CHAPTER FOUR: FINDINGS OF THE STUDY IN RESPECT OF OHS 1999

4.1 Introduction

Having looked at the methodology used in the study, chapters four to seven will present the findings of the study. Data for four different years (OHS 1996 – OHS 1999) has been used in the study. Because of the numerous variables involved in data analysis for each year and, the numerous QOL groups emanating from the analysis, the results for each year will be presented as a separate chapter. Following this approach, chapter four will present the findings pertaining to the analysis of the data for OHS 1999 while chapter seven will present the findings emanating from the analysis of the data for OHS 1996. In each case, results will be divided into two broad categories. The first category relates to findings in respect of discriminant function analysis. This deals with aspects or indicators which differentiate between groups of households experiencing different QOL conditions. This section also highlights the extent to which households are correctly classified on the basis of the QOL indicators considered in the study. The results of discriminant function analysis also provide a basis for ranking the QOL groups emanating from cluster analysis.

The second category of results relates to groups emanating from cluster analysis. Results in this category describe characteristics of the various QOL groups, highlighting how the groups differ from one another demographically and, in terms of the indicators considered. Finally a description of the subjective assessment of QOL is incorporated to assess the possible relationship between objective and subjective quality of life among the emerging QOL groups.

4.2 Applying discriminant function analysis to the OHS (1999) data

As indicated earlier on in chapter three, discriminant function analysis is frequently employed in processes requiring classification of cases into groups. According to Amemiya (1985: 281) discriminant analysis techniques are appropriate in situations where groups of units are known and the purpose of the research is either to describe group differences or to predict group membership.

In the context of this study, discriminant function analysis has been applied for both purposes. In the first place it has been applied to assist in identifying and describing the indicator/indicators that differentiate between groups of households in respect of the quality of life conditions experienced. This is known as descriptive discriminant ananlysis (DDA). As indicated in chapter three DDA strives to describe the effect the grouping variable(s) have on the multiple response variables. The multiple response variables are viewed as the outcome variables and the grouping variable(s) as the explanatory variables (Huberty, 1994; Tabachnick & Fidell, 2001). In this study, the multiple response variables are the various QOL indicators which have been used to classify households (i.e. cluster analysis) into eight groups experiencing different QOL conditions. Multiple response in this study refers to a variable or indicator possessing several attributes to which a particular household could respond. Multiple response should not be taken to mean that a household could respond to a particular indicator/variable through more one attribute. The eight groups or clusters of households (i.e. QOL1 – QOL8) form the grouping variable. The groups are then used in discriminant function analysis, in conjunction with the multiple response variables to conduct the analysis.

The second reason for applying discriminant function analysis lies in its ability to predict group membership - referred to as predictive discriminant analysis (PDA). Applying PDA enables this study to establish the percentage of cases – in this case, households – that are correctly placed on the basis of the selected indicators. This to a great extent verifies the extent to which results from cluster analysis are in agreement with the results emanating from discriminant function analysis, given that households are grouped using the same QOL indicators. Findings pertaining to PDA are dealt with in section 4.2.1.

Table 4.1 shows the output summarizing the canonical discriminant functions - the eigenvalue, % of variance, cumulative % of variance accounted for by each function, and the 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. The results in this case indicate that 66.4% of the between-group variability is accounted for by the first discriminant function and 19% is accounted for by the second. The additional variance accounted for by functions three to seven is also shown but the discriminating power for these functions is relatively small. In most cases, meaningful interpretation is limited to the first two functions, which in this case account for 85.4% of the variance. Because the analysis involved many indicators and groups, the maximum number of functions is the lesser of either the degrees of freedom for the groups (seven), or equal to the number of predictors, namely seventeen (Tabachnick & Fidell, 2001:482). As such there are seven functions that could be considered but the first two are the most crucial in the interpretation of the findings as they account for the largest variance between the eight QOL groups.

Table 4.1: Summary of canonical discriminant functions (OHS 1999)

Function	Eigenvalue	Percentage of Variance	Cumulative %	Canonical Correlation
1	8.634	66.413	66.413	0.947
2	2.470	18.999	85.412	0.844
3	1.743	13.404	98.816	0.797
4	0.131	1.006	99.822	0.340
5	0.012	0.093	99.914	0.109
6	0.008	0.059	99.973	0.087
7	0.004	0.027	100	0.059

The issue of how many functions to be used in the interpretation of results remains contested in this study. The canonical correlations for each function indicated in Table 4.1 are a measure of association between the QOL groups and the indicators. The interpretation of the strength of these correlations is made easy when the chi-square results in Table 4.2 are taken into account. The chi–square results indicate that with all seven functions included, the $\chi^2(119)$ of 101903.3 indicates a high relationship between the eight QOL groups and the QOL indicators which serve as the predictors.

With the first discriminant function removed, there is still a reliable relation between the QOL groups and the indicators as indicated by $\chi^2(96)$ of 52412.21 (p =0.000). The same goes for all the seven functions as one function is systematically removed. All seven functions indicate reliable relations between the QOL groups and the indicators despite the decrease in the magnitude of the canonical correlations in Table 4.1.

Table 4.2: Statistical significance of discriminant functions (OHS 1999)

Test of Function(s)	Chi-square value	Degrees of freedom	Sig.
1 through 7	101903.3	119	0.000
2 through 7	52412.21	96	0.000
3 through 7	25230.87	75	0.000
4 through 7	3189.32	56	0.000
5 through 7	504.30	39	0.000
6 through 7	243.744	24	0.000
7	76.11	11	0.000

Much as the association - indicated by chi-square values - is high and statistically significant, it is imperative to remember that the eight groups have been classified on the basis of seventeen indicators. There is a high likelihood for at least one indicator to differentiate a group of households – one QOL - from another or a combined group of other groups. The first discriminant function identifies what indicator(s) discriminate between one QOL group from the rest of the groups. The second function identifies what indicator(s) discriminate between group two from groups 3 – 8 given that group one is already taken out, and so on. Because there are numerous indicators in the analysis - and rightly so because QOL is multidimensional – individual indicators could discriminate between groups after the second discriminant function, making the associations statistically significant. even if the functions have low discriminatory power. This is likely to be the case as indicated in the pooled within-groups correlations results shown in Table 4.3. The correlation figures marked (*) have been identified by the discriminant function model to be statistically large in absolute terms and, when one checks, such correlations are not many (at most three) in most of the functions, with the exception of function four.

In any case the argument of the multitude of indicators impacting on QOL still holds when one looks at which indicators emerged with the largest absolute correlation value(s) in the various functions; they are different for each function. On the basis of both, statistical grounds and the findings of this study, interpretation of the discriminant function results will be limited to the first two discriminant functions (See Tabachnick & Fidell**,** 2001: 459).

Table 4.3: Pooled within-groups correlations between the standardized canonical discriminant functions and the predictors

	Function						
	1	2	3	4	5	6	7
Type of toilet facility	0.3439	-0.5906*	0.2110	-0.0841	0.3550	-0.0308	0.0885
Highest education level completed	0.8098*	0.5633	0.1501	0.0260	0.0009	-0.0017	0.0197
Occupation of employee/self employed	-0.3733	0.0992	0.9063*	0.0200	0.0778	-0.0554	-0.0043
Household own a vehicle?	-0.1566	0.0230	0.0756	0.3963*	-0.2778	0.3661	0.0024
Does h/hold have a phone in house/cell-phone?	0.1865	-0.1154	0.0238	-0.3515	0.1042	-0.4078*	0.3416
Is person covered by medical aid?	-0.1766	0.0200	0.1286	0.5140*	-0.1451	-0.0630	0.0241
Household's distance from water source	0.1690	-0.2965	0.0984	0.1293	0.2605	0.1817	0.5324*
Household's fuel for lighting	0.1488	-0.2095	0.0691	-0.0202	-0.0275	-0.0336	-0.2373*
Household access to TV?	-0.1287	0.0749	-0.0283	0.1867	0.1268	0.4820*	-0.0434
Did person work for pay during past 7 days?	-0.2029	0.1223	0.5670	-0.6192*	-0.2436	0.2088	0.1950
Dwelling ownership	-0.0629	0.1263	0.0487	-0.2396*	0.1405	0.0571	-0.1184
Household's fuel for cooking	0.2377	-0.2416	0.0761	0.0910	-0.4972*	-0.2438	0.2663
Household's fuel for heating	0.1948	-0.1891	0.0347	-0.093	-0.3099	-0.5169*	-0.0324
How is refuse removed?	-0.2549	0.4388*	-0.2384	0.1134	0.2670	-0.0232	0.1808
Household's water source	0.1836	-0.2482	0.0832	-0.0478	0.1345	-0.2521	0.3513*
Type of dwelling	0.0680	-0.0506	0.0444	-0.3739*	0.1316	-0.1799	-0.2154
H/hold's time to travel to telephone	0.2180	-0.2325*	0.0906	-0.0703	-0.1414	-0.0161	0.1779

NB. Variables ordered by absolute size of correlation within function.

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

4.2.1 Prediction of group membership

Before we get into the interpretation of the results emanating from discriminant function analysis, it is proper to look at the extent to which the discriminant function results are in line with the results of cluster analysis. As one would recall, cluster analysis provides the initial step in grouping households into QOL groups. Households are grouped on the basis of selected QOL indicators. Much as determining the number of clusters was based on Mahlanobi's distance as explained in chapter three, it is crucial to establish the validity of the QOL groups emanating from cluster analysis. This is revealed by the classification results in Table 4.4. Results in this table indicate how cases originally classified in cluster analysis are grouped in discriminant function analysis. These results indicate that 94.5% of the cases originally classified into eight QOL grouped are correctly classified in the discriminant function analysis model. This is a satisfactory fit between the two models. Having said that however, one needs to look at where most of the discrepancy occurs.

The upper section of the table compares the number of cases grouped in cluster analysis with the number of cases as predicted in discriminant function analysis. The lower part of Table 4.4 provides the comparison in terms of percentages. Focusing on percentages, one finds that the best results in terms of fit are found in groups 2,4,5,6, and 7 where the correctly predicted percentages are above the overall percentage of 94.5%. The poorest fit between the two models is found in group three where 90.6% of the original cases are correctly classified by the discriminant function model. For this group 7.45% of the households which were originally classified as belonging to group three(ranked sixth) are predicted as belonging to group eight (ranked fifth) and 1.5% are predicted as belonging to group seven (ranked fourth). The most probable cause of around 9% of the cases being predicted to belong to groups seven and eight is the relatively poor level of education in the three groups. As will be explained in detail in section 4.4, groups three, seven and eight have most of the households being headed by people with education levels below standard nine (i.e. grade 11). Besides this particular group (i.e. QOL 3) and possibly QOL8 the discriminant function results compare fairly well with the cluster analysis results.

Table 4.4: Classification results of original and predicted group membership for OHS 1999

		Predicted Group Membership								
	Cluster Number of Case	1	2	3	4	5	6	7	8	Total
Original Count	1	**4383**	0	7	6	1	7	125	172	**4701**
	2	0	**2878**	76	0	0	43	0	8	**3005**
	3	0	11	**2714**	0	0	1	46	223	**2995**
	4	11	0	1	**1757**	42	0	0	0	**1811**
	5	0	0	6	1	**785**	0	1	0	**793**
	6	2	22	5	0	0	**2278**	37	5	**2349**
	7	82	0	25	0	0	10	**3808**	11	**3936**
	8	38	69	9	0	0	80	10	**2065**	**2271**
	Percentages									
	1	**93.2**	0	0.15	0.13	0.02	0.15	2.66	3.66	**100**
	2	0	**95.8**	2.53	0	0	1.43	0	0.27	**100**
	3	0	0.37	**90.6**	0	0	0.03	1.54	7.45	**100**
	4	0.61	0	0.06	**97.0**	2.32	0	0	0	**100**
	5	0	0	0.76	0.13	**99.0**	0	0.13	0	**100**
	6	0.09	0.94	0.21	0	0	**97.0**	1.58	0.21	**100**
	7	2.08	0	0.64	0	0	0.25	**96.8**	0.28	**100**
	8	1.67	3.04	0.40	0	0	3.52	0.44	**90.9**	**100**

NB. 94.5% of original grouped cases correctly classified

4.2.2 Interpretation of discriminant function results

Up to so far, attempt has been made to establish the validity of the results from discriminant function analysis. The next step is to try and understand the meaning of the discriminant function itself. According to Tabachnick and Fidell (2001: 484) the meaning of the function is inferred by a researcher from the pattern of correlations

between the function and the predictors. If predictors X_1, X_2, and X_3 load (correlate) highly with the function but predictors X_4 and X_5 do not, the researcher attempts to understand what X_1, X_2, and X_3 have in common with each other that is different from X_4 and X_5; the meaning of the function is determined by this understanding.

Results in Table 4.3 show that the indicator which correlates highly with the first discriminant function (marked with "*") is "highest education level completed by the head or acting head of the household". As will be shown in section 4.4 this indicator differentiates basically five groups where the level of education completed by heads of households is low, from the other three. The five groups are groups 2,3,6,7, and 8 in which most households are headed by people below standard nine or no education at all. In group two for instance 73% of the household heads have had no formal education while 51.5% of the household heads in group six fall in the same category. The other three groups have most of the households headed by people with education levels below standard nine.

Completed level of education is critical in improving quality of life. It becomes even more critical if the majority of households – in this case households in five groups – are headed by people with low or no education. Remember that 66.4% of the between-group variability is accounted for by the first discriminant function and 19% is accounted for by the second discriminant function. Addressing issues associated with the indicators which load highly with these two discrminant functions will go a long way in minimising the existing group differences thereby improving QOL.

When it comes to the second discriminant function, two indicators correlate highly with it, namely "Type of toilet facility" and "Time taken to travel to a telephone facility". With regard to type of toilet, five groups namely group 1, 4, 5, 6, and 7 rely mostly on a flush toilet either in the dwelling or on site. This sanitation aspect is differentiating between these five groups from the other three which rely mostly on pit latrines (VIP's and ordinary pit latrine). Details pertaining to this indicator are provided later on in section 4.4.4.

As for the variable “time taken to travel to a telephone facility”, this indicator differentiates three groups (group 2, 3, and 8) from the rest of the groups. Possession of a cellular or landline telephone is low in these groups which requires most of them to travel when the need to make a telephone call arises. One common feature between these three groups is the relatively big number of households which have to spend more than an hour while traveling to a telephone facility. Close to 12% of the households in group eight spend over an hour to get to a telephone facility while 14.6% of the households in group three experience the same situation. Virtually 20% of the households in group two spend at leas an hour in order to get to a telephone facility. Details of this particular indicator are provided later on in section 4.4.6.

The indicators which load or correlate highly with functions three to seven are indicated with (*) in Table 4.3. A detailed interpretation of the attendant functions will not be provided as indicated earlier on. However, such interpretation can always be made by researchers who are interested provided the interpretation is done in reference to the findings described in section 4.4. A complete set of the results emanating from discriminant function analysis is provided in Appendix C.

At this stage it is proper to comment on the canonical discriminant function plots and the territorial map for the QOL groups (QOL 1–QOL8) in Appendix C. These two [canonical discriminant function plots and the territorial map] display the partitioning of the eight QOL groups which constitute the QOL index. In case of the canonical discriminant function plots, the groups have been displayed separately on account of space. A comprehensive picture of the distribution of the QOL groups could be depicted with all eight groups displayed on one graph but owing to the numerous cases involved and relatively large number of groups, the groups get so congested that one cannot visualise them independently, talk less of the group centroids. This in a way, is solved by incorporating the territorial map which displays the distribution of QOL groups (the group number) and group centroids, along the first two canonical discriminant functions. The plots for each group are obtained by use of Fisher’s linear discriminant function coefficients corresponding to a particular group.

At this juncture it is proper to briefly talk about how the distribution of the group centroids enhanced the ranking of the groups or clusters of households. According to Tabachnick and Fidell (2001) the first discriminant function accounts for most of the between-group variation (66.4% in this case). The first discriminant function therefore provides the most vivid distribution of the eight clusters of all seven discriminant functions. As a result the distribution of group centroids along the first discriminant function or dimension has been used in this study to determine the rank of the QOL groups emanating from cluster analysis (described in section 4.3). Ranking has been based on the values of the eight group centroids along the first discriminant function or dimension such that a group with the best QOL has its centroid located farthest along the positive side of the dimension. From the information in Table 4.5 below, group four with its centroid located +5.49 points along the first discriminant function is ranked number one while group two with its centroid located -4.78 points (i.e. to the left) along the first discriminant function is ranked number eight. These results are also indicated in Table 4.7 in the following section where cluster analysis is dealt with.

Table 4.5: Functions at group centroids

	Function						
Cluster Number of Case	1	2	3	4	5	6	7
1	2.3501	-0.9733	-0.9594	0.0848	-0.0517	-0.0902	-0.0516
2	-4.7840	0.3724	-0.5428	-0.5042	0.0921	-0.0758	0.0009
3	-1.5797	2.4874	0.6594	0.0610	-0.1630	0.0555	-0.0461
4	5.4938	0.9524	-1.2775	-0.6557	0.0274	0.1270	0.0535
5	4.2957	2.7734	2.5435	0.3796	0.3982	-0.0191	-0.1061
6	-2.1363	-2.7998	0.2985	0.0881	0.0430	0.1674	-0.0494
7	0.7290	-0.8356	2.0028	0.0016	-0.0368	-0.0431	0.0736
8	-1.3860	0.8577	-1.8150	0.7078	0.0584	0.0207	0.0844

NB. Unstandardised canonical discriminant functions evaluated at group means

4.3 Formation of the quality of life groups using cluster analysis

As indicated in chapter three, clustering can be derived systematically from the data. Of central importance in attempting to identify clusters of observations is knowledge of how "close" individual observations are to each other, or how far apart they are – proximity (Everit *et al*., 2001: 35). In this study cluster analysis was undertaken in order to identify and define groups of households accessing certain QOL indicators. Quality of life has been conceptualised in terms of a household's ability to satisfy its needs. Ability to satisfy household needs is constrained by what a household can access. The issue of constraint comes in because satisfying a number of basic household needs is influenced by exogenous factors. For example every household would like to have a permanent spacious house with a flushing toilet, electricity, piped water and, possibly in a physical environment where most of the services are readily accessible. The reality however is that accessing some of these services and, by implication satisfying households' needs in respect of such services, is subject to conditions operating at a level other than the household level. As a result households differ in terms of ability to satisfy their needs due to individual households' capabilities as well as other exogenous factors. This results into households experiencing different living conditions. The differential access to services and, ability to satisfy household needs, influences a household's living conditions - conceptualised as QOL in this study.

When looked at from this perspective, households can be classified on the basis of the needs they are able to satisfy. Households which are capable of satisfying or accessing similar needs, will in essence experience similar living conditions. Such households can be grouped together on this basis, hence constituting a QOL group. Classification of households along the line of household access to selected indicators of QOL has been achieved through the application of cluster analysis. In the case of OHS 1999, this [cluster analysis] process yielded eight QOL clusters or groups (QOL1 – QOL8) whose details are described in section 4.4. Determining the number of clusters was based on Mahlanobis's distance as described in chapter three. Table 4.6 shows the final cluster centres for the eight clusters.

The entire set of the eight QOL groups constitutes what is referred to as the QOL index. The detailed results pertaining to cluster analysis for OHS 1999 are available in Appendix B.

Table 4.6: Final cluster centers for OHS 1999

	Cluster number							
	1	2	3	4	5	6	7	8
Dwelling type occupied by h/hold	4.19	3.73	3.59	4.68	4.26	3.91	4.21	3.22
Ownership of dwelling	3.55	4.49	4.45	3.81	4.17	3.71	3.87	3.88
Nature of contract/Employment status	1.13	3.36	3.38	1.06	2.93	2.59	3.28	1.27
H/hold fuel for cooking	4.72	2.74	3.19	4.84	4.34	4.12	4.54	3.41
H/hold fuel for heating	4.45	2.39	2.68	4.66	3.93	3.63	4.11	2.86
H/hold fuel for lighting	4.81	2.97	3.14	4.84	4.44	4.51	4.67	3.34
Time taken to nearest phone	6.26	3.97	4.36	6.59	5.97	5.68	6.14	4.54
Does h/hold have a phone/cell-phone in house?	1.57	1.06	1.09	1.80	1.53	1.28	1.49	1.10
Highest qualification for h/h head or acting h/h head	11.23	0.97	9.18	18.59	19.94	1.99	9.60	6.89
Is person covered by medical aid?	1.63	1.98	1.97	1.29	1.72	1.94	1.85	1.94
Occupation of employee/self employed	5.23	11.13	11.29	2.83	10.54	10.11	11.37	6.75
Household own a vehicle?	1.57	1.92	1.92	1.29	1.59	1.89	1.75	1.89
Toilet facility accessed by h/hold	10.41	5.50	5.43	10.36	9.32	10.14	10.43	6.31
Household access to TV?	1.23	1.65	1.58	1.10	1.26	1.47	1.29	1.60
H/hold's main water source	4.66	3.34	3.38	4.74	4.42	4.39	4.62	3.63
Distance from water source	4.93	3.66	3.69	4.89	4.69	4.92	4.97	4.08
How h/hold refuse is disposed of	1.72	5.63	5.31	1.84	2.50	1.83	1.35	5.28

4.4 Comparing the different aspects of the eight quality of life

Before comparing the quality of life conditions in the various QOL groups, there is a need to objectively determine how the emerging QOL groups differ from each other in terms of the conditions they experience. In other words, one needs to rank the quality of life groups.

Ranking the QOL groups has been based on the findings of the discriminant function model as explained earlier on in section 4.2. Amongst other results, discriminant function analysis provides a distribution of grouped cases along a particular dimension or discriminant function. The first discriminant function (DF hereafter) accounts for most of the between - group variation as detailed in section 4.2. The clusters will have their centroids distributed along a particular DF on the basis of the characteristics used in the analysis. In the context of this study then, a group of households with the best access to the selected QOL indicators will have its centroid at the extreme positive point 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 at the extreme negative point of the first dimension. In this way the discriminant function model enhanced the objective ranking of the QOL groups constituting the QOL index. Table 4.7 provides information pertaining to the ranking of the eight quality of life groups. This information has been extracted from Table 4.5 which provides details on the distribution of functions at the group centroids. Note that no attempt has been made to change the order of the groups from the order that came out of the clustering process as this could cause confusion should replication be deemed necessary.

Table 4.7: Distribution of QOL groups and their respective ranks based on group centroids (OHS 1999)

QOL Group number	1	2	3	4	5	6	7	8
Group centroids – First discriminant function	2.35	-4.78	-1.58	5.49	4.3	-2.14	0.73	-1.39
Rank of QOL Group	3	8	6	1	2	7	4	5

Having explained how households experiencing similar QOL conditions were grouped, the next step is to provide a description of the characteristics of the QOL groups themselves. Note that the description of findings is presented according to the ranking as opposed to the numbering of the QOL groups. It is hoped that presenting the findings this way will make comparison easier as findings are systematically presented starting with a QOL that is ranked to enjoy the best measurable quality of life.

Table 4.8 provides a synopsis of the demographics for the eight QOL groups whose details are provided hereafter.

Table 4.8: Demographics, employment and income of the QOL groups (OHS 1999)

	Cluster number							
Rank of QOL Group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***
Original cluster number	4	5	1	7	8	3	6	2
Population group								
Asian	4.2	2.5	5.3	3.2	0.1	0.1	1.3	0.1
Black	46.4	59.9	57.3	63.8	92.6	96.0	81.5	95.8
Coloured	7.2	12.1	14.7	17.1	7.2	3.7	16.9	4.1
White	41.7	25.2	22.7	15.8	*	0.2	0.3	*
Age of head of the household								
Under 19 years	-	0.1	0.2	1.2	0.5	3.3	-	0.2
20 - 29	14.4	9.0	15.6	12	14.1	18.9	3	2.5
30-49 years	66.8	38	65	39.7	63.6	44.6	40.4	27.9
50 - 69	18.1	37.7	18.4	35.3	20.4	26	40.5	43.4
70 years and older	0.6	15.1	0.6	11.9	1.4	7	16.1	25.8
Median age	39	51	39	48	41	40	52	60
Sex of head of the household								
Male	74.5	69.6	82.5	51.5	79.2	45.9	59.1	46.7
Female	25.5	30.4	17.5	48.5	20.8	54.1	40.9	53.3
Education Level								
No schooling	-	-	-	-	3.0	-	51.5	73.0
Below standard 9 (grade 11)	-	-	56.8	84.9	94.2	89.8	48.5	27
Standard ten (grade 12 or Matric)	-	-	42.5	15.0	2.8	9.8	-	-
Certificate or Diploma	52.3	34.7	0.7	0.2	-	0.4	-	-
Degree or post graduate Degree	42.4	19.2	-	-	-	_	_	-
Employment Status								
Full time	96.4	31.9	90.7	20.9	81.9	17.1	43.1	17.9
Part time	2.4	5.2	6.0	3.5	9.9	3.6	4.1	3.6
Casual/seasonal	0.6	1.4	2.6	2.7	7.7	3.0	3.8	2.9
Unemployed	0.7	61.5	0.7	73	0.6	76.3	49	75.6

NB. * Stands for one case (i.e. household)

Table 4.8: Demographics, employment and income of the QOL groups (OHS 1999) -continued

	Cluster number							
Rank of QOL Group	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***
Original cluster number	4	5	1	7	8	3	6	2
Household monthly Income								
No income	1.5	10.4	1.2	19.0	1.3	18.2	8.2	11.8
R0–R399	0.5	10.3	3.4	15.9	20.9	27.8	14.4	20.6
R400– R799	1.6	23.0	6.7	30.4	24.7	33.8	44.3	55.3
R800-R1199	2.2	8.5	9.9	10.5	17.1	9.3	12.2	6.9
R1200-R1799	4.3	7.6	18.5	7.7	17.4	5.0	11.2	2.9
R1800-R2499	7.1	6.8	12.4	4.5	8.4	2.1	4.4	0.9
R2500-R4999	26.4	10.6	22.7	5.3	6.0	1.3	3.0	0.4
R5000-R9999	24.8	4.7	9.9	1.8	0.7	0.3	0.4	0.1
R10000 +	18.2	1.9	4.7	0.4	-	0.1	-	0.1
Don't know	8.7	11.4	6.9	2.5	3.2	1.8	1.7	1.1
Refused	4.6	4.8	3.8	2.0	0.3	0.1	0.4	0.1
Total Response rate	1809 (99.9)	790 (99.6)	4694 (99.9)	3926 (99.8)	2267 99.8)	2985 (99.7)	2348 (99.9)	3000 (99.8)
Median income (Rands)	6274.56	1098.01	2389.30	597.32	870.30	446.48	647.19	528
Number of cases (N = 21861)	1811	793	4701	3936	2271	2995	2349	3005
Percentage	8.3	3.6	21.5	18	10.4	13.7	10.8	13.8

4.4.1 **Analysis of Demographics (OHS 1999)**

(a) Demographics of Quality of Life: Group 4

This group is ranked first on the QOL index. It accounts for 8.3% of the sampled households. No household in this group is headed by a person under nineteen years of age. Households headed by people aged 20 – 29 constitute 14.4% while two thirds of the household heads fall in the 30 – 49 age category. Relatively few households (0.6%) are headed by elderly people (i.e. 70 years and older). Household headship is predominantly male (74.5%) and, 85.5% of the households are urban.

As far as race is concerned, 46.4% of the households are African followed by whites at 41.7%. Coloured households make up 7.2% while Indian households are the least (4.2%). Afrikaans and English are the most spoken languages at home, 27.3% and 26.2% while 9.7% of the households speak Zulu. Xhosa and Sepedi – speaking households constitute 8.2% each while 7.1% speak Setswana.

The level of education completed by household heads is highest in this group with all household heads having tertiary education. Household heads with a diploma or certificate make up 52.3% while the rest have at least a degree.

The education profile described above in a way reflects the employment and income profile of this group. Unemployment is low (0.7%) with over 96% of the household heads being permanently employed. Household heads with part time employment constitute 2.4% and 0.6% work as casual or seasonal employees. Compared with other QOL groups the distribution of household monthly income for group four is skewed towards the high income categories. This group has the biggest percentage of households (18.2%) which earn at least R 10 000 a month (see Table 4.8). It may not be surprising then that 71.3% of the households in this group are covered by medical aid.

(b) Demographics of Quality of Life Group 5

Group five ranks second on the QOL index. It is relatively small compared with the rest of the QOL groups, with 793 households or 3.6%. The age distribution of household heads in group five differs from that of group four in that the majority of household heads (37.7%) fall in the 50 – 69 category. Resultantly the median age for group five (51) is substantially higher than the 39 recorded for group four. One household (0.1%) is headed by someone aged 15 – 19 while households headed by people aged 20 – 29 make up 9%. Households headed by people aged 30 – 49 constitute 38%, a figure that is quite low compared with 66.8% in group four. The age distribution of household heads in group five differs quite markedly in the elderly category; 15.1% of the households in group five are headed by someone that is at least seventy years compared

with 0.6% registered in group four. The majority of households in group five (69.6%) are headed by males and more than three quarters of them (76.4%) are urban.

In terms of race, African households are in the majority (59.9%) followed by white households (25.2%). Coloured households make up 12.1% while Indian households constitute 2.5%.

The language profile of the group depicts Afrikaans to be the most spoken language by households (24.1%) followed by English (15.7%). Zulu speaking households constitute 13.8% while 13% speak Xhosa. Setswana is used by 9.7% of the households while 7.7% speak South Sotho. Households which speak Sepedi constitute 6.3%.

The education profile of household heads in group five is somehow similar to that of group four in that all household heads have tertiary education. The difference is that group four is quite better off. For instance household heads in group five with a certificate or diploma make up 35% of whom 22.8% have a diploma with standard ten. Of the complement, 9.2% have a diploma or certificate without standard ten while the rest have a National teacher's certificate (NTC II or NTC III). Households headed by people with a degree or post graduate degree in Group 5 make up 19.2% compared with 42% in group four. A rather big percentage of households in group five (45%) indicated that they "don't know" the level of completed education which is rather strange.

When it comes to employment status, marked differences exist between group four and five. For instance unemployment is comparatively high in group five (61.5%) compared with just 0.7% in group four. Similarly households headed by people with full time employment in group four are more than three times those in group five, the latter being 31.9% (see Table 4.8 for details).

The income profile of households in Group 5 differs much from that of group four. While more households in group four fall in the higher income categories (R 5000 and higher), the reverse holds for group five with 10.4% of the households having no

income and 10.3% earning less than R 400 a month. Incidentally group five has the highest percentage of households (i.e. 11.4%) which did not disclose their monthly income. Close to 30% of the households in group five have no medical aid cover, a feature that should not be a surprise given the group's high level of unemployment and, income and education profile.

(c) Demographics of Quality of Life: Group 1

Group one accounts for 21.5% of the sampled households and ranks third on the QOL index. It consists of households headed by generally young people, with a median age of 39 (a situation similar to that in group four). Eleven households (0.2%) are headed by people aged 18 and 19 while 15.6% of the household heads are aged 20 – 29. The majority of household heads (65%) are aged between thirty and forty nine years. A relatively small proportion of households (0.6%) are headed by elderly people (70 years and older). Group one is not only the biggest in absolute number of households but, it also has the largest percentage of male headed households (82.5%). The majority of households (84.8%) are urban.

When it comes to racial composition, African or black households constitute the majority (57.3%) but the dominancy is not as high as in some of the other groups, particularly groups six, seven (see Table 4.8). White households make up 22.7% followed by coloured households (14.7%). Asian households make 5.3%.

In group one Afrikaans is the most spoken language at home (26.1%) followed by English (17.2%). Zulu speaking households make up 16.4% while households speaking Xhosa constitute 10.2%. South Sotho is spoken by 8.4% of the households while Setswana is used by 7.6% of the households. Households which speak Sepedi make up 6.7%.

The education profile of the household heads is comparatively poor with none of the household heads having a degree. Household heads with tertiary education constitute 0.7% the contents of which (i.e. tertiary education) are NTC I up NTC III.

Households headed by people with standard ten constitute 42.5% while the rest have not completed standard ten.

When it comes to employment status, nine out of ten household heads are employed on a full time basis while 6% have a part time job. Casual employees make up 2.6% with unemployment standing at 0.6%.

The income profile of group one is somehow similar to that of group four with a bias towards high income. Close to one in ten households earns between R 5000 and R 9999 while 4.7% of the households earn at least R10 000 a month (see Table 4.8 for details). Unlike in group four where medical aid cover stands at over 70%, medical aid cover is relatively low in group one, standing at 37.6%. This may not be so surprising if the proportions of households in the corresponding income categories are taken into consideration.

(d) Demographics of Quality of Life Group 7

Group seven is the second biggest group with 18% of the sampled households and ranks fourth on the QOL index. Three quarters of the household heads are aged between 30 and 69, with the median age for the entire group being forty eight. Forty six households (1.2%) are headed by people aged between sixteen and nineteen while 12% of the households are headed by someone aged 29 – 29. Close to four out of ten households are headed by people aged 30 – 49 while 35.3% of the households are headed by people aged 50 – 69. Elderly people (i.e. 70 years and older) head some 12% of the households in this group. Male headed households outnumber the female headed households (51.5%) the group is predominantly urban (93.3%).

When it comes to race, Black households are in the majority (63.8%), followed by coloured households which make up 17.1%. White households constitute 15.8% while Asian/Indian households are the least (3.2%).

Afrikaans is the most spoken language at home (26.4%), followed by Isizulu (17%). Xhosa speaking households account for 14.7% while English speaking households constitute 10.8%. South Sotho is spoken by 10.4% of the households while 9.4% speak Setswana.

The level of education completed by household heads is low with none of them having a degree. Six household heads (0.2%) have got tertiary qualifications in the form of NTC I and NTC II. Fifteen percent of the households have completed standard ten while the rest (84.9%) have not completed standard ten.

Unemployment is high among household heads in Group 7 with 73% of them having been unemployed at the time of the survey. Households headed by someone with a full time job make up 20.9% while those employed on a part time basis constitute 3.5% (see Table 4.8).

The income profile of households in group 7 depicts a distribution with the majority of households falling in the lower income categories. Nineteen percent of the households have no income while 46.3% earn below R 800 a month. In this group 15.5% of the households have medical aid cover.

(e) Demographics of Quality of Life Group 8

Group eight ranks fifth on the QOL index and accounts for 10.4% of the sampled households. It consists of households headed by relatively young people with a median age of 41. Eleven households (0.5%) are headed by people aged between sixteen and nineteen years while 14.1% of the household heads fall in the 20 – 29 age category. The majority of household heads (63.6%) are aged between 30 and 49 years. Thirty two households (i.e. 1.4%) are headed by elderly people, aged 70 years and older. Close to eighty percent of the households are headed by males and 65% of the households are rural.

Group eight is dominated Africans/Blacks (92.6%), while Coloured households make up 7.2%. White and Indian households are quite few, the latter making up 0.1% while the former is just one household.

Isizulu is the most spoken language at home (23.4%) followed by Xhosa (16.7%). Households speaking South Sotho make up 14.6% while 11.5% speak Setswana. Sepedi is spoken by 9.1% of the households while Afrikaans speaking households constitute 7.4%. Six percent of the households speak Siswati while 5.3% speak Tsonga at home.

The level of education completed by household heads is low with none of them having tertiary education. Close to 3% of the households are headed by someone with standard ten while 94.2% have not completed standard ten. Three percent of the household heads have had no schooling.

When it comes to employment status, unemployment among household heads in this group is low in spite of the low education levels (0.6%). Close to 82% of the households are headed by people with a full time job while 9.9% are employed on a part time basis. Household heads employed on a casual or seasonal basis make up 7.7%.

In spite of the high incidence of full time employment, the income profile of Group 8 depicts generally poor living conditions. For instance no household earns R 10 000 a month and less than 1% of the households earn between R 5000 and R 9999.
Forty five percent of the households earn below R 800 a month and, 1.3% of the households have no income at all. Although the majority of household heads in Group 8 are permanently employed, only 6.5% of the households have medical aid cover.

(f) Demographics of Quality of Life Group 3

Group three is ranked sixth out of the eight QOL groups constituting the QOL index. It accounts for 13.7% of the households in the sample.

With a median age of 40 years, over a fifth of the household heads (22.2%) are younger than thirty, with 3.3% of them being under nineteen years. In fact this group has the biggest percentage of household heads who are younger than thirty years of age. Households headed by someone aged 30–49 make up 44.6% while 26% of the household heads are aged 50 – 69. Elderly people (i.e. 70 years and older) head 7% of the households. This group happens to be one of two groups (the other being QOL2) where female headed households are in the majority – 54.1%. At least seven out of ten households (71.6%) are rural.

Isizulu is the most commonly spoken language at home (22.3%) followed by Xhosa (199.9%). Households speaking Setswana make up 14.7% while Sepedi speaking households constitute 13.7%. South Sotho is spoken by 11.2% of the households while 4.5% speak Siswati.

When it comes to race the group is predominantly African (96%) with coloured households making 3.7%. White households make 0.2% and Indian households are the least (0.1%).

The level of education completed by household heads is with none of them degree. Three household heads (0.1%) have a diploma or certificate with standard ten and six households are headed by someone with an NTC qualification. Household heads with Standard ten make up 9.8% with the rest (89.8%) not having completed standard ten.

The level of unemployment in QOL 3 is high with over three quarters of the households (76.3%) falling in this category. Households headed by someone with a full time job make up 17.1% while households headed by a person employed on a part time basis constitute 3.6% (see Table 4.8).

The income profile of group three seems to reflect the employment profile; 18.2% of the households have no income while three quarters (75.9%) of the households earn less than R 800 a month. In this group, 96% of the households have no medical aid cover.

(g) Demographics of Quality of Life Group 6

Group six is the last but one in terms of poor access to the measurable indicators of quality of life. With 2349 households, it accounts for 10.8% of the sampled households. The distribution of age of household heads is skewed with a bias towards old age groups, a feature that influences its median age of 52 . No household in this group is headed by a person younger than nineteen while household headed by people aged 20 – 29 are also few (3%). Close to four out of ten household heads (40.4%) are age 30 – 49 and a similar proportion of households (40.5%) are headed by people aged 50 – 69. A relatively large percentage of households (16.1%) are headed by elderly people. As a matter of this is one of the groups where households headed by elderly people is higher than 15% (see Table 4.8). Males dominate the household headship (59.1%) and, at least eight out of ten households (81.4%) are urban.

When it comes to population composition the African households constitute the majority (81.5%) followed by coloured households which make up16.9%. Asian households constitute 1.3% and white households are the least (0.3%).

In this group Isizulu is the most spoken language (21.7%), followed by Afrikaans (18.6%) and Xhosa (17.1%). Households which speak South Sotho make up 13.3% while 11% speak Setswana. Sepedi speaking households constitute 5.7% while households speaking Tsonga make up 3.4%. The education level of education completed by household heads is low with none of them having completed standard ten. Over half of the household heads (51.5%) have had no schooling while the rest have education levels ranging between grade zero and grade five or standard three.

In spite of the low level of education, several households are headed by people employed on a full time basis (43.1%). Households heads with part time jobs make up 4.1% while 3.8% of the households are headed by someone employed casually. Close to half of the household heads in group six were unemployed at the time of the survey.

The income profile of households in Group 6 some how reflects the employment and education profile of the group. Close to sixty percent of the households (i.e. 58.7%) earn less than R 800 a month and 8.2% of the households indicated that they had no income at all (see Table 4.8). In this group, 6.2% of the households have medical aid cover.

(h) Demographics of Quality of Life: Group 2

This group with 13.8% of the sampled households is ranked eighth on the QOL index. In other words it is judged to be experiencing the poorest measurable conditions on the basis of the selected QOL indicators. With a median age of sixty, group two has the largest proportion of households headed by elderly people; at least a quarter of the household heads in this group are aged seventy and older. Five households (i.e. 0.2%) are headed by people aged 16–19 while 2.5% of the household heads are aged 20 -29. Group two has the smallest percentage of households (i.e. 27.9%) headed by people in the 30 - 49 age category. On the other hand it has the largest proportion of households (43.4%) headed by people aged 50 -69. As indicated earlier on this group is one of the two groups where female headed households out number male headed households; 53.3% of the households in group two are headed by females. At least eight out of ten households (82.1%) in this group are rural.

When it comes to the racial breakdown, households in group two are predominantly African (95.8%) with Coloured households accounting for 4.1%. Indian and white households constitute minute proportions, the former constituting 0.1% and the latter being just one household.

The language profile of group two reflects the racial composition described above with 23.8% of the households speaking Zulu and 14.6% of the households speaking Setswana. Sepedi is spoken by 14.4% of the households while Xhosa – speaking households make up 12.3%. Nine percent of the households speak South Sotho while 7% speak Tsonga. Six percent of the households speak Siswati while Afrikaans speaking households constitute 4.6%.

The education profile of household heads in group two is quite low with 73% of them having had no education at all. The remaining 27% of the households have education levels ranging between grade zero and grade four or standard two. As a matter of fact group two has the largest proportion of household heads with no education.

The employment profile of group two shows a prevalence of unemployment; at least three quarters of the household heads were unemployed at the time of the survey. Households headed by someone with a full time job make up 17.1% while 3.6% are headed by someone employed on a part time basis (see Table 4.8).

The income profile of group two shows a distribution of household income that is biased towards the low income categories. At least three quarters of the households (75.9%) earn a monthly income below R 800 and, 11.8% of the households have no income at all. In this group 97.6% of the households have no medical aid cover.

4.4.2 Analysis of residence (type of dwelling)

This section provides an analytical description of the type of dwelling occupied by households in the various QOL groups. The information pertaining to this aspect is summarised in Table 4.9 below. It is important to note that the information provided in Table 4.9 is brief. The description provides details which may not be appearing in the summarised figures in Table 4.9. The reader is further informed that in all chapters dealing with the study's results (Chapter 4 to Chapter seven), percentages have been calculated vertically. In some situations the percentages may not add to 100% because the information in the tables highlights key findings

In addition to type of dwelling, the section also looks at the geographical distribution of households at provincial level. Once again the reader is reminded that description is provided basing on the ranking results of quality of life groups. In general, analytical results indicate that the majority of households across QOL groups have access to formal accommodation.

Table 4.9: Type of dwelling and geographical distribution of households by QOL group (OHS 1999)

	Cluster /QOL/Group number							
Rank of QOL Group	1	2	3	4	5	6	7	8
Original cluster number	4	5	1	7	8	3	6	2
Type of dwelling								
Formal dwelling	97.6	86.6	88.6	88.4	58.9	64	81.7	65.1
Informal dwelling	1.4	9.6	7.5	9.4	23.8	19.5	13.2	13.2
Traditional dwelling	0.9	3.0	0.4	0.3	10.9	15.4	0.7	21.3
Total	100	100	100	100	100	100	100	100
Province								
Gauteng	24.7	18.5	29.3	27.1	12.1	5.9	20.7	2.5
Western Cape	14.3	15.8	16.1	17.8	6.5	2.9	15.6	1.7
Northern Cape	4.3	4.9	4.9	5.6	3.7	3.0	9.2	3.8
Eastern Cape	10.8	13.9	**7.1**	11.0	9.7	18.0	7.5	10.8
Free State	6.2	6.4	7.9	8.6	12.7	9.2	10.3	8.7
Limpopo	13.5	8.8	5.1	4.1	11.1	17.7	4.8	22.2
North West	6.7	11.1	8.8	7.8	13.1	14.7	10.0	15.1
Mpumalanga	7.1	6.7	7.7	6.3	14.0	11.4	12.0	17.4
KwaZulu-Natal	12.4	13.9	13.1	11.7	17.0	17.3	9.9	17.7
Total	100	100	100	100	100	100	100	100

(a) Analysis of residence for Group 4 (QOL 4)

Results pertaining to type of dwelling show that the majority of households in group four (with the best QOL conditions) live in formal dwellings. Of the 97.6% households which fall in this category, 79.3% occupy a permanent brick house on a separate stand while 8.4% live in a flat or apartment in a block of flats. Six percent of the households live in semi- detached house (simplex or duplex) while 2.9% live in a house or flat in the backyard. Households which live in informal dwellings constitute 1.4% (see Table 4.9).

In terms of spatial distribution close to quarter of the households in group four (24.7%) are located in Gauteng while 14.3% are in Western Cape. Limpopo province accounts for 13.5% of the households while 12.4% of the households are in KwaZulu-Natal. The least number of households (6.2%) are found in Free State (see Table 4.9).

(b) Analysis of residence for Group 5 (QOL 5)

Group five ranks second on the QOL index. In this group access to formal dwellings is high but, comparatively lower than the situation in group four which ranks first on the index. Close to 87% of the households in group 5 live in formal dwellings of which 70% occupy permanent brick houses on separate stands. Close to 10% of the households live in informal dwellings of which 7.1% are on separate stands. Town flats accommodate 5.7% of the households while 4.7% live in semi-detached houses.

Close to 19% of the households in Group 5 are located in Gauteng while 15.8% are in Western Cape. Eastern Cape and KwaZulu-Natal account for 13.9% each 11.1% are in North West province. The least number of households in group five (constituting 4.9%) is found in Northern Cape.

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

Access to formal dwellings is relatively higher in group one than in group five even though the former group ranks third on the QOL index. A closer scrutiny however, shows that there is a difference when it comes to the quality attributes. For example in group one 88.6% of the households live in formal dwellings, a figure that is higher than the 86.6% recorded in group five. When it comes to the proportion of households living in brick houses on separate stands, 66.6% of the households in group one fall in this category compared with 70% in group five. In group 1, town flats are proportionately more prevalent (8.5%) than in group five (5.7%). Semi-detached houses provide shelter to 4.3% of the households in group 1, a figure that is slightly lower than 4.7% recorded in group five. The incidence of informal dwellings is slightly higher in group five (9.6%) than in group one where it is recorded at 7.5%. In the case of group one, 4.4% of the informal dwellers have their dwellings on separate stands.

A substantial number of households in this group (37.3%) live in informal dwellings; 30.3% being informal settlements on a separate stand or site. Traditional dwellings

accommodate 20.3% of the households while households occupying formal dwellings constitute 42.4%.

Of the 42.4% households who live in formal dwellings, 32.3%) live in permanent brick structures occupying a separate stand while 3.3% live in flats and town houses.

When it comes to geographical distribution, Gauteng province has the largest percentage of households in group one (29.3%) followed by Western Cape (16.1%). The rest of the provinces have percentages smaller than 9% with the smallest (4.9%) being found in Northern Cape (see Table 4.9).

(d) Analysis of residence for Group 7 (QOL 7)

Access to formal dwellings differs slightly in group seven when compared with the situation in group one which group seven follows in terms of ranking; the difference is just 0.2%. The slight difference is evident not only from the holistic point of view but also in the quality attributes. For example 67.5% of the households in group seven live in permanent brick houses occupying a separate stand, a figure that differs slightly from 66.6% recorded in group one. In group seven 5.8% of the households live in town flats while 5.1% live in Semi-detached houses (i.e. simplex/duplex). One percent of the households live in a unit in a retirement village while 6.3% occupy a house/flat in the backyard. Informal dwellings accommodate 9.4% of the households 5.4% of which are not in the backyard.

When it comes to geographical distribution, Gauteng accounts for the biggest proportion (27.1%) followed by Western Cape (17.8%) and KwaZulu-Natal (11.7%). Eleven percent of the households are found in Easter Cape, while 8.6% are in Free State province. Limpopo province has the least number of households constituting 4.1%, (see Table 4.9 for details).

(e) Analysis of residence for Group 8 (QOL 8)

Group Eight has the lowest proportion of households living in dwellings despite being fifth on the QOL index. Just close to 59% of the households live in formal dwellings of

which 46.8% occupy brick houses on separate stands. Town flats provide accommodation to 2.8% of the households while 1.5% live in semi- detached houses (i.e. duplex/ simplex). Some 3.5% of the households live in a house or flat in the backyard while 4.3% live in a room or flat let on a separate stand. Group eight has the largest proportion of households living in informal dwelling. Households falling in this category make up 23.8% of which 5.3% are in the backyard. The percentage of households living in traditional dwellings is equally relatively large constituting 10.9%.

When it comes to spatial distribution the largest percentage of households (17%) are found in KwaZulu-Natal followed by Mpumalanga (14%). North West comes in third position with 13.1% followed by Gauteng with 12.1% of the households. The smallest number of households constituting 3.7% are found in Northern Cape province.

(f) Analysis of residence for Group 3 (QOL 3)

Access to formal dwellings is better in group three than in group eight as indicated in Table 4.9. In spite of being ranked lower than group eight, group three is also relatively better off when it comes to the proportion of dwellings living in informal dwellings (19.5%) compared with 23.8% in group eight. In group three 16.2% of the informal dwellings are not in the backyard compared with 18.5% in group eight. However, group three has the second largest percentage of households (15.4%) living in traditional dwellings. As for households living in formal dwellings, 56.9% live in brick houses on a separate stand while 2.4% live in town flats. Sixteen households (0.5%) live in semi – detached houses while 3.2% live in a house or flat in the backyard.

As far spatial distribution is concerned, 18% of households are found in Eastern Cape while 17.7% are in Limpopo province. KwaZulu-Natal accounts for 17.3% of the households while North West accounts for 14.7%. The least number of households making up 2.9% are found in Western Cape.

(g) Analysis of residence for Group 6 (QOL 6)

Group six ranks seventh on the QOL index. In spite of such a low rating, close to 82% of the households have access to formal dwelling; 61.9% of the households live in permanent brick houses on a separate stand.

Semi-detached houses (i.e. duplex or simple) provide accommodation to 5.3% of the households while 3.4% live in town flats. Households which occupy a room or flat let on a separate stand make up 6.1% while 4.8% live in house or flat in the backyard.

When it comes to spatial distribution, 20.7% of the households are located in Gauteng while 15.6% are in Western Cape. Mpumalanga province accounts for 12% of the households while 10.3% are in Free State province. The smallest proportion of households (4.8%) are found in Limpopo province.

(h) Analysis of residence for Group 2 (QOL 2)

Group two ranks seventh on the QOL index but not the poorest when it comes to housing. Sixty five percent of the households live in formal dwellings of which 60.2% occupy permanent brick houses on a separate stand. Town flats are few in group two (1.4%) just like semi detached houses (0.7%). Two percent of the households live in a house or flat in the backyard while twenty households or 0.7% live in a room or flat let on a separate stand. Traditional dwelling are a common feature in group two with 21.3% of the households living in these type of dwelling. In fact group two has the highest percentage of households living in traditional dwellings.

When it comes to geographical distribution, most households in group two (22.2%) are found in Limpopo followed by KwaZulu-Natal (17.7%) and Mpumalanga with 17.4% of the households. Northwest accounts for 15.1% of the households while 10.8% are found in Eastern Cape province. The least number of households (1.7%) are found in Western Cape province (see Table 4.9 for details).

4.4.3 Analysis of Fuel used by households

This section describes the type of fuel used by households in respect of cooking and lighting in the eight QOL groups. Although the description provides details which include other fuel types, focus is mainly on fuel types that are considered as key indicators in this respect as indicated in Table 4.10. In general, results reveal that electricity is used more for lighting than for cooking purposes.

Table 4.10: Fuel used by households for cooking (OHS 1999)

	Cluster /QOL/Group number							
Rank of group	1	2	3	4	5	6	7	8
Original cluster number	4	5	1	7	8	3	6	2
Fuel for cooking								
Electricity	91.2	69.5	86.0	76.1	29.6	21.3	58	11.5
Paraffin	3.6	20.1	8.2	16.5	39.2	42.3	25.8	28.4
Wood	1.8	7.7	0.9	1.0	21.9	27.6	5.3	49.6
Gas	3.0	2.3	2.1	3.1	4.8	4.1	2.8	2.1
Fuel for lighting								
Electricity	95.4	84.2	94.2	90.6	54.7	48.2	86.2	45.1
Paraffin	1.8	5.0	2.1	3.6	12.9	17.5	4.2	14.9
Candles	2.7	10.1	3.2	5.4	31.6	33.3	8.9	39.5
Gas	0.1	-	0.1	0.1	0.3	0.3	0.3	0.1

(a) Fuel used by households in Group 4

The majority of households in group four use electricity both for lighting and cooking as indicated in Table 4.10. With regard to fuel used for cooking, 91.2% of the households use electricity while 3.6% use paraffin. Three percent of the households use gas to cook while thirty two households or 1.8% use wood as fuel for cooking. As far fuel for lighting is concerned, 95.4% of the households use electricity while 2.7% light the dwellings with candles.

(b) Fuel used by households in Group 5

Marked differences prevail between group four and group five with regard to fuel used for household purposes. This is particularly so with respect to the use of electricity. Although group five follows group four in terms of ranking, the use of electricity does

not follow suit as indicated in Table 4.10. For instance household use of electricity for cooking is markedly lower in group five than in group four with the former recording 69.5% compared with 91.2% in group four. Close to one in five households in group five (20.1%) uses paraffin to cook while 7.7% use wood. Eighteen households (2.3%) use gas for cooking purposes. When it comes to fuel for lighting, comparatively more households in group five use electricity to light the dwellings than for cooking (84.2%) but still this is 11.2% smaller than the percentage in group four. Close to one in ten households uses candles to light a dwelling and 5% of the households use paraffin.

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

Group one ranks third on the QOL index but it is better than group five (ranked second) when it comes to fuel used by households in the respective QOL groups. For instance 86% of the households in group one use electricity to cook compared with 69.5% in group five. Households using paraffin for cooking make up 8.2% in group one while 20.1% of the households use paraffin in group five. Household use of gas is the only item where comparison can be made: 2.1% of the households in group one use gas to cook compared with 2.3% in group five. When it comes to fuel used for lighting purposes, there is a 10% difference between group one and group five as far as the use of electricity is concerned. Households which use electricity to light the dwellings in group one constitutes 94.2%. Candle use stands at 3.2% while households which use paraffin make up 2.1%.

(d) Fuel used by households in Group 7

Group seven is ranked fourth on the QOL index but even with it, household use of electricity is better than the situation in group five. In group seven 76.1% of the households use electricity to cook while 16.5%use paraffin. The use of gas stands at 3.1% while one percent of the households use wood. Regarding fuel or energy used for lighting 90.6% of the households in group seven use electricity while 5.4% use candles.

A closer look at the results pertaining to household use of fuel in relation to the results of the ranking of the QOL groups highlights a possibility of the existence of other

indicators playing a more salient role in the overall results. This emanates from the comparison of the results regarding fuel use for groups five, one and seven. While the results for groups one and seven are in line with the ranking results, the results of group five being ranked as a better off group are in disagreement. This possibility is likely to be clarified later when results pertaining to discriminant function analysis are dealt with.

(e) Fuel used by households in Group 8

The fuel situation in Group 8 is poorer than the situation in the four groups described so far. For instance just close to 30% of the households in group eight use electricity to cook while 39.2% use paraffin. Households which rely on wood as fuel for cooking make up 21.9% while 4.8% use gas for this purpose. Eighty six households (or 3.8%) in group eight use coal to prepare meals. When it comes to fuel use to light the dwellings, 54.7% of the households use electricity while 31.6% use candles. Close to 13% of the households use paraffin and seven households (0.3%) use gas to light the dwellings.

(f) Fuel used by households in Group 3

Access to fuel or energy for household use in group three relates well with the ranking of the group itself. Ranked sixth on the QOL index, 21.3% of the households in group three use electricity to cook with the majority (42.3%) using paraffin. Wood serves as fuel for cooking for 27.6% of the households while 4.1% use gas. A hundred and twelve households (3.7%) while nineteen households (0.6%) use animal dung. Use of electricity for lighting is more than double its use for cooking, with 48.2% of the households using it to light the dwellings. One in three households uses candles while 17.5% uses paraffin (see Table 4.10).

(g) Fuel used by households in Group 6

Group six is yet another case where the results pertaining to fuel used for household use do not agree with the ranking results. Group six ranks seventh on the QOL index but use of electricity is higher than electricity use in groups eight and three which are perceived to be better off. Results in Table 4.10 show that 58% of the households in group six use electricity to cook while around a quarter (25.8%) use paraffin.

Households which rely on wood as fuel for cooking constitute 5.3% while 2.8% use gas. One hundred and fifty four households (6.6%) use coal to cook. When it comes to energy used for lighting, 86.2% of the households use electricity while 8.9% use candles.

(h) Fuel used by households in Group 2

Results pertaining to energy used for household use, in group two align themselves well with the ranking results; group two ranks eighth on the QOL index. This being the case one would expect the poorest conditions when it comes to access to fuel or energy for household use and, this is generally the case. Results in this respect show the lowest use of electricity by households with regard to cooking (11.5%) while 28.4% of the households use paraffin. Close to half of households (49.6%) use wood as fuel for cooking while 2.1% use gas for the same purpose. When it comes to fuel used for lighting, the situation is not as grim, with electricity use for this purpose being more than four times its use for cooking (45.1%). Other than that, 39.5% of the households use candles to light the dwellings while 14.9% use paraffin. Four households (0.1%) use gas for lighting purposes and, another seven households (0.2%) use generators.

4.4.4 Analysis of sanitation

This section looks at sanitation services accessed by households in the eight QOL groups. In this study sanitation is operationalised in terms of “type of toilet facility” a household uses and, “rubbish removal services”. Table 4.11 provides information in respect of the key indicators in respect of sanitation. Once again the reader is notified that the narrative contains details that go beyond the information provided in Table 4.11.

Table 4.11: Sanitation by QOL groups (OHS 1999)

	Cluster /QOL/Group number							
Rank of group	1	2	3	4	5	6	7	8
Original cluster number	4	5	1	7	8	3	6	2
Sanitation								
Flush toilet in dwelling	81.2	57.3	64.4	54.2	3.6	0.6	34.8	0.5
Flush toilet on site	7.8	14.4	28.5	41.0	15.7	2.4	55.7	1.8
VIP/Ordinary pit latrine	8.1	19.5	4.8	3.4	52.1	66.5	5.8	67.8
Bucket toilet on site	0.7	3.5	0.3	-	7.8	10.0	-	7.9
Refuse disposal								
Removed at least once a week	79.7	67.6	81.6	88.5	14.3	14.3	77.4	8.8
Own rubbish dump	12.3	21.6	8.2	3.5	54.8	63.4	7.7	70
No rubbish removal services	1.5	4.5	1.0	0.3	13.8	14.8	1.0	15.4

(a) Sanitation for Quality of Life 4 (QOL 4)

Results in respect of sanitation indicate that most households in group four have access to a flush toilet. Households with a flush toilet in the dwelling make up 81.2% while 7.8% access a flush toilet on site but not inside the dwelling. Some seven households (0.4%) make use of a flush toilet which is off the dwelling's site. Around 8% of the households use pit latrines on site 2% of which are ventilated (VIP). Thirteen households (i.e. 0.7%) use a bucket toilet on site.

Regarding refuse disposal, close to 80% of the households have their refuse removed by local authorities at least once a week, while 12.3% make use of their own rubbish dumps. Twenty seven households (i.e.1.5%) have no rubbish removal services.

(b) Sanitation for Quality of Life 5 (QOL 5)

The sanitation situation in this group is poorer than in group four. Around 57% of the households in this group have a flush toilet in the dwelling while 14.4% access a flush toilet on site but not in the dwelling.

Close to 20% of the households use a pit latrine on site 4.2% of which are ventilated. Twenty seven households (3.4%) use an ordinary pit latrine (i.e. without ventilation) while 3.5% rely on a bucket toilet on site.

When it comes to refuse disposal, at least two thirds of the households in group five (67.6%) have their refuse collected at least once a week by local authorities while 21.6% make use of their own rubbish dumps. Households with no rubbish removal services constitute 4.5%, a figure that is three times that in group four (see Table 4.11).

(c) Sanitation for Quality of Life 1 (QOL 1)

The sanitation situation in Group 1 (ranked third on the QOL index) is better than that in group five as far as access to toilet is concerned. Over 90% of the households in group one have access to a flush toilet 64.4% of which have it in the dwelling. Households which use a flush toilet on site but not in the dwelling constitute 28.5% while sixty two households (1.3%) make use of a flush toilet that is off site. Households using a pit latrine make up 4.8%. Of these households, 1.7% make use of ventilated latrines (VIP). Fifteen households (i.e. 0.3%) use a bucket toilet on site while another 0.3% use a pit latrine which is off the dwelling's site.

When it comes to refuse disposal, group one is still better off with 81.6% of the households having their rubbish removed by local authorities at least once a week. Proportionately fewer households in group one (8.2%) make use of their own rubbish dumps as compared with 21.6% in group five. Similarly proportionately fewer households in group one (1%) do without refuse removal services than the 4.5% in group five (see Table 4.11).

(d) Sanitation for Quality of Life 7 (QOL 7)

The sanitation situation in group seven could easily be judged as being better than that in group one given that 95% of the households in group seven have access to a flush toilet. A closer look at the results however, indicate that 41% of the households in group seven have their flush toilets outside the dwellings compared with 28.5% in

group one. In other words group one has more households (64.4%) with flush toilets in the dwellings than group seven which has 54.2%. Otherwise the percentage of households relying on pit latrines do not differ much in groups one and seven, 4.8% and 3.4% respectively.

When it comes to refuse removal, group seven is better than group one with 88.5% of the households in the former group having their refuse collected by local authorities at least once a week. Group seven has proportionately fewer households (3.5%) which make use of their own rubbish dumps than group one with 8.2%. Similarly relatively fewer households in group seven (0.3%) have no rubbish removal services than households in group one (1%).

(e) Sanitation for Quality of Life 8 (QOL 8)

The sanitation situation in group eight is poorer than the situation in all the groups covered so far. Households which use a flush toilet in the dwelling make up 3.6% while 15.7% have a flush toilet on site but not in the dwelling. Another 2.5% households access a flush toilet off site. Over half of the households (52.1%) rely on pit latrines on site 44.7% of which being ordinary pit latrines with no ventilation. Households which make use of pit latrines off the dwellings' sites constitute 14.9%. Close to 8% of the households use bucket toilets on site.

The situation regarding refuse removal is equally poor; 14.3% of the households have their refuse removed by local authorities at least once a week. The majority of households (54.8%) make use their own rubbish dumps while 13.8% have no refuse removal services.

(f) Sanitation for Quality of Life 3 (QOL 3)

Group three ranks sixth on the QOL index and, the sanitation situation seems to be in line with ranking results. For instance households with a flush toilet either in dwelling or on site but not in dwelling make up 3%, the constituting 0.6%. Twenty four households or 0.8% make use of a flush toilet off the dwelling's site.

Two thirds of the households use pit latrines on site, 7.9% of which are ventilated. Households which use a pit latrine off the dwelling site make up 15.5% while one in ten households uses a bucket toilet on the dwelling's site.

Refuse removal is equally problematic in group three with 14.3% of the households having their refuse removed by local authorities at least once a week. Households which make use of their own rubbish dumps make up 63.4% and, 14.8% have no refuse removal services.

(g) Sanitation for Quality of Life 6 (QOL 6)

Group six, the second lowest in rank terms, is better off in terms of sanitation than groups eight and three which are ranked fifth and sixth respectively. At least a third of the households in group six (34.8%) have got a flush toilet in the dwelling while 55.7% have a flush toilet on site but not in the dwelling. An additional 3.2% households use a flush toilet off site. Households which rely on pit latrines on site constitute 5.8% of which 3.5% are ventilated.

Results pertaining to refuse disposal indicate tat 77.4% of the households have their refuse removed by local authorities at least once a week while 7.7% make use of their own rubbish dumps.

(h) Sanitation for Quality of Life 2 (QOL 2)

This group with is judged to be the poorest in terms of the QOL indicators considered in OHS 1999. Access to a flush toilet in the dwelling is lowest in this group; fifteen households or 0.5% have a flush toilet in the dwelling. Households with a flush toilet on site make up 1.8% while an additional 0.5% make use of a flush toilet off site. Over two thirds of the households (67.8%) use pit latrines of which only 8% are ventilated. Households which use a bucket toilet make up 7.9%.

When it comes to rubbish removal, group two has the least percentage of households (8.8%) whose refuse is removed by local authorities at least once a week. Seven out of ten households have their own rubbish dumps while 15.4% have no rubbish removal services.

4.4.5 Analysis of households' water source

This section provides a description of the sources of water which households in the eight QOL groups have access to. Table 4.12 provides information in respect of access to piped water by the eight QOL groups and distance households travel to fetch water. Like in some of the previous sections, the description pertaining to water source provides more details than the information in Table 4.12.

Table 4.12: Access to clean water and distance from water source (OHS 1999)

	Cl**uster /QOL/Group number**							
Rank of group	1	2	3	4	5	6	7	8
Original cluster number	4	5	1	7	8	3	6	2
Water source								
Piped in dwelling	82.4	59.5	67.9	62.5	7.3	3.0	41.4	3.1
Piped on site	11.2	22.4	27.5	35.0	40.7	30.4	52.4	29.9
Public tap	2.3	10.5	3.4	2.1	32.6	38.7	5.0	36.6
Bore hole on site	0.8	1.0	0.3	-	1.4	2.4	0.2	1.7
Communal bore hole	0.6	1.5	0.3	0.1	3.8	5.4	0.2	7.8
Distance from water source (where fetching water is applicable)								
Within 100 meters	1.9	6.6	2.4	1.8	19.0	19.1	3.8	18.6
101 – 200 meters	1.3	5.5	0.8	0.4	14.1	17.5	1.4	18.8
201 – 500 meters	0.3	1.9	0.5	0.2	7.4	10.1	0.5	11.1
501 meters – 1 Kilometer	0.5	1.6	0.2	-	5.9	8.9	0.2	8.8
More than 1 Kilometer	1.0	1.1	0.3	-	3.1	7.4	-	7.3

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

Over 95% of the households in group four have access to piped water either on site or via the public tap. Households with piped water in the dwelling make up 82.4% while 11.2% have piped water in the yard but not in dwelling itself. Households which rely on public tap water constitute 2.3% (see Table 4.12). Fifteen households (0.9%) get water from streams and dams with another thirteen households (0.8%) relying on water from springs and wells.

With 93.6% of the households having water on site, fetching water is a task to the remaining 6.7% of the households which get water from public taps, boreholes and other sources. Around 2% of the households which have to fetch water, do so within a hundred meter radius while 1.3% travel between a hundred and two hundred metres to get water. One percent of the households in this group travel over a kilometer to fetch water.

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

Access to clean water in Group five differs slightly from the situation in group four; 92.4% households in group five have access to clean water compared with 95% in group four. The difference however is mainly in terms of access to piped water in the dwelling where proportionately more households in group four (82.4%) have water in the dwelling while 59.5% in group five fall in this category. Proportionately more households in group five (22.4%) rely on piped water in the yard than 11.2% of the households in group four. Similarly proportionately more households in group five (10.5%) rely on water from public taps (10.5%) as compared with 2.3% in group four.

With at least 13% of the households in group five relying on water from public taps, boreholes and other sources, 6.6% of them fetch water within a hundred meters while 5.5% travel between a hundred and two hundred meters to get water. Almost a similar percentage of households in group five (1.1%) like in group four travel over a kilometer to fetch water.

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

Group one - ranked third on the QOL index – compares well with groups four and five in terms of access to clean water. In fact proportionately more households in group one (98.8%) have got access to clean water than groups four and five. The results pertaining to the ranking of the QOL groups are in disagreement with the results pertaining to access to clean water, as the water situation in group one is better than that in group five which is ranked second. For instance 67.9% of the households in group one have piped water in the dwelling, a figure that is higher than 59.5% in group five. Similarly proportionately more households in group one have piped water in the yard (27.5%) than in group five. The same goes for access to public tap water whereby 3.4% of the households in group one rely on the public tap, a figure that is quite lower than 10.5% recorded in group five (see Table 4.12).

Among the 4% of the households which have to fetch water, 2.4% get water within a hundred meter radius while the rest travel over a hundred metres for the same reason (see Table 4.12).

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

The water situation in this group compares well with the situation on the first three groups as 97.6% of the households in group seven have access to clean water. A marked difference between group seven and the other groups is in terms of access to piped water in the yard. Proportionately more households in group seven (35%) have got water in the yard than in the other groups. Otherwise access to piped water in the dwelling is fairly high with 62.5% of the households having water in the dwelling (see Table 4.12).

With 95.5% of the households having water either in dwelling or on site, fetching water is a task to a few households in group seven. Households which fetch water within a hundred meter radius constitute 1.8% while 0.4% of the households travel between 200 meters and half a kilometer to fetch water. No household in group seven travels over 500 meters to fetch water.

(e) Source of water for households in Group 8 (QOL8)

Over 80% of the households in group eight have access to clean water however, the majority of these households (73.5) do not have water in the dwelling. Households with piped water in the dwelling make up 7.3% while 40.7% have water on site but not in the dwelling. Close to a third of the households get water from a public tap while some 5% of the households rely on boreholes for their water needs. Eighty nine households (3.9%) get water from streams while 5.4% get water from a well, dam or spring.

From the results above, over half of the households in group eight have a task of fetching water, 19% of which do so in a hundred meter radius. Households which travel between 200 and 500 meters to fetch water make up 14.1% while 3.1% travel over a kilometer to get water (see Table 4.12).

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

Over seventy percent of the households (72.1%) in group three have got access to clean water but like in group eight, relatively few of them have it in the dwelling (3%). Households with piped water on site constitute 30.4% while 38.7% of the households rely on water from public taps. Close to 8% of the households get water from boreholes (see Table 4.12). Two hundred and eight households (6.9%) get water from streams while 7.9% obtain water from a dam, spring or well.

The results above indicate that just around a third of the households in group eight do not have to travel long distances to get water. For the remaining two thirds or so 19.1% get water within a hundred meter radius while 17.5% travel between 200 and 500 meters to fetch water. A substantial 7.4% of the households travel over a kilometer to get water.

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

The situation pertaining to access to water in group six is somehow in contrast with the group's ranking. While the group is ranked seventh, 98.8% of the households in this group have access to clean water; 41.4% have piped water in the dwelling while 52.4%

have it on site. Five percent of the households get water from a public tap and 0.8% rely on water from boreholes.

Around six percent of the households in group six have to travel some distance get water. Of such households 3.8% get water within a hundred meter distance while 1.4% travel between 200 and five hundred meters to get water. No household in this group travels over half a kilometer to fetch water.

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

Close to 70% of the households in this group (ranked eighth on the QOL index) have access to clean water but a few of them (3.1%) have piped water in the dwelling. Close to 30% of the households have water in the yard while 36.6% get water from public taps. Two hundred and thirty five households (7.8%) rely on water from streams while 8.3% rely on water from a dam, well or spring.

The results above indicate that just around a third of the households in group two do not have to travel in order to get water. For the remaining two thirds or so, 18.6% get water within a distance of a hundred meters while 18.8% travel between 200 and five hundred meters to get water. Households which travel over a kilometer to get water make up 7.3%.

4.4.6 Analysis of durables

Section 4.4.6 describes the distribution of possession of durable items among households in the various QOL groups. A few indicators have been selected for use in this regard depending on the available information (see Table 4.13 below). The variable addressing possession of a “cell phone/telephone” was captured without separating households possessing either of the two; as a result, it has been dealt with as that. In addition to “possession of a telephone” in the dwelling, “time taken to get to the nearest telephone” has been included in the analysis due to the fact a household without a telephone in the dwelling will have to seek one when the need to make a telephone arises.

Table 4.13: Possession of durable items

	Cluster /QOL/Group number							
Rank of group	1	2	3	4	5	6	7	8
Original cluster number	4	5	1	7	8	3	6	2
Durables								
Possession of a vehicle	71.1	40.9	43.4	25.3	11.2	8.4	11.0	7.6
Cellular phone or Landline telephone	80.1	52.8	56.6	48.6	9.9	9.0	28.1	5.5
Television	90.0	73.6	77.3	71.0	40.0	42.3	52.7	35.5
Radio	94.7	86.9	88.4	82.1	74.7	75.7	71.7	73.6
Travel time to nearest telephone								
Within 5 minutes	7.9	15.4	21.6	25.4	17.7	13.1	31.1	9.5
6 – 15 minutes	6.7	17.0	15.3	19.2	27.8	28.6	27.5	24.1
16 – 30 minutes	3.0	8.6	4.6	5.5	21.3	22.2	9.4	25.9
31 – 60 minutes	1.2	3.8	1.2	1.1	11.6	12.5	2.1	15.1
More than one hour	1.0	2.4	0.6	0.3	11.7	14.6	1.7	19.9

(a) Possession of durables by households in Group 4 (QOL 4)

Access to selected durable items is highest in this group which ranks first on the QO index. Nine out of ten households have a television in the dwelling while possession of a radio stands at 94.7%. Eight out of ten households (80.1%) have got either a cellular or landline telephone and, 71.1% of the households have got a vehicle.

For the 20% households or so without a telephone in the dwelling 7.9% are able to get hold of one within five minutes while 6.7% spend between six and fifteen minutes to access a telephone. One percent of the households spend over an hour in travel time in order to make a phone call.

(b) Possession of durables by households in Group 5 (QOL 5)

Access to durable household items is comparatively poorer in group five than in four. For instance 73.6% possess a television compared with 90% in group four. Possession of a radio in group five stands at 86.9% while households with either a cellular or

landline telephone in the dwelling constitute 52.8%. Close to 41% of the households in group five have got a vehicle compared with 71.1% in group four.

With around 53% of the households having a access to a telephone in the dwelling, the remaining 47% of the households have to travel some distance to make a telephone call. Around 15% of the households without a telephone in the dwelling are able to get hold of one within five minutes while 17% travel for six to fifteen minutes in order to make a telephone call. Households which spend over an hour in travel time to make a telephone call make up 2.4% compared with 1% in group four.

(c) Possession of durables by households in Group 1 (QOL 1)

Access to durable household items is slightly better in group one (ranked third on the QOL index) than in group five. For instance 77.3% of the households in group one have got a\television compared with 73.6% in group five. Similarly 88.4% of the households in group one have a radio, a figure that is slightly higher than 86.9% recorded in group five (see Table 4.13). Possession of a vehicle in group one stands at 43.4% and, 56.6% of the households have got a cellular or landline telephone in the dwelling.

For the 43.4% of the households without access to a telephone in the dwelling, 21.6% get hold of a telephone within five minutes while 15.3% spend between six and fifteen minutes in travel time to access a telephone. Proportionately fewer households in group one (0.6%) spend over an hour in travel time to make a telephone call than the 2.4% in group five.

(d) Possession of durables by households in Group 7 (QOL 7)

Access to durable items in group 7 is poorer than the situation in the previous three groups dealt with so far.

For instance 71% of the households in group seven have got a television in the dwelling while 82.1% possess a radio. Around a quarter of the households (25.3%) have got a vehicle and 48.6% have got a cellular or landline telephone in the dwelling.

Results pertaining to possession of a telephone indicate that over half of the households in group seven have to travel some distance in order to make a telephone call. Of these households 25.4% get hold of a telephone within five minutes while 19.2% spend between six and fifteen minutes in travel time to make a telephone call. Ten households (0.3%) spend over an hour while traveling to a telephone facility.

(e) Possession of durables by households in Group 8 (QOL 8)

Group eight ranks fifth on the QOL index and, results pertaining to access to durable items seem to reflect that situation. For instance four out of ten households possess a television in the dwelling and close to three quarters (74.7%) possess a radio. Close to one in ten households (9.9%) is in possession of a cellular or landline telephone and, 11.2% of the households have got a vehicle.

With 90% of the households having no access to a telephone in the dwellings, 17.7% are able to physically access a telephone within five minutes. Close to 28% of the households spend between six and fifteen minutes to get to a telephone facility while 21.3% spend between a quarter of an hour to half an hour to get to a telephone facility (see Table 4.13). Households which spend over an hour while traveling to a telephone facility make up 11.7%.

(f) Possession of durables by households in Group 3 (QOL 3)

Group three follows group eight in terms of the ranking results (i.e. sixth on the QOL index) but possession of durable items does not entirely reflect this kind of situation. For instance possession of a television is higher in group three (42.3%) than the 40% recorded in group eight. Similarly possession of a radio is 1% higher in group three (75.7%0 than in group eight. As for possession of a vehicle, the percentage is lower for group three with 8.4% of the households having a vehicle than the 11.2% recorded in group eight. The same goes for possession of a cellular or landline telephone where 9% of the households in group in group three have a telephone in the dwelling compared with 9.9% in group eight (see Table 4.13).

Results pertaining to possession of a telephone indicate that 91% of the households in group three have to travel some distance to make a telephone call when the need arises. Of these households, 13.1% are able to get to a telephone facility within five minutes while 28.6% spend between six minutes and a quarter of an hour in travel time to get a telephone facility. Households which spend over an hour to get to a telephone facility constitute 14.6%.

(g) Possession of durables by households in Group 6 (QOL 6)

Results pertaining to possession of durable items, in the case of group six, are not consistent with the ranking results. While group six is ranked second from the bottom (seventh on the QOL index) 52.7% of the households in this group possess a television compared with the 42.3% in group three which it follows. Similarly proportionately fewer households in group six (71.7%) possess a radio than the 75.5% recorded in group three. When it comes to possession of a vehicle, group is still better off with 11% of the households having a vehicle than the 8.4% recorded for group three. Possession of a cellular or landline telephone is at least three times as high in group six (28.1%) as it is in group three (9%).

When it comes to distance traveled to a telephone facility, again group six is better off in the sense that proportionately more households spend less time to get to a telephone facility; 58.6% of the households get hold of a telephone within a quarter of an hour compared with 41.7% in group three. (refer to Table 4.13).

(h) Possession of durables by households in Group 2 (QOL 2)

Group two ranks eighth on the QOL index and, results pertaining to possession of durable items reflect this scenario - with the exception of possession of a radio. For instance possession of a television is lowest in this group at 35.5% like possession of a vehicle which stands at 7.6%. In group two 5.5% of the households – the lowest percentage in all groups – have got a cellular or landline telephone in the dwelling.

With 94.5% of the households having no telephones in dwellings 9.5% of the households are able to get hold of a telephone within five minutes while 24.1% spend between six and fifteen minutes while traveling to a telephone facility. Almost one in five households in group two spends over an hour in order to make a telephone call (see Table 4.13 for details).

4.4.7 Subjective evaluation of Quality Of Life

Diener and Suh (1997: 200) highlight that one of the components of subjective well-being is life satisfaction. Subjective well-being measures assess people's actual reactions to the objective conditions they experience. Objective conditions serve as inputs for individuals and cultures to produce what is perceived by people as desirable or undesirable (Diener and Suh, 1997: 207). This makes objective and subjective well-being measures complementary.

In the context of the current study, data pertaining to household life satisfaction were collected in the 1999 October household survey. The question required households to compare their QOL in 1999 to their QOL a year before. This variable was not used in cluster and discriminant analyses because of the way QOL has been conceptualised. It is rather being used as an exogenous variable firstly for descriptive purposes (Milligan, 1996: 365), and secondly to assess the extent to which subjective and objective findings relate with the existing literature. Table 4.14 shows the results pertaining to the subjective evaluation of quality of life in the various QOL groups.

Table 4.14: Subjective evaluation of quality of life (OHS 1999)

	Cluster /QOL/Group number

Rank of group								
Original cluster number	4	5	1	7	8	3	6	2
Perception								
Life has improved	35.6	19.3	26.4	15.6	18.3	15.8	16.5	13.9
Life is the same	42.7	49.6	49.3	46.3	49.9	45.1	49.6	47.0
Life is worse than 1998	21.6	31.1	24.2	38.1	31.7	39.1	33.9	39.1

The results highlighted in Table 4.14 show generally more optimism in groups with better material conditions than in groups with relatively poor living conditions based on the selected QOL indicators. This is made clear when results in Table 4.14 are compared with the findings relating to the ranking of the quality of life groups indicated in Table 4.7. Group four is ranked number one; it has the best access to the selected QOL indicators. In this group 35.6% of the households indicated that life had improved in 1999. This is followed by groups one and five which are ranked third and second respectively on the QOL index. In group one, 26.4% of the households reported an improvement in life while group five recorded 19.3% in this regard. In other words the first three groups on the QOL index happen to have more households which experienced improvements in quality of life.

A further analysis of the groups which follow in terms of ranking show some discrepancies. For instance group seven ranks fourth on the QOL index but the percentage of households which experienced an improvement in life is lower (15.6%) than in group eight wherein 18.3% of the households reported an improvement in life despite the group being ranked fifth. Otherwise the pattern of optimism viz. a viz. material conditions generally holds with the lowest percentage of optimism being recorded in group two where 13.9% of the households reported improvement in life.

When it comes to households' experience in terms of retrogression of life, the inverse of the pattern shown in optimism prevails. Proportionately more households in groups with poor living conditions reported that life had worsened compared to the situation in

1998 than households in groups with better material conditions. The biggest percentage of such households is found in groups two and three which rank eighth and sixth on the QOL index respectively. In these two groups 39.1% of the households reported their life to have worsened than what it was in 1998. This is followed by groups seven and six - ranked fourth and seventh respectively. Once again there discrepancies among the groups in between but the top three groups (i.e. groups four, five and one respectively) have the lowest proportion of households which reported a retrogression in life (see Table 4.14).

One striking feature of the results pertaining to subjective life satisfaction is the slight variation in the proportion of households reporting indifference to life. With the exception of group four, results in Table 4.14 show that the proportion of households whose life had not changed from what it was in 1998 do not vary much across the QOL groups. Apart from group four in which 42.7% of the households reported their life not to have changed, the rest of the groups have proportions varying from 45.1% in group three to 49.9% in group eight. These findings will be looked into in more detail in Chapter 8 during the discussion of the study's findings.

4.5 Summary

This chapter has presented the findings emanating from the analysis of the data for OHS 1999. Cluster analysis produced eight QOL groups of which, group four (QOL4) experiences the best measurable conditions. The group experiencing the poorest measurable conditions has been identified as group two. Discriminant function analysis has yielded results highlighting the indicators which discriminate between the eight QOL groups. These include highest level of education completed by the household head, type of toilet facility accessed by a household, and time taken to travel to a telephone facility. These indicators have been found to differentiate the living conditions experienced among the eight groups of households.

In other words, focus needs to be put to these particular indicators if QOL is to be further improved. Chapter five will provide the results emanating from the analysis of the data for OHS 1998.

CHAPTER FIVE: FINDINGS OF THE STUDY IN RESPECT OF OHS 1998

5.1 **Introduction**

The previous chapter presented the findings emanating from the analysis of the Data for OHS 1999. Chapter five will present the findings arising from the analysis of the data for OHS 1998. Like in chapter four, results of chapter five are divided into two broad categories. The first category deals with findings in respect of discriminant function analysis. This [discriminant function analysis] 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 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 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.

5.2 Applying discriminant function analysis to the OHS (1998) data

As you may recall from chapter three dealing with the methodology as well as chapter four, discriminant function analysis was applied to identify the indicator or indictors that discriminate between quality of life groups. In analysing the data for OHS 1998 a total of fourteen indicators or multiple response variables were used in discriminant function analysis (these are listed in Table 5.3). 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 5.3 and 5.4. It should be noted that the variables used in the analysis for all four datasets (OHS 1999-OHS1996) are not the same. This is due to the changes in the way data was collected in the OHS surveys which followed OHS 1996.

In analysing data for OHS 1998, seven groups of households (i.e. QOL 1-QOL 7) were obtained. The seven QOL groups form the "grouping variable" in discriminant function analysis. The grouping variable, in conjunction with the fourteen multiple response variables (i.e. QOL indicators) have been used to derive the discriminant functions. Since the number of indicators – fourteen - is bigger than the degrees of freedom for the seven groups (i.e. six), the maximum number of discriminant functions in the analysis is six.

Table 5.1 shows the output summarising 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. The results in this case indicate that 45.2% of the variation between the groups is accounted for by the first discriminant function and 40.3% of the variation is accounted for by the second discriminant function. The first two discriminant functions thus account for 85.5% of the variation between the quality of life conditions in the seven groups. The additional variance accounted for by functions three to six is also shown, with a combined discriminating power of around 14.5%.

As in OHS 1999, interpretation of the findings in respect of discriminant function analysis will be limited to the first two discriminant functions as the remaining functions are not likely to provide reliably additional information with regard to group membership (Tabachnick, 2001:459).

Table 5.1: Summary of canonical discriminant functions – OHS 1998

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	6.1534	45.1876	45.1876	0.9275
2	5.4843	40.2744	85.4620	0.9197
3	1.8371	13.4910	98.9529	0.8047
4	0.1144	0.8404	99.7933	0.3205
5	0.0228	0.1672	99.9605	0.1492
6	0.0054	0.0396	100	0.0732

NB. First 6 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 as indicated in Table 5.1. The first two discriminant functions indicate strong correlations (i.e. 0.93 and 0.92 respectively) between the QOL and the indicators. The third discriminant function shows a 0.8 correlation between the QOL groups and indicators which is also high. Functions four to six reveal substantially reduced correlations between the QOL groups and the indicators.

The interpretation of the strength of these correlations is enhanced by considering the Chi - square results in Table 5.2**.** These results indicate that with all six functions tested together, a $\chi^2(84)$ of 90255.3 with p = 0.000 is obtained indicating a high relationship between the six QOL groups and the QOL indicators. With the first discriminant function removed, there is still a reliable relationship between the QOL groups and the indicators as shown by $\chi^2(65)$ of 54851.55, p = 0.000. The same goes for all the six functions as one function is removed in succession. All 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 5.2: Statistical significance of discriminant functions (OHS 1998)

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 6	0.006631	90255.3	84	0.00
2 through 6	0.047434	54851.55	65	0.00
3 through 6	0.30758	21214.67	48	0.00
4 through 6	0.872643	2451.233	33	0.00
5 through 6	0.972507	501.6165	20	0.00
6	0.994643	96.64968	9	7.48E-17

The associations indicated by the Chi-square values above are reliable. However, it is crucial to remember that they arise from an association between seven QOL groups and fourteen indicators. With many indicators being involved in the analysis, there is a likelihood of at least one indicator to discriminate between QOL groups for each dicsriminant function. As a result all 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 canonical correlations in Table 5.3. The indicator or indicators that load highly with a particular discriminant function are marked with (*) and these are the focal points in discriminant function analysis.

5.2.1 Interpretation of discriminant function results

Results in Table 5.3 indicate that *Main transport used to get to work* is the outstanding QOL indicator that correlates highly (0.686) with the first discriminant function. This indicator has been used in the analysis to investigate the possible relationship between quality of life (i.e. group membership) and possession of durable goods with particular reference to possession of a car. In its entirety however, the indicator captures information on the type of transport used by working household members when getting to work. Analysis in this study has been restricted to household heads only.

A closer analysis of this indicator reveals a differentiation between households with working household heads and non-working household heads. As will be shown in detail in section 5.4, groups one, four and seven have most of the households headed by

someone with a full time job 92.5%, 84.4% and 87% respectively.
The rest of the groups (QOL 2, QOL3, QOL5, and QOL6) have large proportions of unemployed household heads. For instance unemployment among household heads stands at 95.6% in group while in group three half of the household heads are unemployed. In QOL5 92% of the household heads are unemployed and, 89% of the household heads in group six are unemployed.

Given the situation highlighted above, the observation is that for households in groups where household heads are working (QOL1, QOL4, and QOL7) the head of house household either walks to the work place or uses public transport if the household has no car (these details will be described in section 5.4.6 which addresses issues around possession of durable items). In groups or clusters where the majority of household heads are unemployed (i.e. groups two, five and six), the household head stays at home.

The discriminating effect of this particular indicator arguably underpins the influence of unemployment on household QOL. In general as will be highlighted, possession of a car is lo across all QOL groups. The solution therefore lies in addressing unemployment in order to minimise the group differences.

Witt regard to the second discriminant function, *Highest education level completed* by a household head loads highly with this function, with an absolute correlation of 0.554. This indicator is outstanding given the fact that the level of education is low in groups four to seven (i.e. QOL 4 - QOL 7) and group two (details will be dealt with in section 5.4).

This indicator basically differentiates groups one and three from the rest of the groups. Twenty seven percent of the households in group three possess tertiary education qualifications ranging from a diploma to Honours degree while 13% of the household heads in group one fall in the same category, with qualifications ranging from just a certificate (2.6%) to Masters Degree (0.1%). These two QOL groups basically have the best access to the selected QOL indicators and by implication the best QOL conditions.

On the basis of these results completed level of education stands out clearly as one factor that differentiates between quality of life conditions in groups with educated household heads as opposed to conditions in groups with uneducated household heads.

Table 5.3: Pooled within correlations between discriminating variables and standardized canonical discriminant functions - structure matrix.

	Function number					
	1	2	3	4	5	6
Main transport used to work	-0.6864*	0.6830	0.0685	-0.1603	0.0470	0.1185
Highest education level completed	0.5396	0.5542*	-0.6201*	0.0625	-0.0210	-0.0720
H/hold's main fuel for cooking	0.4322	0.3708	0.5894*	-0.1955	-0.2514	-0.1408
H/hold's main fuel for lighting	0.2672	0.2302	0.4351*	-0.2605	-0.0358	-0.0926
Type of toilet facility used by h/hold	0.2777	0.2452	0.3185*	0.0088	-0.1497	0.2367
Is there a phone in the dwelling?	0.1383	0.2299	0.1718	0.5811	0.1447	0.0652
Does person have access to medical aid?	0.1241	0.1433	0.0579	0.5609	-0.4027	0.0326
Did person work for pay during past 7 days?	0.4335	-0.2040	-0.0031	0.5130	-0.1226	0.3254
Does h/h have a cellular phone?	0.0709	0.1288	0.0465	0.5037	-0.0475	-0.1806
Usual facility for h/hold medical help	0.1307	0.1124	0.0940	0.4641	-0.1577	-0.2501
Dwelling's distance from water source	0.2792	0.1947	0.3627	0.1806	0.5390	-0.2897
Dwelling's main water source	0.2314	0.1717	0.2766	0.1641	0.4960	-0.1027
How is h/hold refuse disposed of?	0.2390	0.2306	0.3001	0.0247	0.4052	0.5794
H/hold distance from medical facility	0.0579	0.0676	0.0908	-0.1630	0.2635	0.3303

NB. Variables ordered by absolute size of correlation within function.

*Largest absolute correlation between each variable and any discriminant function

5.2.2 Predicting group membership

The results above emanate from the application of discriminant function analysis to the QOL groups obtained in cluster analysis. Like in chapter four, it is important to establish the extent to which cluster analysis results agree with the results arising from the application of discriminant function analysis. Information Table 5.4 shows how cases which were originally classified in cluster analysis, are grouped in discriminant function analysis.

These results indicate that 95.3% of the original cases are correctly classified by the discriminant function analysis model. The best results in terms of fit are found in groups two, three and four where the percentage of correctly predicted cases is above the overall percentage of 95.3%. The poorest fit between the two models is found in group seven where 91.3% of the original cases are correctly classified by the discriminant function model. In this case 5% of the households which were classified as belonging to group seven are predicted as belonging to group. Another 2.8% of the cases originally classified as belonging to group seven are predicted as belonging to group four.

The prediction of 5% of the households as belonging to group one could have been caused by the fact that both groups – QOL1 and QOL7 - have almost the same percentages of households living in formal dwellings, 76.5% and 74.2% respectively. The 2.8% of the households predicted differently from the original classification could be due to the fact that group four and group seven have proportionately high percentages of households using wood as fuel, 43% and 32% respectively. Besides this particular group (i.e. QOL7) the discriminant function results are more in agreement with the cluster analysis results than otherwise.

Table 5.4: Classification results of original and predicted group membership for OHS 1998

	Predicted Group Membership (discrimimnant function analysis)								Total
	Cluster Number of Case	1	2	3	4	5	6	7	
Original Count- (cluster analysis)	1	**2807**	0	77	119	1	1	2	3007
	2	0	**2355**	0	0	0	30	0	2385
	3	14	0	**4759**	0	87	2	0	4862
	4	51	0	0	**1566**	8	0	13	1638
	5	0	5	121	1	**2690**	42	0	2859
	6	4	74	28	0	38	**1573**	0	1717
	7	77	5	0	43	0	8	**1404**	1537
	Percentages								
	1	**93.3**	0	2.6	4.0	0.03	0.03	0.07	100
	2	0	**98.7**	0	0	0	1.3	0	100
	3	0.3	0	**97.9**	0	1.8	0.04	0	100
	4	3.1	0	0	**95.6**	0.5	0	0.8	100
	5	0	0.2	4.2	0.03	**94.1**	1.5	0	100
	6	0.2	4.3	1.6	0	2.2	**91.6**	0	100
	7	5.0	0.3	0	2.8	0	0.5	**91.3**	100

NB. 95.3% of original grouped cases correctly classified

Like in OHS 1999 the quality of life clusters were ranked as indicated in the cluster analysis results that follow in section 4.3. The ranking process was based on the distribution of the group centroids for the first discriminant function or dimension, such that a group with the best QOL is located to the extreme positive side of the dimension. Table 5.5 shows the results of the discriminant functions evaluated at group means. These results show that group one-with its centroid located +3.49 units along the first discriminant function - is ranked number one and, judged to experience the best measurable QOL conditions. Group two with its centroid located – 4.3 units along the same discriminant function is ranked number seven; it experiences the poorest

measurable conditions. The results of the ranking process are indicated in Table 5.7 in the following section which deals with cluster analysis.

Table 5.5: Functions at group centroids

Cluster Number of Case	Discrimiminant Function number and corresponding group centroids					
	1	2	3	4	5	6
1	3.4921	-0.67447	0.1601	-0.3277	-0.1946	0.0405
2	-4.3309	-1.3789	0.3727	0.281	-0.1753	0.0747
3	1.0298	2.9024	0.2554	0.3203	0.0284	-0.0119
4	1.5832	-3.0311	-2.0796	0.1839	0.2735	0.103
5	-2.1395	0.8534	-1.9871	-0.3501	-0.011	-0.0802
6	-1.8097	0.5686	2.5352	-0.5568	0.2345	0.038
7	0.9447	-4.7144	1.3809	0.2691	0.0298	-0.1608

Unstandardized canonical discriminant functions are evaluated at group means

5.3 Formation of the QOL groups using cluster analysis

Like in the analysis for OHS 1999, cluster analysis was performed on the OHS 1998 data to group households into QOL groups. As indicated earlier on, seven QOL groups emerged when households were classified on the basis of fourteen indicators. Table 5.6 shows the results pertaining to the final cluster centres for the seven QOL groups. A description of the findings regarding cluster analysis follows in Section 5.4 where aspects of the seven quality of life groups are analysed.

Table 5.6: Final cluster centers for OHS 1998

	Cluster number						
	1	2	3	4	5	6	7
Does h/h have a cellular phone?	1.1041	1.0092	1.2781	1.0140	1.0192	1.0361	1.0143
Did person work for pay during past 7 days?	4.8467	1.1514	2.9414	4.7021	1.2872	1.4001	4.7573
H/hold's main fuel for cooking	7.7170	3.4038	7.8863	3.8773	3.9811	7.1334	5.3221
H/hold's main fuel for lighting	5.9235	3.1338	5.9657	3.3010	3.4285	5.8608	4.4528
H/hold distance from medical facility	3.7207	3.0398	3.7731	3.2228	3.2312	3.8923	3.2206
Highest education level completed	11.2404	1.4730	12.5559	9.3120	9.4624	3.6313	2.2713
Is there a phone in the dwelling?	1.3216	1.0122	1.6512	1.0220	1.0332	1.2813	1.0644
Does person have access to medical aid?	1.2527	1.0088	1.4159	1.0495	1.0189	1.0361	1.0553
Usual facility for h/hold medical help	3.7789	3.1032	4.0856	3.2979	3.1326	3.3594	3.4619
How is h/hold refuse disposed of?	4.2714	1.9719	4.6785	2.5598	2.3200	4.1508	2.8562
Type of toilet facility used by h/hold	4.6186	2.3421	4.8028	2.7387	2.6810	4.1386	3.2277
Dwelling's main water source	4.5191	2.8214	4.8009	3.4078	3.0437	4.3454	3.8315
Dwelling's distance from water source	6.3987	3.7543	6.7653	4.5678	4.0147	6.1677	5.4470
Main transport used to work	4.4769	12.8897	11.5422	3.5934	12.8013	12.7094	2.6649

5.4 Comparing different aspects of the seven quality of life groups

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 rank the quality of life groups. Throughout the analysis (i.e. including the subsequent data sets) ranking the QOL groups is based on

the findings of the discriminant function model. Discriminant function analysis provides a distribution of grouped cases along particular dimensions or discriminant functions.
The first discriminant function (DF) accounts for most of the between - group variation as detailed in section 5.2. The 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. Table 5.7 shows the results emanating from the ranking process. Information in Table 5.7 has been extracted from Table 5.5 which provides details on the distribution of functions at the group centroids.

Results in this respect indicate that group 1 with its centroid located 3.49 units on the right side (or positive for that matter) 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 4 whose centroid is located 1.58 units along the same DF. By contrast Group 7 whose centroid is located 4.33 units on the left side (i.e. negative) of the DF is ranked seventh on the QOL index; it is judged to experience the poorest QOL as it has the least access to the indicators considered in the study.

Table 5.7: 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	3.49	-4.33	1.03	1.58	-2.14	-1.81	0.94
Rank of QOL Group	1	7	3	2	6	5	4

Having looked at how households experiencing similar QOL conditions were grouped, the study will embark on describing the characteristics of the QOL groups. Table 5.8 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 5.8: Demographics, employment and income of the QOL groups (OHS 1998)

	Cluster number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Population group							
Asian	2	0.2	6.0	0.13	2.6	-	-
Black	76.2	93.5	37.4	87.8	78	97.6	97
Coloured	14.7	6.1	15.4	11.9	18	2.2	3.0
White	7.1	0.2	41	0.13	1.1	0.2	-
Age of head of the household							
15-19 years	0.2	0.4	1.13	0.2	0.3	4.2	0.04
20-29	14.6	19	11.5	8.3	2.6	17	1.5
30-49 years	65.2	63.2	45.5	55.2	24.2	42.9	21.1
50-69	19.8	16.9	32.1	35.2	45.5	27.6	50.7
70 years and older	0.2	0.5	9.8	1.1	27.3	8.2	26.6
Median age	39	38	45	45	61	42	62
Sex of head of the household							
Male	74.9	73.3	71.3	78.8	45.3	43	41
Female	25.1	26.7	28.7	21.2	54.7	57	59
Education Level							
Below standard 9	71.8	92.1	49.3	100	100	94.5	100
Standard ten (Matric)	28.2	7.9	50.7	_	_	5.5	_
Certificate or Diploma	9.7	2.5	16.0	_	0.2	1.5	0.04
Degree or post graduate Degree	2.0	0.4	8.9	_	_	0.2	_
Gross monthly **Household Income**							
R0–R500	28.9	57.6	11.0	62	51	41.8	79.1
R501– R2500	53.2	37.4	32.9	35.7	38.5	44	0.4
R2501-R6000	16.0	3.9	36.4	1.6	6.3	8.8	-
R6001-R16000	1.4	0.5	15.3	0.6	2.1	3.3	-
R16001-R30000	0.1	0.2	0.7	0.1	1.0	1.1	-
R30000 +	0.4	0.3	0.8	-	1.0	1.1	-
Don’t know	-	-	-	-	-	-	-
Refused	-	-	-	-	-	-	-
Median income (Rands)	698.68	433.28	3047.75	402.73	489.30	875.50	315.68

Table 5.8: Demographics, employment and income of the QOL groups (OHS 1998)- continued

	Cluster number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Employment Status							
Full time employment	92.5	84.4	47	87	9	6.3	3.1
Part time employment	4.0	8.8	2	7.6	1.0	1.0	0.8
Casual employment	2.7	6.1	1.0	5.1	0.8	0.7	0.6
Unemployed	0.8	0.7	50.0	0.3	89	92	95.6
Number of cases (N = 18005)	3007	1638	4862	1537	1717	2859	2385
Percentage	16.7	9.1	27.0	8.5	9.5	15.9	13.3
Total	3007	1638	4862	1537	1717	2859	2385
Response rate	(56.7)	(71.2)	(15.2	(74.8)	5.6)	(3.2)	(1.8)

5.4.1 Analysis of Demographics (OHS 1998)

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

This group with 16.7% of the sampled households has been identified as the group with the best access to the selected QOL indicators. With a median age of 39, the majority of households in this group (65.2%) are headed by people aged between 30 and 49 years. Five households (0.2%) are headed by people under nineteen years as are households headed by people aged 70 years and older (0.2%). Close to 15% of the households are headed by someone aged between 20 and 29 years (see Table 5.8 for details). A quarter of the households are headed by females and, three quarters of the households are urban.

As far as race is concerned 76.2% of the households are African while Coloured households make up 14.7%. White households constitute 7.1% while Indian/Asian households constitute 2%. Afrikaans and Zulu are the most spoken languages, 18.7% and 18.3% respectively while Xhosa and English – speaking households constitute 12.5% each. Twelve percent of the households speak English while 11.3% speak South Sotho. North Sotho or Sepedi is spoken by 6.3% of the households.

When it comes to education, the majority of households are headed by people without Matric or Standard ten (71.8%) while household heads with Matric make up 28.2%. Close to 12% of the household heads or acting household heads have tertiary education.

Of the 12% with tertiary education, 7.1% have got a Diploma while 2.6% have a certificate. Household heads having a Bachelor's Degree make up 1.6% while those with an Honors Degree make up 0.1%. A similarly small proportion of 0.1% household heads have a Masters Degree.

In spite of the relatively low education levels among household heads, the level of employment in Group 1 is high with 92.5% of the household heads having a full time job while 4% work on part time basis. Casual workers make up 2.7% and, only 0.8% of the household heads are unemployed.

It is difficult to comment on household income for OHS 1998 due to the low response rate as shown in Table 5.8. In the case of Group 1 with a response rate of 56.7%, the majority of households (82%) live on at most R 2500 a month. Households earning between R 2500 and R 6000 make up 16%. Just close to 2% of the households earn at least R 6000 a month. It needs to be emphasised that the response rate regarding household income is quite low which necessitates treating the results in this particular respect with caution. One indication of the need to be cautious about the income results is access to medical aid. Results in this regard show that 25.3% of the households have access to medical aid and, 44.2% of the households make use of private health services (private doctor, a private clinic or hospital). This finding does not relate well with the income profile of the group.

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

Group 4 accounts for 9.1% of the sampled households and ranks second on the QOL index. A small proportion of households (0.4%) are headed by people aged 15 – 19 while households headed by people aged 20 – 29 make up 19%. With a median age of 38, the majority of households (63.2%) are headed by people aged 30 – 49 while 16.9% of the household heads are aged 50 – 59. Elderly people (70 years and older) head a relatively small percentage of households in this group (0.5%). Households headship is dominated by males (73%) and, unlike group one, rural households are in the majority (62.5%).

The race profile of Group 4 indicates African households to dominate the group (93.5%), followed by Coloured households (6.1%). White and Indian households make up equal minute percentages of 0.2% each. The distribution of languages spoken at home shows Zulu to be the most spoken language (18%) followed by Afrikaans and Xhosa, 16.4% and 16.2% respectively. Some 9.3% of the households speak Setswana while 9% speak South Sotho. Sepedi – speaking households make up 8.5% while English – speaking households constitute 8.7. Tsonga and Siswati are spoken by 4.7% and 4.3% of the households respectively.

The level of education completed by household heads in Group 4 is quite low, with just 2.9% of them having a tertiary qualification. Of this percentage, 2% of the household heads have got a Diploma and 0.5% have got a certificate. Household heads with a Bachelor's Degree make up 0.4%. For the 97% households headed by people without a tertiary qualification, 7.9% have completed Standard ten with the rest having education levels below Standard nine.

In spite of the low level of education, most household heads in this group are employed on a full time basis (84.4%). Some 8.8% have part time work while 6.1% are employed as casual workers. Only 0.7% of the households in this group are headed by unemployed people.

A substantial proportion of households provided information pertaining to income (71.2%). Information in respect of household income shows this group to be a generally low income group with a median income of R 433. Ninety five percent of the 1166 households which provided information in respect of household income earn a monthly income of just up to R 2500 and, around 4% of the households earn between R 2500 and R 6000 (see Table 5.8). It should not be surprising that 95% of the households in Group 4 have no access to medical aid and, as a result, 80% of the households relying on public clinics and hospitals. Households which visit a private doctor make up 15.6% while 2.2% visit a private clinic or hospital.

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

This group ranks third on the QOL index and accounts for the biggest percentage of the sampled households in OHS 1998 (27%). The demographic profile of households heads in this group differs from the that of the groups one and four in a number of respects. Firstly 1.13% of the households in group three are headed by people aged 15 – 19 which is relatively bigger than in groups one and four. Secondly group three has relatively fewer households headed by people aged 30 - 49 (45.5%) compared with over 60% in groups one and four. Thirty two percent of the households in group three are headed by people aged 50 – 69 and, 9.8% of the households are headed by elderly people aged 70 and older. Male headed households constitute the majority (71%) and, at least nine out of ten households (90.7%) are urban.

The race profile of Group three shows White households constituting the majority (41%) followed by African households (37.4%) while Coloureds households constitute 15.4%. Asian households make up 6% of the sampled households. At least one in five households (22.4%) speaks Afrikaans at home while Zulu- and Xhosa- speaking households constitute 15.6% and 15% respectively. Fourteen percent of the households speak English while eleven percent speak South Sotho. Setswana-speaking households make up 8.7% while 2.7% speak Tsonga or Shangani.

The education profile of the household heads in Group 3 is far better off when compared with the situation in Group two. For Group three, at least half of the households (50.7%) have completed Standard ten unlike in Group two where only one person had completed Standard ten (see Table 5.8). A quarter of the household heads in Group three have got tertiary education; five percent have got a certificate while 11% have a Diploma. Household heads with a Bachelors Degree make up 6.6% while 1.3% have got post – graduate Diploma or Honours Degree. Household heads with a Masters Degree or PhD constitute 1%.

In spite of the relatively better off education levels in this group, half of the household heads are unemployed.

Household heads with full time employment make up 47% while part time workers constitute some 2%. One percent of the household heads are employed on a casual basis.

In Group three, 15.2% of the households responded to the question addressing the issue of household income. Close to 44% (i.e. 2134 households) of the households which responded to this question earn at most R 2500 a month while 36.4% earn between R 2500 and R 6000. Some 15% or 729 households earn between R 6000 and R16 000 a month (see Table 5.8). In this group, 42% of the households have access to medical aid. This is reflected by the high use of private health services where 51% of the households visit a private doctor and 8% visit a private clinic or hospital. Public clinics or hospitals are visited by some 40% of the households.

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

Group 7 ranks fourth on the QOL index and accounts for 8.5% of the sampled households. The demographic profile of group seven is more similar to that of group three than that of groups one and four. With a median age of 45, the ages of household heads are concentrated in the 30 - 49 and 50 – 69 age groups, 55.2% and 35.2% respectively. Unlike group three however, relatively few households in group seven (0.2%) are headed by people aged 15 – 19. Some 8.3% of the households are headed by people aged 20 - 29 and, around 1% of the households are headed by elderly people aged 70 and older. Household headship is dominated by males (79%) and, at least two thirds of the households (67.7%) are rural.

African households constitute the majority (87.8%) followed by Coloureds (11.9%), with Whites and Indians making equal small percentages of 0.13% each. Around one in five households (20.4%) speaks Afrikaans at home while 16.9% speak Zulu and 15.4% speak Setswana. Xhosa- and South Sotho – speaking households differ slightly in proportions, 11.6% and 11.3% respectively while 6.3% of the households speak Sepedi. Households speaking English at home make up 5.6% while 5% speak Swazi or Siswati.

The level of education completed by household heads in group seven is low with none of them having a tertiary qualification talk less of Standard ten. The majority of household heads (68.8%) have no education at all while 24.3% have education levels varying between Standards one and three. Some 2% of them have either Grade zero or Grade one; the highest education level indicated to be possessed by a household head or acting household head is Standard three.

In spite of the low education levels completed by household heads in group seven, most of them (87%) are employed on a full time basis. Some 7.6% are part time employees while 5.1% are casual workers. A small proportion of household heads (0.3%) are unemployed.

Close to three quarters of the households (i.e. 1150 households) in Group 7 provided information pertaining to household income. Of these households, 97.7% or 1123 households earn a monthly income which does not exceed R 2500. Only eight households or 0.7% earn at least R6000 a month. The majority of households in Group seven (94.5%) have no access to medical aid. This group ranks fourth on the index with two thirds of the households being rural. The income profile of the respondents suggests an inability of the 75% households to access medical aid. However, 22.4% of the households in this group make use of the services of a private doctor or specialist and, 5.1% of them visit a private hospital or clinic. Households which visit a public clinic or hospital for health care services constitute 70.3%. Given the rank of this group (fourth), the low access to medical aid could be attributed more to the rural nature of the majority of the households as opposed to the income profile depicted by the households that responded.

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

With 9.5% of the sampled households, group six ranks fifth on the QOL index. The distribution of age of household heads in this group is skewed with a bias towards older ages: 27.3% of the households are headed by people aged 70 and above. In fact group six has the biggest percentage of households headed by elderly people. With a median age of 61, a small percentage of households (0.4%) are headed by people aged 15 – 19 while

2.6% of the households are headed by someone aged 20 - 29. Unlike most of the other groups, with the exception of Group 2, this group has a small proportion of household heads in the 30 – 49 age category (24.3%). A substantial 45.5% of the household heads are aged 50 - 69. Female headed households outnumber the male headed households (54.7%) and, three quarters of the households in this group (75.8%) are urban.

When it comes to population composition, seventy eight percent of the households are African and 18% are Coloured. Indian and White households constitute small percentages, 2.6% and 1.1% respectively. Afrikaans is the most spoken language at home (21%) followed by Zulu (16%) and Xhosa (12%). Setswana – speaking households constitute 14% while eleven percent speak South Sotho. English is spoken by some 9% of the households while Siswati and Shangani are spoken by 3.6% and 3.1% of the households respectively.

The level of education for people heading households in Group 6 is low with half of them having had no education at all and 45% having education levels between Standard one and Standard four. None of the household heads has got a degree neither did any of them complete Standard ten. However, one household head has got a certificate and two others have a diploma, making up 0.2%.

Unemployment is high with 89*%* of the households being headed by in this category. Household heads with full time employment constitute 9% while those employed on a part time basis make up 1%. Some 0.8% of the household heads are employed as casual workers. A few households (i.e. 96 households or 5.6%) provided information in respect of household income. Close to 90% of these households (i.e. 86 households) earn a monthly income below R 2500 as indicated in Table 5.8. Like group five, group six is one of the QOL groups close to the bottom of the QOL index. Considering its rank, fifth and the limited information regarding household income, a deduction on low access to medical aid may be feasible. The majority of households in Group six (96.4%) have no access to medical aid. This could explain why 78.9% of them rely on the public clinic or hospital when the need for medical help arises.

Households which visit a private doctor or specialist constitute 18% while some 2% visit a private clinic or hospital for medical help.

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

This group ranks second from the bottom (i.e. sixth) in terms of access to the selected QOL indicators. With 15.9% of the sampled households, group five has the biggest percentage of households (i.e. 4.2%) headed by people aged 15 – 19. Seventeen percent of the households are headed by people aged 20 – 29 while the majority (42.9%) are headed by people aged 30 – 49. Household heads aged 50 - 69 make up 27.6% while 8.2% of the households are headed by elderly people aged 70 years and older. The majority of the households are headed by females (57%) and, 76% of them are rural.

African or Black households dominate the group (97.6%) while Coloured households constitute 2.2%. White households make up 0.2%. The language profile of the group depicts the race distribution with one in four households (25.7%) speaking Xhosa at home while 18.5% speak Zulu. Fourteen percent of the households speak Sepedi while South Sotho and Setswana are spoken by 6.8% and 8.9% respectively. Shangani-speaking households make up 6.6% while Afrikaans- and English-speaking households constitute 7.8% and 5.5% respectively.

The level of education for household heads in group five is low with 98% of them having no tertiary education. Just close to 2% of the household heads have tertiary qualifications of whom, 0.2% have a Bachelors Degree. Diploma holders make up 1% while 0.5% have got a certificate. For household heads without tertiary education, 5.5% have completed Standard ten and the rest (94.5%) have got education levels below Standard nine.

Unemployment among household heads is high with 92% of them falling in this category. Households headed by people with full time employment make up 6.3% while people with part time employment make up 1%. Households headed by people in the casual work category constitute 0.7%.

Information pertaining to household income is quite scanty, with only 3.2% of the 2859 households having provided information in this regard. Of the 92 households which provided information regarding household income, 85.8% of them (i.e. 78 households) earn a monthly income that does not exceed R 2500. Just around five households earn at least R 6000 a month. Given the rank of the group (sixth) and the scanty information regarding household income, it may not be surprising that the majority of households in Group 5 (i.e. 98%) have no access to medical aid, which is possibly why 91% of them visit a public clinic or hospital. Households which make use of private health services – private clinic or hospital-make up just 8%.

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

This group ranks lowest 9i.e. seventh) on the QOL index and consists of households with the poorest access to the selected QOL indicators. Similar to group six, the age distribution of household heads in group two is skewed with a bias towards old age. The majority of household heads (50.7%) fall in the 50 – 69 age category while 26.6% are headed aged seventy and older; 7% of the household heads are aged eighty and older. Unlike the rest of the QOL groups – with the exception of Group six - this group has relatively few households (21.1%) headed by people aged 30-49. Females dominate the household headship at 59% and, the majority of the households (90%) are rural.

When it comes to race composition, African households are predominant at 97%, with the rest being Coloured. The language spoken at home somehow follows the race profile of the group, with Xhosa and Zulu being the most commonly spoken languages, 23% and 22% respectively. Sixteen percent of the households speak Sepedi while 8% speak Setswana. Tsonga is used by 6.4% of the households while Tshivenda and Siswati are spoken by 4.4% and 4.6% respectively. English and Afrikaans are used by relatively few households, 3.3%. and 6.5% respectively.

The level of education for household heads in this group is low, with just one household having a tertiary certificate.

Eighty seven percent of the households are headed by people with no education. The remaining 12% or so have education ranging between Grade zero and Grade three (i.e. Standard one).

The level of unemployment in this group is high (95.6%), with only 3.1% of the household heads having full time jobs. Households headed by people with part – time jobs make up 0.8% while casual workers constitute 0.6%.

When it comes to household income, quite a few households (1.8% or 429 households) disclosed their monthly income as shown in Table 5.8. Of the 429 households, 79.1% (i.e. 335 households) earn a monthly income of just up to R 500. The majority of households in this group (99%) have no access to medical aid. This could be the likely reason for 92% of the households relying on public clinics and hospitals when the need for medical help arises. Households which make use of private health services – private doctors and, private clinics and hospital – constitute 6.7%.

5.4.2 Analysis of residence (type of dwelling)

This section describes the type of dwelling households in various QOL groups live in. Information pertaining to this aspect is summarised in Table 5.9 below. In addition to type of dwelling, the section also looks at the geographical distribution of households by province. Like in chapter four, the description provides additional information which may not be appearing in the summarized figures in Table 5.9. Please note that description of the findings is presented according to the ranking results of the quality of life groups.

Table 5.9: Type of dwelling and geographical distribution of households by QOL group (OHS 1998)

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Type of dwelling							
Formal dwelling	76.5	50.9	92.9	61.5	83.9	59.1	52.2
Informal dwelling	8.1	28.3	3.0	11.8	10.1	14.7	8.3
Traditional dwelling	1.9	14.3	1.1	14.1	3.3	23.8	38.1
Caravan/tent	0.1	0.3	-	0.4	0.2	-	-
Other	13.5	3.3	1.7	9.4	1.7	1.0	0.2
Province							
Gauteng	22.7	11.0	22.9	7.6	14.5	4.2	1.9
Western Cape	15.1	7.6	22.5	7.7	12.2	2.2	1.3
Northern Cape	5.3	4.9	6.0	11.1	12.1	2.3	2.4
Eastern Cape	6.4	14.8	8.8	5.5	8.6	26.3	23.5
Free State	11.1	11.8	7.8	15.0	11.1	7.8	3.8
Limpopo	5.3	14.4	3.5	9.2	6.8	22.6	26
North West	11.6	10.4	6.8	16.1	11.5	11.0	10.2
Mpumalanga	9.9	12.3	6.5	16.7	10.9	7.6	11.4
KwaZulu-Natal	12.6	13	15.2	11.3	12.3	15.9	19.3

(a) Analysis of residence for households in Group 1 (QOL1)

Results in respect of type of dwelling show that at least three quarters of the households in group one (76.5%) live in formal dwellings. Sixty three percent of these households live in permanent brick houses occupying separate stands, while 4.7% live in a flat or apartment in a block of flats. Town houses provide accommodate 3.3% of the households, while 1.8% occupy a house or room in the backyard. Some 8% of the households live in informal dwellings, 6.1% of which live in informal dwellings on separate stands with the remaining 2% being in the backyard. Traditional dwellings provide accommodation to 1.9% of the households. A sizable 13.5% of the households live in some "other" unspecified dwellings as indicated in Table 5.9.

When it comes to geographical distribution, at least one in five households (22.7%) is found in Gauteng province while 15% are located in the Western Cape. Northwest and the Free State provinces account for 11.6% and 11.1% respectively, while Kwazulu Natal accounts for 12.6% of the households. Close ten percent of the households are found in Mpumalanga while Limpopo and Northern Cape account for 5.3% each.

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

Housing conditions in group four are relatively poor in spite of the group ranking second on the QOL index. Just around half of the households have live in formal dwellings of which 43.9% live in a permanent brick house on a separate stand. Households which live in flats or town houses make up 2.1% while 1.7% live in a house in the backyard. Some 3.2% of the households occupy a room or flat let on a separate stand. Group four has the largest percentage of households which live in informal dwellings (28.3%), 4.6% of which are in the backyard. Traditional dwellings provide accommodation to 14.3% of the households.

Households in this group are fairly evenly distributed throughout all the provinces, with 14.8% being in Eastern Cape and 14.3% in Limpopo province. KwaZulu Natal has got 12.9% of the households while 12.3% are in Mpumalanga. Households in Free State and Gauteng make up 11.8% and 11% respectively. Around one in ten households (10.4%) is found in Northwest while Western Cape has 7.6% and Northern Cape has the least percentage of 4.9.

(c) Analysis of residence for households in Group 3 (QOL3)

Households in group three have the most access to formal dwellings among all seven QOL groups (92.9%). Households living in permanent brick houses on separate stands constitute 77.9% while 6.4% live in a flat in a block of flats. Town houses or simplexes accommodate 5.2% of the households. Households living in informal settlements constitute 3% of which 2.2% live in informal dwellings or shacks on separate stands. Just around 1% of the households in group three live in traditional houses.

When it comes to geographical distribution, 22.9% of the households are in Gauteng province while 22.5% are found in Western Cape. KwaZulu Natal accounts for 15.2% of the households while 8.8% are found in Eastern Cape. Households in Northwest and Mpumalanga make up 6.8% and 6.5% respectively while six percent are found in Northern Cape. The least proportion of households (3.5%) is found in Limpopo province.

(d) Analysis of residence for households in Group 7 (QOL7)

Households access to formal accommodation in group seven is better than the situation in group four despite its rank (i.e. fourth). At least six out of ten households in group seven (61.5%) live in formal dwellings. Households living in permanent brick houses on separate stands make up 53.4% while 2% live in town houses or simplexes. One percent of the households live in a flat in a block of flats while 3.6% live in a room on a separate stand. Some 1.4% of the households live in a house in a backyard. Informal dwellings or shacks provide shelter to 11.8% of the households, 9.6% of which are informal dwellings on a separate stand. A relatively large number of households (9.4 %) live in some "other" unspecified type of dwelling as indicated in Table 5.9.

In terms of geographical distribution, 16.7% of the households are in Mpumalanga while 16.1% are found in North West. Fifteen percent of the households are in Free State while Kwazulu Natal and Northern Cape account for 11.3% and 11.1% respectively. Limpopo province accounts for 9.2% of the households while Gauteng and Western Cape have almost the same percentages, 7.6% and 7.7% respectively. Eastern Cape has the least number of households constituting 5.5%.

(e) Analysis of residence for households in Group 6 (QOL6)

Most of the households in this group (83.9%) have access to formal accommodation. Close to 73% of the households live in permanent brick houses occupying separate stands while 3.9% live in a town house or duplex. Some 2.4% households live in a flat in a block of flats while 3.2% occupy a house in a backyard. A few households constituting 0.5% occupy a room on a separate stand. Households living in informal dwellings make up 10.1% with 8.2% of them being informal dwellings on separate stands.

When it comes to distribution by province, households in this group are fairly geographically distributed with 14.5% of them located in Gauteng while 12.3% being in KwaZulu Natal. Western Cape has got 12.2% of the households while 12.1% are in Northern Cape. Mpumalanga and Free State have around 11% each wile North West accounts for 11.5% of the households. Eastern Cape has got 8.6% and Limpopo has the smallest percentage of 6.8%.

(f) Analysis of residence for households in Group 5 (QOL5)

Group five ranks number six out of seven QOL groups. Access to formal dwellings is relatively low (59.1%) even though it is higher than in group four which ranks second on the QOL index. Fifty four percent of the households live in permanent brick houses occupying a separate stand while 1.1% live in flats or town houses. Two percent of the households occupy a house in the backyard while 2.1% live in a room on a separate stand. Informal dwellings provide shelter to 14.7% of the households, twelve percent of which live in informal dwellings on a separate stand.

At least a quarter of the households in group five (26.3%) are found in the Eastern Cape while 22.6% are in Limpopo province. KwaZulu Natal has got 15.9% of the households while 11% are found in North West. Free State and Mpumalanga account for 7.8% and 7.6% respectively while 4.2% are in Gauteng. Western Cape and Northern cape have got around 2% each (see Table 5.9).

(g) Analysis of residence for households in Group 2 (QOL2)

Group two ranks seventh on the QOL index and, decent accommodation is a bit of a problem to several households in this group. Much as 52.2% of the households live in formal dwellings, a figure that is higher than 50.9% recorded in group four, 38.1% of the households live in traditional dwellings. Informal dwellings provide shelter to 8.3% of the households, 6.5% of which occupy are on a separate stand. For households living in formal dwellings, 48.4% occupy permanent brick houses on separate stands while 0.8%

live in a flat or town house. Some 1.6% households live in a house in the backyard and 1.4% live in a room or flat let.

As far as spatial distribution is concerned, over a quarter of the households in group two (26%) are found in Limpopo while 23.5% are in the Eastern Cape. KwaZulu Natal has got 19.3% while 11.4% are found in Mpumalanga. Close to one in ten households (10.2%) is located in Northwest province while 3.8% are in the Free State. Gauteng and Western Cape have less than 2% each, while Northern Cape accounts for 2.4% of the households.

5.4.3 Analysis of Fuel used by households

This section deals with the type of fuel used by households in respect of cooking and lighting in the various QOL groups. In some cases the description includes details pertaining to other fuel types. The focus however, is on fuel types that are considered as key indicators in this respect as indicated in Table 5.10 below. In general, results indicate that electricity is used more for lighting than for cooking purposes.

Table 5.10: 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	1	4	3	7	6	5	2
Fuel for cooking							
Electricity	90	2.5	95	39	74	7.2	0.8
Paraffin	4.1	54	1.5	21	14	40	23
Wood	0.2	33.3	0.1	32	1.2	43	68
Fuel for lighting							
Electricity	97.5	25.8	99.0	58.3	95.7	28.9	21.5
Paraffin	1.1	25.2	0.4	11.2	2.1	26.5	26.4
Candles	1.0	48.2	0.5	30.0	1.8	44.2	51.7

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

There is a heavy reliance on electricity as energy for household use in group one. Nine out of ten households use electricity for cooking while 4.1% use paraffin. Some 3.7% households use gas while a few households (0.2%) use wood as fuel for cooking; the same percentage (0.2%) uses solar energy for cooking.

As far as energy used for lighting is concerned, 97.5% of the households use electricity for lighting while 1.1% use paraffin. One percent of the households use candles and 0.3% of the households use gas.

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

Access to quality fuel for household use is a problem to most households in group four. For instance only 2.5% of the households use electricity to cook while a third of the households use wood. More than half of the households (54%) use paraffin as fuel for cooking while 6% rely on coal and 2.7% use Gas. The situation is relatively better off when it comes to fuel used to light the dwellings. At least a quarter of the households (25.8%) use electricity for lighting purposes and 25.2% use paraffin. Close to half of the households (48.2%) use candles as fuel for lighting.

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

Use of electricity as energy for cooking is higher in group three than in groups one and four. Ninety five percent of the households in group three use electricity to cook while 1.5% use paraffin. Some 2.3% of the households use Gas to cook while 0.1% use wood and, close to 1% use coal.

A similar situation prevails when it comes to fuel used for lighting. All but 1% of the households use electricity for lighting, with small percentages using candles and paraffin, 0.5% and 0.4% respectively. Quite a few households constituting 0.1% use gas to light up the dwellings.

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

Group seven ranks fourth on the QOL index but it is better than group four (ranked second) in terms of access to quality energy for household use. For instance 39% of the households use electricity to cook a figure that is far higher than 2.5% recorded in group four. Households which use paraffin make up 21% while thirty two percent of the households cook with wood. Households which rely on coal as fuel for cooking make up 5.4% while 1.3% of the households use animal dung.

When it comes to energy used for lighting, the situation is relatively better off, with close to sixty percent of the households (58.3%) using electricity. Still a sizable percentage (30%) rely on candles to light the dwellings and 11.2% use paraffin. Gas and solar energy are used by a few households constituting, 0.3% and 0.13% respectively.

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

Access to electricity is better in group six than in group seven despite the former being ranked lower. For instance 74% of the households use electricity to cook while 14% use paraffin. Seven percent of the households use coal while 4% rely on Gas as energy for cooking. Households which cook with wood constitute 1.2%.

When it comes to energy used to light dwellings, 96% of the households use electricity while 2% use paraffin. Candles provide light in 1.2% of the dwellings and, a small portion of the households (0.4%) use gas to light the dwellings.

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

The situation in group 5 differs substantially from the situation in group six which it follows in terms of ranking. Comparatively few households in group five (7.2%) cook with electricity as compared with 74% in group six. Forty percent of the households in group five use paraffin to cook while 43% rely on wood as energy for cooking. Some 6.3% of the households use coal to cook while 2.7% use gas.

The situation is not so different when it comes to fuel used for lighting. Close to twenty nine percent (i.e. 28.9%) of the households use electricity for lighting purposes while the majority (44.2%) use candles. Over a quarter of the households (26.5%) use paraffin as fuel for lighting in the dwellings.

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

Households in group two have poor access to quality fuel with over two thirds (68%) relying on wood for cooking. Twenty three percent of the households use paraffin while 5.5% use coal to cook. Around 1% of the households use animal dung while 0.9% cook with gas. Electricity is used by only 0.8% of the households. When it comes to energy for lighting, 51.7% of the households use candles while 26.4% use paraffin. Households which use electricity to light up the dwellings make up 21.5%.

5.4.4 Analysis of sanitation

This section will describe the findings in respect of sanitation services accessed by households in the seven QOL groups. As indicated in the previous chapter (i.e. findings for OHS 1999), sanitation has been operationalised in terms of "type of toilet facility" a household accesses and, "rubbish removal services". Table 5.11 provides information regarding 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 5.11 depending on the magnitude of the response in a particular instance.

Table 5.11: Access to sanitation by households

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Sanitation							
Flush toilet	83.6	14.7	91.2	34.2	64.2	9.7	2.6
VIP/ Ordinary Pit latrine	13.4	51.6	6.5	40.3	23.6	61.0	58.5
Bucket	2.5	9.5	1.7	6.2	10.0	6.5	3.9
No access to toilet	0.6	22.7	0.2	18.8	1.3	22.0	34.0
Refuse disposal							
Removed at least once a week	73.2	22.3	88.2	29.9	71.2	15.5	5.2
Own rubbish dump	13.3	50.7	5.9	47.8	17.8	62.5	71.4
No rubbish removal services	5.1	19.7	2.3	14.4	6.3	18.7	21.3

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

Most of the households in group one (83.6%) have access to a flush toilet; 47.3% have a flush toilet in the dwelling while 34.8% have it on site but not in the dwelling. Some 1.3% of the households access a flush toilet off site while 13.4% use a pit latrine. Households which make use of a bucket toilet constitute 2.5%. Six households (0.2%) make use of a chemical toilet while eighteen households (0.6%) have no access a toilet.

When it comes to rubbish removal, 73.2% of the households have their refuse removed at least once a week, while 4.4% of the households have their refuse removed less often than once a week. Households which make use of their own rubbish dumps constitute 13.3% while 4% make use of communal rubbish dumps. Households with no access to refuse removal services make up 5.1%.

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

Unlike group one, sanitation is a problem to many households in group four (QOL 4). For instance just close to 15% of the households in group four have access to a flush toilet; 2.8% have a flush toilet in the dwelling while 10.1% have a flush toilet on site but not in the dwelling.

Some 1.8% of the households make use of a flush toilet from the neighbourhood. More than half of the households (51.6%) use pit latrines 12.6% of which are ventilated improved pit latrines (VIP) and, on site. Four percent of the households rely on VIP's in the neighbourhood while 35% use ordinary pit latrines on site. SOME 8.5% households use a bucket toilet and, at least one in five households in group four (22.7%) has no toilet.

When it comes to refuse disposal, from 22.3% of the households have their refuse removed at least once a week while the majority (50.7%) use their own rubbish pits. Close to twenty percent of the households (19.7%) have no access to rubbish removal services and, 5.7% rely on communal rubbish dumps.

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

Access to sanitation is better in group three – ranked third on the QOL index - as compared with the situation in groups one and four. The majority of households (91.2%) have access to a flush toilet; 77% of the households have a flush toilet in the dwelling while 13.6% have it in the yard. Twenty nine households (0.6%) access a flush toilet at the neighbourhood. Households using pit latrines make up 6.5% of which 3% are VIP's. Eighty two households (1.7%) make use of a bucket toilet while eleven households (0.2%) have no access to a toilet.

When it comes to refuse removal, 88.2% of the households have their refuse removed by local authorities at least once a week while 2% have their refuse removed less often than once a week. Close to 6% of the households have their own rubbish pits while 1.6% rely on communal rubbish dumps. Households with no refuse disposal services constitute 2.3%.

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

The sanitation situation in group seven is generally in line with the ranking of the group (fourth) particularly in respect of households without a toilets (with the exception of group four). For instance 34.2% of the households in group seven use a flush toilet; 12.2% of the 34.2% have a flush toilet in the dwelling and 19.8% have it on site.

Close to four out of ten households (40.3%) use pit latrines; 10.7% of the households use VIP's while the rest use ordinary pit latrines. Some 5.6% of the households use a bucket toilet and, 18.8% of the households have no access to a toilet.

With regard to refuse disposal, 29.9% of the households have their refuse collected by local authorities once a week while 2.5% have theirs removed less often than once a week. The majority of households (47.8%) use their own refuse dumps while 5.5% of the households have their refuse removed by community members once a week. Households with no access to refuse removal services constitute 14.4%.

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

The sanitation situation in group six is better than the situation in groups four and seven which are ranked second and fourth respectively. The majority of households (64.2%) have access to a flush toilet; 29.1% have a flush toilet in the dwelling while 32.8% have it on site but not in the dwelling. Some 2.3% households make use of a flush toilet in the neighbourhood. Close to 24% of the households use pit latrines, 9.1% of which VIP's while 14.5% are ordinary pit latrines. One in ten households uses a bucket toilet while 1.3% have no access to a toilet.

Regarding refuse disposal, 71.2% of the households have their refuse collected by local authorities at least once a week while 3.2% have theirs removed less often than once a week. Households which use their own rubbish pits to get rid of household refuse make up 17.8% while 1.5% use communal rubbish dumps. Households which have no access to rubbish removal services constitute 6.3%.

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

Group five ranks sixth on the QOL index and the group's sanitation situation seems to reflect that situation. For instance just close to ten percent of the households (i.e. 9.7%) have access to a flush toilet. Households with a flush toilet in the dwelling make up 2.3% while 5.9% of the households have it on site but not in the dwelling. Some 1.5% households make use of a flush toilet from the neighbourhood.

Sixty one percent of the households use pit latrines, 41% of which are ordinary pit latrines. Twenty two percent of the households have no access to a toilet.

Regarding refuse disposal, the majority of households in this group (i.e. 62.5%) get rid of their refuse through the use of their own refuse dumps while 2.1% rely on a communal refuse dump. Households whose refuse is collected by local authorities on a weekly basis make up 15.5% while 1% have their refuse collected less often than once a week. A sizable 18.7% of the households have no access to refuse removal services.

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

Group two ranks seventh on the QOL index and, the sanitation situation fits the rank. For instance households with a flush toilet, either in the dwelling or in the yard make up just 2.6%. The majority of households (58.5%) use pit latrines while 4% use a bucket toilet. At least a third of the households (34%) have no access to a toilet.

The situation is similar with regard to refuse disposal whereby 21.3% of the households have no such services. The majority of households (71.4%) make use of their own rubbish pits and, only 5.2% of the households have their refuse removed at least once a week by local authorities.

5.4.5 Analysis of households' water source

Section 5.4.5 describes the sources of water that households in the various QOL groups have access to. In the description of water sources, details are provided including water sources like bore holes, dams and rivers which are deemed to provide water that is unsafe for human consumption. The focus though, will be on household access to piped water and the hassles which households face to access clean water where such water is not readily available. Table 5.12 provides information in respect of access to piped water by the seven QOL groups and the distance that households travel to fetch water.

Table 5.12: 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	1	4	3	7	6	5	2
Water							
Piped in dwelling	54.8	4.8	81.6	18.7	40	3.3	1.6
Piped on site	36.1	30.2	14.5	42.8	46.2	20.7	16.7
Public tap	7.1	38.4	2.9	22.5	10.7	35.7	34.7
Distance from water source (where fetching is applicable)							
Within 100 metres	4.3	20.8	2.1	15.5	6.5	17.3	15.8
101 – 200 metres	2.6	16.9	0.8	10.1	3.6	18.0	19.1
201 – 500 metres	1.1	10.7	0.3	5.2	1.7	14.8	16.8
501 metres – 1 Kilometre	0.6	9.2	0.1	4.2	0.8	14.2	16.1
More than 1 Kilometre	-	4.9	-	1.2	0.2	9.4	11.4

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

Access to clean water is not a problem to most households in group one where 54.8% of the households have piped water in the dwelling and 36.1% have it in the yard. This implies that nine out of ten households in group one do not have a problem of fetching water. Households which rely on public tap water make up 7.1% while 1.3% get water from bore holes. A small percentage of 0.4% households obtain water from dams or streams, while 0.2% of the households rely on the water carrier for their water needs.

Given the situation above, fetching water is a task to just around 10% of the households in group one. Of these households, 4.3% fetch water within a distance of a hundred metres while 2.6% travel between a hundred and two hundred metres to fetch water. Around one percent of the households travel between two hundred metres and half a kilometer to get water while 0.6% of the households travel between half a kilometer and a kilometer to fetch water.

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

Access to piped water for households in group four is not as good as it is in group one even though it could be judged as good enough. Close to three quarters of the households in group four (73.4%) have access to clean piped water but quite a few of them (4.8%) have water in the dwelling. Three out of ten households have piped water in the yard and 38.4% rely on water from a public tap. Four percent of the households obtain water from a water tanker or carrier while 5.3% get water from a borehole. Households which rely on streams or rivers for their water needs constitute 5.3% while 3.4% obtain water from springs. Some three percent of the households rely on stagnant water from dams and 26 households (1.6%) obtain water from wells.

Thus apart from the 35% of the households which have water on the premises, 20.8% of the households fetch water within a hundred meter radius while 16.9% travel between 100 and 200 meters to fetch water. Close to eleven percent of the households travel between 200 meters and half a kilometer to fetch water while 9.2% travel between half a kilometer and a kilometer to fetch water. Some 5% of the households in this group travel over a kilometer to get water.

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

The situation regarding access to clean water in group three is better than the situation in groups one and four. The majority of households in group three (96.1%) have water on the premises. Of the 96.1% households which have water on site, 81.6% have piped water in the dwelling while 14.5% have it in the yard. Close to three percent of the households rely on water from a public tap while 21 households (0.4%) have their own boreholes.

The above findings indicate that fetching water is a task to just around four percent of the households in group three. Of the four percent, 2.1% or 104 households fetch water within a distance of a hundred meters while the rest travel farther than that to get water (see Table 5.12).

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

The situation regarding access to clean water in group seven is slightly better than that in group four despite the former being ranked fourth and the latter, second. The majority of households in group seven (84%) have access to clean piped water. Differences appear in terms of source; group seven has a bigger percentage of households with piped water in the dwelling (18.7%) than the 4.8% recorded in group four. However, group seven has proportionately more households which have water in the yard but not in the dwelling 42.8%) than 30.2% in group four. As for households which rely on public tap water, group four is worse off with 384.% of the households in this category compared with 22.5% in group seven (see Table 5.12). Some 2.3% of the households in group seven rely on water delivered by water tankers or carriers while boreholes provide water to 4.4% of the households; 1.7% of the households have a bore hole in the yard. The remaining 5.3% obtain water from rivers, streams and dams.

The above findings imply that apart from the 61.5% of the households which have water on site, the rest have to fetch water. Of the households which have to fetch water, 15.5% get water within a hundred meters while one in ten households travels between a hundred and two hundred meters to fetch water. The rest travel over two hundred metres to get water as indicated in Table 5.12.

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

Access to clean water is not a big problem to most households in group six (QOL 6). In fact group six beats both groups four and seven even though group six is ranked lower than groups four and seven. The majority of households in group six (96.9%) have access to clean piped water; 40% of them have piped water in the dwelling and 46.2% have piped water in the yard. Close to eleven percent of the households (10.7%) obtain water from a public water tap and, 1.5% get water from a borehole. Eleven households (0.6%) rely on water a carrier with the remaining households rely on other water sources like a well, spring and stream water.

From the information above, fetching water is a task to around 13% of the households, of which 6.5% travel at most a hundred meters to fetch water and 3.6% travel between 100 meters and 200 meters for the same reason (See Table 5.12 for details).

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

Group five ranks sixth on the QOL index and, access to safe drinking water is a problem to most households in this group. Just over half of the households (54.7%) have access to clean piped water of which, 3.3% have it in the dwelling. Just over a fifth of the households (20.7%) have piped water in the yard and 35.7% rely on water from the public tap. Some 2.2% households rely on a water tanker for their water needs while boreholes provide water to 9.3% of the households. Rivers or streams provide water to 11.3% of the households while 8.7% rely on water from springs. Households which rely on wells and dams make up 2.2% and 2.8% respectively.

From the above statistics, it is clear that fetching water is a task to some 76% of the households in group five, with 17% of them having to travel up to 100 meters to fetch water. Households which travel between 100 and 200 meters constitute 18% while 14.8% travel between 200 meters and half a kilometer to get water. Some 14% of the households travel between half a kilometer and one kilometer and 9.4% of the households travel more than a kilometer to fetch water.

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

Group two ranks seventh on the QOL index and, access to clean water is a problem to many households in this group two. Just over half of the households (53%) having access to piped water and, only 1.6% of them have piped water in the dwelling. Households with piped water in the yard constitute 16.7% while around a third of the households (34.7%) rely on water from public taps. One in ten households gets water from springs while 15.4% rely on untreated water from streams. Boreholes provide water to 9.3% of the households and 2.5% of the households fetch water from a well. Five percent of the households rely on water from stagnant sources like dams.

It is clear from the above figures that fetching water is a common task to most households in QOL2. Besides the 18% or so households which have water on site, 15.8% of the households fetch water from within a hundred metre radius while 19.1% travel between a hundred and two hundred meters to get water. Close to 17% of the households travel between 200 meters and half a kilometer to fetch water while 16.1% households travel between half a kilometer and a kilometer. A sizable 11.4% of the households travel at least one kilometer to fetch water (see Table 5.12).

5.4.6 Analysis of durables

Section 5.4.6 describes the distribution of possession of durable items among households in the various QOL groups. A few indicators have been selected for use in this regard depending on the available information. These indicators include household possession of a vehicle, possession of a cellular phone and, existence of a landline telephone in the dwelling (see Table 5.13 below). In addition to “possession of a telephone” in the dwelling, “time taken to get to the nearest telephone” has been included 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 a telephone call arises.

It should be highlighted that household durable items like radio and television and vehicle have not been included in the analysis due to unavailability of data. As for possession of a vehicle, the study has used “transport used by a household to get to work” as a proxy indicator for possession of a vehicle; the assumption being that households possessing a vehicle are likely to use it while getting to work as opposed to using public transport, unless they work from home.

Table 5.13: Possession of durable items (OHS 1998)

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Durables							
Car	-	-	43	-	4.8	3.6	1.7
Household with a cellular phone	10.4	1.4	27.8	1.4	3.6	1.9	0.9
Landline telephone in dwelling	32.0	2.1	64.7	6.4	27.8	3.2	1.2
Travel time to nearest telephone							
Within 5 minutes	29.7	17.9	13.4	26.1	22.4	10.6	6.9
6 – 15 minutes	25.7	30.4	13.0	28.1	31.1	23.8	20.6
More than 15 minutes	11.9	49.6	6.2	39.3	18.1	62.3	71.2

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

As indicated in the previous paragraph, indicators in respect of durable household items were not adequately captured in OHS 1998. Among those omitted are possession of a radio, television, and a car. Findings in respect of possession of a telephone reveal that 32% of the households in QOL1 possess a land line telephone in the dwelling while 10.4% possess a cellular phone. These statistics indicate that making a phone call involves some traveling to as many as 67.2% of the households: 32.8% of the households indicated that they have either a land line or cellular phone in the dwelling.

As for households without a telephone in the dwelling, 29.7% of them get hold of a telephone within a five minutes traveling distance while 25.7% spend six to fifteen minutes in travel time to make a phone call. Close to 12% of the households spend more than a quarter of an hour to get to the nearest telephone; twenty six households (i.e. 0.9%) travel for at least an hour to get hold of a telephone.

As indicated earlier on, household possession of a car was not included as a variable in the dataset. In this study, “transport used to get to work” was used as a proxy indicator for possession of a car; the likelihood being that households possessing a car are likely to use it while getting to work as opposed to using public transport, unless they work

from home. Findings in respect of transport used when getting to work show that none of the households in group one uses its own car to get to work. The likelihood is a low possession of cars as durable items by households in group one. At least half of the households heads (51.3%) use public transport; 20.1% use a bus while 31.2% use a minibus taxi. Some 32.9% walk to the work place.

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

Access to telephones among households in group four is quite lower than the situation in group one. For instance 1.4% of the households possess a cellular phone in the dwelling while possession of landline telephones stands at 2.1%. This implies that traveling in order to make a phone call is not uncommon for most households in group four.

Close to 18% of the households get hold of a telephone within five minutes of travel time while 30.4% spend six to fifteen minutes while traveling to a telephone facility. Almost half of the households (49.6%) spend more than a quarter of an hour in travel time to get hold of a telephone; 14% of the households spend at least an hour for this purpose.

When it comes to transport used by households to get to work, the situation is similar to the one in group one; no household in this group reported to get to work by its own car. Information pertaining to type of transport used to get to work indicates that 49.5% of the households get to work on foot while 23.1% use minibus taxis. Households which rely on buses to get to work constitute 13.2%. Whichever one looks at it, the indication is that cars are a rarely possessed items among households in this particular group.

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

Possession of selected durable items is higher in group three (QOL 3) than in groups one and four. In fact group three has the highest access to telephones among the seven groups. Close to 65% of the households have a land line telephones in the dwelling while 27.8% indicated that they possess a cellular phone. For the 35% or so of the households without a cellular phone or landline telephone, 13.4% get hold of a telephone within a five minute traveling distance.

Thirteen percent of the households spend six to fifteen minutes while traveling to a telephone facility while 6.2% spend at least a quarter of an hour in travel time to get hold of a telephone (see Table 5.13 for more details).

As for type of transport used by households to get to work, 43% of the households indicated that they use their own cars to get to work. Households which indicated that they work at home and, therefore do not need transport make up 5.4%. Almost half of the household heads indicated that they were not working, therefore the question was not applicable to their situation. The figure of 43% indicates that several households in group three possess a car even though an equally high percentage of household heads (49.9%) are without employment.

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

Group seven is slightly better than group four (but not groups one and three), when it comes to possession of telephones. Households with a landline telephone in group seven constitute 6.4% while possession of a cellular phone stands at 1.4%. As a matter of fact some of the households with a land line telephone do also possess cellular phones. Thus it is safe to say that as many as 93.6% of the households have to travel some distance in order to make a phone call.

Among the 93.6% households without a telephone, at least a quarter (26.1%) require five minutes in travel time to get hold of a telephone while 28.1% spend six to fifteen minutes to get to a telephone facility. Households which spend more than fifteen minutes while traveling to a telephone constitute 39.3%; a sizable 156 households (10.2%) spend at least one hour in travel time to make a phone call.

When it comes to the type of transport used to get to work, none of the households indicated using their own car to get to work. Close to two thirds (64.7%) walk to the workplace while 10.9% use minibus taxis. Household heads who use buses to get to work make up 11.9%. These findings indicate that most households are not likely to be in possession of car.

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

Possession of selected durable items is better among households in group six than in group seven, despite the former being ranked higher. For instance 27.8% of the households in group six have a landline telephone in the dwelling while possession of cellular phones stands at 3.6%. This implies that communication by telephone is a problem to many households, with 22.4% having to travel for some five minutes to get hold of one. Thirty one percent of the households spend six minutes to a quarter of an hour to get to a telephone facility while 18.1% spend more than a quarter of an hour in travel time to get to a telephone facility; 1.4% of the households travel for at least an hour to get to a telephone facility.

With regard to transport used to get to work, 4.8% of the households in group six indicated that they use their own cars to get to work. Close to ninety percent of the household heads (89.1%) indicated that they were not working, so this question was not applicable while 4.9% indicated that they work from home. Three households (0.2%) use minibus taxis to get to work. From this information, all indications are that possession of a car is rare among households in group six.

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

Possession of selected durable items is generally low in group five as indicated in Table 5.13. For instance just around two percent of the households have a cellular phone while possession of a landline telephone stands at 3.2%. From this information, it is clear that communication by telephone is a problem to as many as 95% of the households. For households with no access to a telephone in the dwelling, 10.6% of them spend five minutes in travel time to make a telephone call while 23.8% spend six minutes to a quarter of an hour to access a telephone. The majority of the households (62.3%) spend more than a quarter on an hour while traveling to a telephone facility: 21.6% of the households spend at least an hour for this particular reason.

As for transport used when getting to work, 103 households (i.e. 3.6%) indicated that they use their own cars to get to work.

Ninety two percent of the household heads are unemployed and, therefore this particular aspect is not applicable to them while 3.8% work from. For all intents and purposes possession of a car is low among households in group five.

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

Group two is ranked seventh on the QOL index and, the situation regarding possession of durable items reflects that situation. Quite a few households have access to either a cellular phone or landline telephone in the dwelling. As for cellular phones, just around 1% of the households possess a cellular phone while households with a landline telephone in the dwelling constitute 1.2%. For the remaining ninety eight percent or so of the households, access to a telephone involves some traveling with 6.9% of the households getting hold of a telephone within five minutes. Around a fifth of the households spend six to fifteen minutes while traveling to a telephone facility and, 71.2% of the households spend more than a quarter of an hour while traveling to a telephone facility: 158 households (6.6%) spend over two hours while traveling to a telephone facility.

When it comes to the type of transport used by households to get to work, 41 households (i.e. 1.7%) indicated that they use their own cars for this purpose. Unemployment among household heads stands at 95.5% as such, this issue is not applicable to them. Fifty one household heads (2.1%) work from home. This information indicates that possession of a car among households in this group is low.

5.4.7 **Subjective evaluation of Quality Of Life**

Subjective well-being measures assess people's reactions to the objective conditions they experience. Objective conditions serve as inputs for individuals and cultures to produce what is perceived by people as desirable or undesirable (Diener & Suh, 1997: 207). In the context of the current study, data pertaining to household life satisfaction was collected in the OHS 1998. Households were asked to indicate how satisfied they felt, all things put together. Table 5.14 provides the results pertaining to households' subjective evaluation of quality of life in the seven QOL groups.

Table 5.14: Subjective evaluation of quality of life

	Cluster /QOL/Group number						
Rank of group	1	2	3	4	5	6	7
Original cluster number	1	4	3	7	6	5	2
Perception							
Very satisfied with life	18.3	12.8	20.9	13.5	15.9	13.9	10.9
Satisfied with life	51.6	37.2	52.0	45.0	45.1	37.6	39.9
Satisfied and Very satisfied (combined)	**69.9**	**50**	**72.9**	**58.5**	**61**	**51.5**	**50.8**
Neither/Nor dissatisfied	**15.5**	**22.3**	**14.1**	**21.0**	**20.0**	**20.0**	**22.4**
Dissatisfied	12.1	21.9	10.1	15.7	14.6	23.3	21.7
Very dissatisfied with life	2.5	5.8	2.9	4.8	4.4	5.1	5.2
Dissatisfied and Very dissatisfied (combined)	**14.6**	**27.7**	**13**	**20.5**	**19**	**28.4**	**26.9**
Total for bold face rows	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Results in respect of subjective evaluation of quality of life show a tendency for households being satisfied with life, in groups where material conditions are better off than in groups where living conditions are generally poor. This is particularly the case with groups one and three in Table 5.14. When results in Table 5.14 are compared with the findings relating to the ranking of the quality of life groups, one finds that groups one, four and three are ranked in that order, as the three groups with better QOL, based on the selected QOL indicators. In group 1- ranked number one on the index – 69.9% of the households reported that they are satisfied with life; 18.3% being very satisfied for that matter. Group three ranks third on the index but when it comes to subjective quality of life evaluation, it has the biggest percentage of households (i.e.72.9%) that are satisfied with life; 20.9% being very satisfied with life. Apart from these two particular groups (i.e. one and three), no clear pattern comes out to reflect differences in subjective life satisfaction among the QOL groups which experience different material conditions.

Even group two which ranks seventh on the QOL index, 50.8% of the households therein reported to be satisfied with life; 10.9% of these households reported to be very satisfied with life.

Among the dissatisfied category, the same two groups (QO 1 and QOL 3) come out clearly as the groups with the smallest percentage of households which are not satisfied with life. In group one which ranks first on the QOL index, 14.6% of the households reported being dissatisfied with life, 2.5% of the them being very dissatisfied. Group three ranks third on QOL index; 13% of the households herein reported that they are not satisfied with life. Groups two, four and five have the biggest percentages of households that are dissatisfied with life - 26.9%, 27.7% and 28.4% respectively. In general it suffices to say that there are proportionately more households which are satisfied with life in all QOL groups than households that are dissatisfied with life.

The third category is that of households which reported indifference in life satisfaction. The pattern in this category, in a way, follows the patterns portrayed in the previous two categories described above. Groups one and three have the lowest percentages of households which reported their lives to have stayed the same – neither satisfied nor dissatisfied. For group one, 15.5% of the households reported that they were neither satisfied nor dissatisfied with life while 14.1% of the households in group three felt that way. For the rest of the groups, proportions vary slightly between 20% and 22.4% (see Table 5.15).

5.5 **Summary**

This chapter has presented the findings emanating from the analysis of the data for OHS 1998. Cluster analysis resulted in seven QOL groups of which group one experiences the best measurable conditions (i.e. QOL conditions) and group two experiences the poorest quality of life. Discriminant function analysis yielded results indicating two major discriminating indicators between the quality of life groups. One such indicator pertains to transport used by household heads to get to the work place. A critical analysis of this indicator shows that the real issue surrounding this finding is the

employment status of household heads; employed household heads travel, by whichever means, to the work place while unemployed household heads stay at home. Thus the discriminating effect of this indicator stems from the employment status of household heads. The second indicator is “highest level of education completed by a household head”. Households headed by people who have tertiary education belong to QOL groups which rank high on the QOL index; they experience better living conditions as opposed to households headed by people with low education. These two indicators have been identified as the key discriminant indicators which differentiate the quality of life conditions between the seven QOL groups. Chapter six will provide the results emanating from the analysis of the data for OHS 1997.