results for groups one and five. Group five is judged to be better off in terms of material living conditions than group one; the former is ranked third on the QOL index while the latter ranks fourth. When it comes to subjective QOL assessment, discrepancies emerge with group one having proportionately more satisfied households than group five although the discrepancy is more in the very satisfied household category (see Table 7.14). If material possession is a predictor of household life

satisfaction, it would go without saying that the least satisfied households will be in group three but even here one finds 40% of the households being satisfied with life.

Results pertaining to life dissatisfaction relate in a way with the results described above (i.e. for the satisfied category). The two groups with high proportions of households that are satisfied with life, contain fewer dissatisfied households. For instance in group two which ranks first on the QOL index, 12.5% of the households reported to have been dissatisfied with life; 1.8% of them being very dissatisfied. The second group on the QOL index is QOL 4. Herein 18% of the households reported to be dissatisfied with life, 3.7% of them being very dissatisfied. Once again the discrepancy in the results for groups one and five appear, with group five – ranked third – having proportionately more dissatisfied households (26.3%) than group one which ranks fourth. Note that even in group three which ranks fifth on the QOL index, the proportion of dissatisfied households (27.3%) does not differ much from the 26.3% in group five.

The third category of results pertains to households which reported to be neither satisfied nor dissatisfied with life. In this respect proportionately fewer households in the two groups with better living conditions reported to be neither satisfied nor dissatisfied with life in general; in both cases the percentage is around twenty. The proportions of households which reported indifference to life satisfaction differ slightly between groups one and five, 26.7% and 26% respectively. The group with the largest proportion of households that are neither satisfied nor dissatisfied (31.9%) is group three. This group ranks lowest on the QOL index, it has the smallest percentage of households that are satisfied with life in general and, it has the largest percentage of households that are dissatisfied with life.

7.5 Summary

Chapter four has presented the findings arising from the analysis of the data for OHS 1996. Cluster analysis was used to classify households into QOL groups.

This process yielded five QOL groups of which, group two experiences the best QOL conditions while group three experiences the poorest QOL. Results emanating from

Discriminant function analysis indicate that *Highest level of education completed by the household head* and *Employment status* of the household head are the most crucial indicators differentiating between the QOL conditions experienced by the five groups of households. Like in chapters four to six, results pertaining to subjective evaluation of quality of life indicate an existence of association between household material living conditions and households' life perception but this holds mainly for QOL groups that are distinctively better off.

Chapter eight will discuss the findings of the study wherein attempt will be made to evaluate the extent to which the conceptual model provides an understanding of the aspects impacting on household quality of life basing on the study's results.