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UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

Social Sciences

Poverty and Wellbeing among Older People in Nairobi Slum Settlements

by

Jennifer Baird

Thesis for the degree of Doctor of Philosophy

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ABSTRACT

FACULTY OF SOCIAL AND HUMAN SCIENCES

Social Statistics and Demography

Thesis for the degree of Doctor of Philosophy

POVERTY AND WELLBEING AMONG OLDER PEOPLE IN NAIROBI SLUM SETTLEMENTS

Jennifer Susan Baird

Levels of poverty and wellbeing among older people in poor, urban settings in Africa have been under-researched, yet absolute numbers of older people are set to increase in this continent in the coming decades. The urban experience of wellbeing for older people is relatively unknown as research tends to focus on older people residing in rural places. This study addresses this research gap and investigates patterns of poverty and wellbeing among older people in two slum settlements in Nairobi.

The study uses data collected by the African Population and Health Research Centre. Livelihood information for households in a demographic surveillance system operating in two Nairobi slums is combined with data from a survey on the social, health and overall wellbeing of older people. Absolute expenditure poverty and expenditure quintiles are calculated to build a money-metric poverty profile of the older people. Sensitivity analyses of the poverty estimates are also calculated to explore different assumptions of equivalence scales. A multidimensional conceptual framework then measures how older people's wellbeing varies across a range of different dimensions.

Two-thirds (66%) of older people in the two slum settlements are living in absolute material poverty. Within the slums there are also significant differences in absolute poverty among older people. Wellbeing is found to vary greatly within dimensions and across them; overall, there are disadvantages for women and the oldest old in terms of poverty and wellbeing. Formal support mechanisms are limited with few older people receiving a pension. Conversely, informal reciprocal familial support patterns are strong with many older people giving support to other members of their family.

Levels of absolute poverty are high, suggesting that policies should be targeted here to reduce poverty. The different dimensions of wellbeing also indicate that non-monetary policy interventions should be considered.

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DECLARATION OF AUTHORSHIP

I, Jennifer Baird

declare that the thesis entitled

Poverty and Wellbeing among Older People in Nairobi Slum Settlements

and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
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- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this work has been published before submission, or [delete as appropriate] parts of this work have been published as: [please list references]

Signed:

Date: 14/06/2013.....

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Definitions and Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
APHRC	African Population and Health Research Centre
CBN	Cost of Basic Needs
CPI	Consumer Price Index
DFID	Department for International Development
DSA	Demographic Surveillance Area
DSS	Demographic Surveillance System
EU	European Union
FPL	Food Poverty Line
GDP	Gross Domestic Product
HAI	HelpAge International
HALS	Household Amenities and Livelihoods Survey
HIV	Human Immunodeficiency Virus
HSNP	Hunger Safety Net Programme
KEMRI	Kenya Medical Research Institute
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
KNCHR	Kenya National Commission on Human Rights
KSh	Kenya Shilling
MDGs	Millennium Development Goals
MFB	Minimum Food Basket
MGCSD	Ministry of Gender, Children and Social Development in Kenya
MIPAA	Madrid International Plan of Action on Ageing

NACC	National AIDS Control Council
NGO	Non-Governmental Organisation
NHIF	National Hospital Insurance Fund
NPOPA	National Policy for Older Persons and Ageing
NSPP	National Social Protection Policy
NSSF	National Social Security Fund
NUHDSS	Nairobi Urban Health and Demographic Surveillance System
OAG	Old Age Grant
OECD	Organisation for Economic Cooperation and Development
OP-CT	Older Persons Cash Transfer
SSA	Sub-Saharan Africa
SSHOWOP	Survey on Social, Health and Overall Well-being of Older People
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UPHD	Urbanisation, Poverty and Health Dynamics Project
WBPA	World Bank Poverty Assessment
WHO	World Health Organisation

1. Introduction

The aim of this chapter is to introduce the topic that is researched in this thesis. This introduction explores the background to the research and establishes a rationale for the work undertaken. The research questions to be answered in this thesis are then discussed and the structure of the thesis is outlined.

1.1 Importance of Studying Poverty and Wellbeing among Older People in Poor Resource Settings in Sub-Saharan Africa

This thesis examines poverty and wellbeing among older people in two slum settlements in Nairobi using secondary data analysis of a unique dataset. The importance of addressing wellbeing among older people has been highlighted by the Madrid International Plan of Action on Ageing; one of the objectives focuses on reducing poverty among older people (UN, 2002). People can enter old age after experiencing a life time of poverty (KNCHR, 2009). Individuals can also risk falling into poverty at older ages due to their declining capacity for work, inhibiting their ability to ensure a regular income (UNFPA and HAI, 2012). More widely, wellbeing can be threatened in older ages not only due to low income but also because of poor health and malnutrition (UNFPA, 2002). As such, it is important to gain a better understanding of the experience of poverty and wellbeing among older people at the individual level, in order to inform stakeholders and better design policies to counter poverty and improve wellbeing for this group.

Poverty and wellbeing among older people have been widely explored in developed countries, where concerns about continued and adequate pension, healthcare and social care provision are current policy topics (Burholt and Windle, 2006; Demakakos et al, 2010; Kaneda et al, 2011; Pedace et al, 2010; Price, 2006; Zaidi et al, 2006). However, the largest absolute numbers of older people are currently found in developing countries, where there are also higher rates of poverty; the demographic outlook for this century is that the number of older people in these countries will increase substantially (UNFPA and HAI, 2012). In sub-Saharan Africa (SSA), the number of people aged 50 and over is predicted to rise from 73 million in 2006 to almost 272 million in 2050 (Velkoff and Kowal, 2007:4). These countries are not currently experiencing *demographic ageing*, in that the older age group will become a greater proportion of the population and increasingly dependent on the working-age

population. However, there are still challenges associated with the *individual* process of ageing which is occurring among greater numbers of older people alongside pressing development issues (Aboderin, 2012; MGCSD, 2009). The United Nations (UN) has suggested that in countries where poverty is endemic, as in many SSA countries, “persons who survive a lifetime of poverty often face an old age of deepening poverty” (2002:29). Yet despite research which focuses on poverty in general in SSA (Batana, 2013; Davids and Gouws, 2013; Pozzi and Robinson, 2007), relatively little attention has been paid to poverty and wellbeing among *older people* in this region, in the literature and also in policy terms.

It has been argued that the dearth in research on older people has been due to the prioritisation of other vulnerable groups within SSA such as children, women of childbearing age and those affected by HIV/AIDS (Velkoff and Kowal, 2007). Yet, there is a need to consider the situation of older people, who also constitute a vulnerable group. The incidence of poverty among older people in SSA has been shown to be disproportionately high compared with other age groups (UN, 2009b; KNCHR, 2009; WBPA Kenya, 2009). In Ethiopia, analysis of poverty at the country level found that households with older heads were poorer than households with working-age heads (WBPA Ethiopia, 2005). In addition, studies have shown that improving the situation of older people through poverty-reduction mechanisms, such as cash transfers, also mitigates the poverty experienced by other household members (Ferreira, 2006; Moller, 2011). As such, there is a strong argument for investigating poverty among older people in this region in greater depth, and establishing what policy initiatives could help to reduce the poverty of older people directly, as well as other household members indirectly.

Existing research on poverty among older people in SSA has tended to focus on those older people living in rural areas, as these older people are deemed to be ‘left behind’ by their adult children who have migrated to urban areas in search of employment (Ondigi and Ondigi, 2012; MGCSD, 2009). Although the focus on rural poverty among older people is of great importance in order to ensure that they are provided for, it is also essential to highlight that older people in urban areas can face a variety of challenges and problems. Older people in rural areas may rely on agricultural production for a livelihood but in the urban cash economy, it is more difficult to substitute home produced food for cash. Older people in urban areas can face economic difficulties due to a lack of regular income and they can also lose social networks and support infrastructure (UNFPA and HAI, 2012). It is therefore important to

consider the impact on older people of living in poverty in urban areas, particularly in low-resource settings.

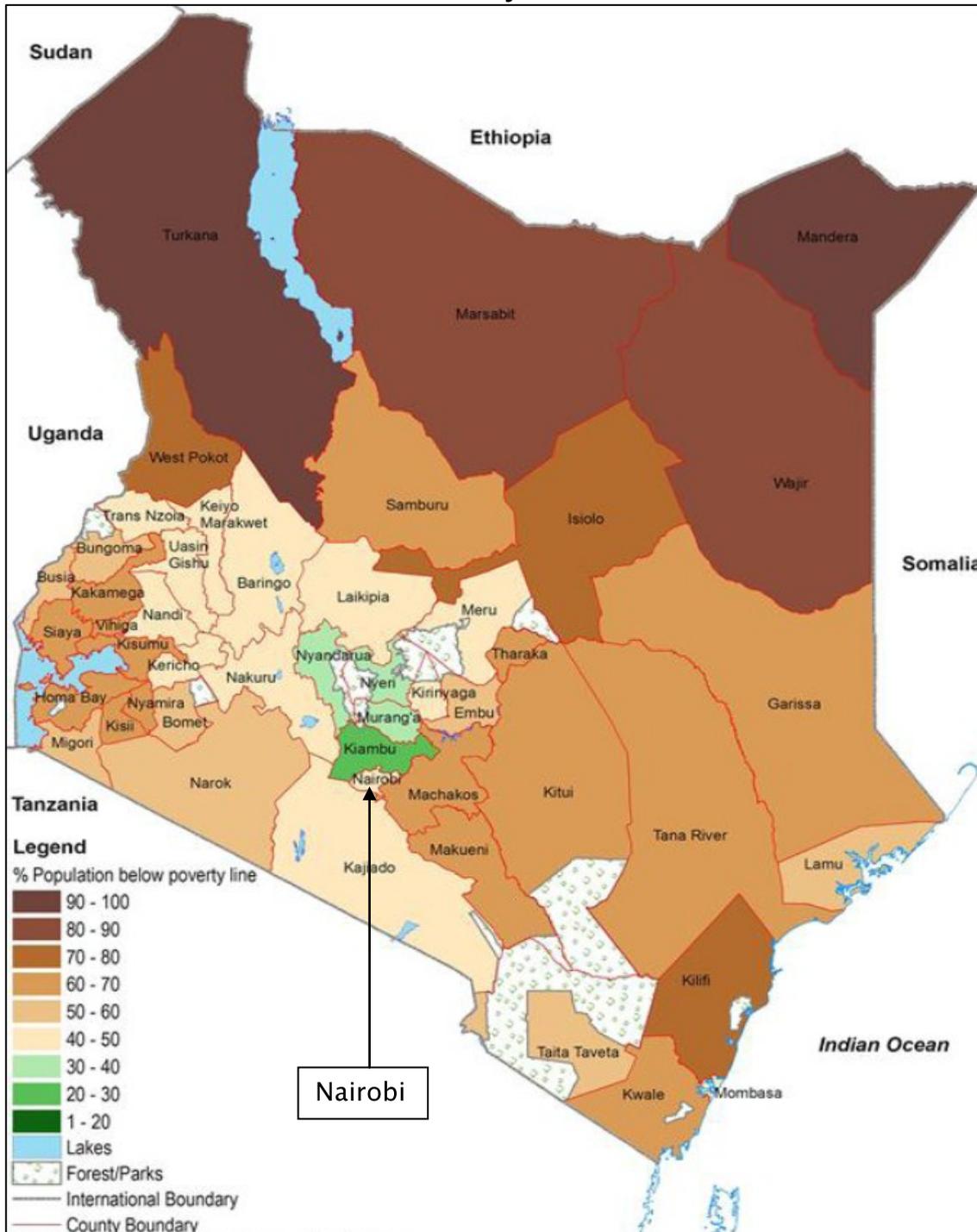
There is an assumption that urban spaces are wealthier, thus moving there makes an individual wealthier by default. However, evidence shows that in several cases people in urban areas are actually poorer than their rural counterparts (Narayan et al, 2000). Vast inequalities in wealth in urban areas can mask the reporting of poverty and this can lead to urban poverty being underestimated (Townsend, 1993; Satterthwaite, 2003). Urban poverty is characterised by an increased cost of urban living, fluctuations in income due to an informal economy, a lack of access to basic services such as water, sewage, health and education and a lack of tenure security in slum settlements (Baker and Schuler, 2004).

Figure 1-1 shows that poverty in Kenya is widespread with very high rates recorded in the North and Eastern areas of the country. Nairobi itself seems relatively wealthy from this map, in comparison to the rest of the country; 40 to 50 per cent of the population lives below the poverty line. However, this masks significant inequalities within the city. Rural poverty in Kenya is higher than urban poverty (49.1% compared to 33.7%); however, poverty in urban slum settlements in Nairobi is much higher than the rural estimate, i.e. at 62 per cent (WBPA Kenya, 2009). This is an average covering households of all ages. Given previous research that highlights older households may be more at risk of poverty than younger households (UN, 2009b; KNCHR, 2009; WBPA Kenya, 2009), it is important to establish levels of urban poverty among older people in SSA.

Evidence from World Bank Poverty Assessments in Benin, Uganda and Zambia indicate that older people in urban areas are particularly vulnerable to poverty (WBPA Benin, 2003:42; WBPA Uganda, 2006:31; WBPA Zambia, 2007:165). It has also been suggested that poor, urban elderly people in Uganda and Kenya reside in crowded slums (WBPA Uganda, 2006; MGCSD, 2009). The OECD has highlighted problems with poor living conditions in informal urban settlements, particularly the overcrowded and unsanitary conditions where the vulnerable structures are at risk of landslides and fires (2001:41). For older people in slum settlements, the unreliability of income sources and poor living environment can pose a threat to their health and wellbeing (UNFPA, 2002; Mugambe, 2006). The Kenyan government has highlighted that the needs of older people living in slums should be targeted by urban development policies and programmes (MGCSD, 2009). Evidence is needed to inform policy development and the actions to be taken so it is critical to establish how many older people are living

in poverty in the slums, what their levels of wellbeing are and what sources of support are relied upon in older age.

Figure 1-1 Map showing percentage living below the poverty line by county in Kenya



Source: Republic of Kenya, 2012:6

It is important to investigate the experience of individual ageing in a low resource setting in SSA, in order to inform appropriate policy interventions. This study uses data collected in two Nairobi slum settlements in Kenya. Widespread informal employment

in Kenya has led to few people saving for their old age, and consequently poverty among older people is prevalent (KNCHR, 2009). The government recently passed a National Policy for Older Persons and Ageing (NPOPA) (2009) and it has also implemented a cash transfer scheme for older people over 65 years of age, in an effort to reduce poverty among this group (MGCSD, 2009). Given the increasing recognition for older people at the national level in Kenya, this research will aid in informing the policy debate and interventions at a more local level, using methods which could also be applied elsewhere in the country and in the SSA region to further investigate poverty and wellbeing among older people in this context.

There is a need to consider the ways that poverty and wellbeing are measured among older people in low income urban settings. There has been a consensus among international organisations with an interest in poverty reduction that the experience of poverty does not just centre on money and that it is experienced on multiple dimensions (UNDP, 1995; OECD, 2001; World Bank, 2001). However, translating this multidimensional conceptualisation into an empirical measure can be challenging and, in some ways, reflects the data available for the research. This methodological consideration is important for examining poverty and wellbeing among older people in this study. Monetary indicators of poverty, mostly measured at the household level, will have shortcomings in measuring poverty for older people who can often live in multigenerational households (UNFPA and HAI, 2012). In order to gain an understanding of poverty and wellbeing for older people at the individual level, measurement should incorporate both monetary and non-monetary indicators (this is discussed further in chapters 2 and 3). Overlaps in dimensions of wellbeing can highlight those older people who are deprived; this will allow for better targeting of policies.

1.2 Aims of Research

The overarching aim of the PhD is to explore the complexity of poverty and wellbeing among older people in two Nairobi slum settlements, with the aim that the findings can impact poverty-reduction policies. The data used are collected from two slum settlements in Nairobi, and are from a Demographic Surveillance System (DSS) conducted by the African Population and Health Research Centre (APHRC) (discussed further in chapter five). The method of data collection gives a rich dataset with a variety of household and individual level information on older people, allowing for in-depth analysis of their poverty and wellbeing. This level of information is rare to encounter for

older people in SSA and offers a unique insight into the experience of poverty and wellbeing among older people in a low-resource setting.

The research questions revolve around the different ways of conceptualising and measuring poverty. These different methods of measuring poverty reflect the current international policy debates surrounding poverty. There has been a convergence among the approach of international agencies which now favour the conceptualisation of poverty as multidimensional (UNDP, 1995; OECD, 2001; World Bank, 2001). There is, however, a lack of progress in translating this conceptualisation into multidimensional measurement, especially among older people (Barrientos and de la Vega, 2011). A report by UNFPA and HelpAge International (2012) argues that the “individual process of ageing is multidimensional and involves physical, psychological and social changes” (2012:20). Yet little research has sought to analyse poverty and wellbeing across multiple dimensions for older people, particularly in slum settlements in SSA where poverty can be endemic and experienced on a variety of levels.

Several reports from international organisations as well as humanitarian stakeholders highlight the need to disaggregate information for older people by gender; especially in developing countries where relatively limited information exists about older people (UN 2002; UNFPA and HAI, 2012). Older women have been highlighted as being particularly at risk of poverty in later life as they can experience cumulative disadvantages in terms of income generation over the life course, resulting in poverty for them at older ages (UN, 2002). As such, this research disaggregates findings by gender in order to develop a fuller picture of poverty among older people in the two slums and to establish if there are disadvantages to being an older woman. This disaggregation of results will better facilitate policies to be targeted to ensure that those older people experiencing poverty will have the greatest opportunity to improve their circumstances.

The overarching research question for the first part of the research analysis chapter investigates the level of money-metric poverty among older people in the Nairobi slum areas, and how this varies by demographic and socio-economic characteristics. The research questions specifically addressed by the chapter are:

1. What are the main sources and levels of income and expenditure for households containing an older person in the two slum settlements?
2. What is the prevalence of absolute poverty for older people in the slums, by gender?

3. How does this absolute prevalence vary by demographic and socio-economic characteristics?
4. How do the characteristics of older people living in the poorest 20 per cent of households differ from those living in the least poor 20 per cent of households?

The overarching research question for the second part of the research analysis chapter is methodological. It focuses on how sensitive the absolute poverty estimates are to the assumptions regarding the adjustments made for different compositional needs at the household level. The research questions addressed in this chapter are:

5. How does the prevalence of poverty vary according to the equivalence scales used in the measurement process?
6. How do the adjustments made for household composition and economies of scale affect the relationship (established in chapter 6) that larger households have a higher likelihood of being in poverty compared to one person households?

The overarching research question in the third analysis chapter focuses on measuring different indicators within four dimensions of wellbeing – economic, dwelling, health and community participation – among older people in the slums. The research questions specifically addressed in the chapter are:

7. How does wellbeing vary according to the dimension it is measured on?
8. How do dimensions of wellbeing vary according to gender and age?
9. How do dimensions of wellbeing overlap?

The overarching research question for the final chapter of the thesis focuses on the sources of support available to older people in the two slum settlements and how these vary according to absolute poverty status and level of wellbeing experienced by the older person. The research questions addressed in the chapter are:

10. How do sources of support amongst older people in the slums vary by gender and poverty status?
11. How does support given to and received by older people relate to their levels of wellbeing?

The degree of information in the dataset related to older people and their experience of poverty and wellbeing is unusual for a poor urban setting in SSA. As such, the analysis

will constitute a valuable original contribution to scientific knowledge, adding depth and detail to the understanding of the experience of poverty and wellbeing for older people in this context. This research has potentially far-reaching implications in terms of informing government policy in Kenya, as well as NGO activities on the ground in the slums of Nairobi. It has the potential to improve the lives of older people in these slums and to highlight to the government and NGOs that current national policies and localised initiatives could better target older people in these areas. Although it is not nationally representative, it can be informative for research on older people in other slums in Kenya and more widely in SSA cities.

There is a methodological contribution relating to the alternative approach to measuring the complexity of wellbeing among older people; this can be used to guide work on wellbeing among older people in other poor, urban contexts in SSA. The challenges in ensuring a positive experience of individual ageing are set to intensify in the coming decades, as the absolute number of older people in SSA increases. It is important that the challenges associated with it are addressed through evidence-based policies. This research also aims to provide a foundation for further work in a region notable for extreme poverty and fragile infrastructures where other, arguably more pressing, issues have thus far taken precedence over the investigation of poverty and wellbeing among older people. However, increasing numbers of older people in poverty is a social phenomenon that will impact on SSA in this century. The opportunity has arisen to take a step forward in examining the experiences of poverty and wellbeing among older people in this region and to ensure that policies and interventions can improve their circumstances.

1.3 Structure of Thesis

Following the introduction, chapter two examines the conceptualisations of poverty used in the literature and research to date and outlines how poverty is conceptualised for this study. The third chapter details the measurement issues for poverty and states how poverty is measured in this study. The fourth chapter discusses the study context focusing on ageing in Kenya, poverty among older people in Kenya and being older in Nairobi slums. The fifth chapter explains the data and methods utilised in this study, discussing the complexities of the data used, the quality of it and the limitations. The variables used in the analyses are discussed, as well as the methods used to analyse the data.

The first chapter of analysis (chapter six) calculates money-metric information for households containing older people within the two slums. Equivalised monthly income and expenditure details are produced and compared. The expenditure information is then used to generate an absolute poverty rate in the slums which is comparable to the national poverty line constructed by the Kenya National Bureau of Statistics (KNBS). Expenditure quintiles are also generated to explore the relative poverty among older people in the slums. This section explores how the characteristics of older people living in the poorest 20 per cent of households differ from those living in the least poor 20 per cent of households.

Chapter seven focuses on the poverty estimate produced in chapter six, particularly the relationship between poverty and household size. It acknowledges that poverty estimates can differ according to the assumptions adopted by the researcher in applying an equivalence scale. This chapter presents sensitivity analyses to demonstrate how variable the poverty estimate is and to establish whether the strong positive relationship between poverty and household size holds for different equivalence scale assumptions.

The third research analysis chapter (eight) focuses on the multidimensional measurement of wellbeing across different dimensions for older people in the two slums. It discusses how deprivation varies across the different dimensions, particularly in terms of gender and age. It further explores the complexities of multidimensional wellbeing by looking at how the dimensions overlap.

Chapter nine investigates sources of support for older people in the two slums in relation to their gender, absolute poverty status and their experience of wellbeing across the four dimensions. Sources of support for older people are detailed to emphasise different support mechanisms utilised by older people. Chapter ten (Discussions and Recommendations) then summarises the results of the study, highlights limitations of the analysis, recommends ways in which the results can impact on policies and suggests future directions for research that could build on this study.

2. Conceptualising Poverty

This chapter will look at the different conceptualisations of poverty and wellbeing. It will discuss how poverty and wellbeing can be conceptualised in relation to basic needs or more widely, to incorporate other dimensions. It will also look at the characteristics of older people which are associated with these concepts as well as the sources of support older people utilise to reduce poverty and improve wellbeing. The chapter will explore the importance of conceptualising poverty and wellbeing in relation to the context in which it is being studied. The chapter will finish by outlining a conceptual framework reflecting how poverty and wellbeing is conceptualised in the existing literature and discusses how this can be applied to the study of poverty and wellbeing among older people in the two slum settlements. This framework will guide the analysis and interpretation of the research questions.

2.1 Introduction

Conceptualising poverty and wellbeing is challenging as the definitions and meanings surrounding these terms are widely contested. They can constitute a wide range of factors, affecting many facets of life, which makes it inherently problematic to conceptualise (Spicker et al, 2006). The two terms, poverty and wellbeing, are often used interchangeably with poverty status impacting on an individual's wellbeing (Haughton and Khandker, 2009). In this study, the terms reflect separate aspects of the analysis. Poverty is focused on analysing basic needs whereas wellbeing incorporates a wider definition that analyses other dimensions, as well as basic needs. The different conceptualisations of these two terms are further discussed in sections 2.2 and 2.3.

Any conceptualisation must be informed by the context being studied. The research questions measure the prevalence of poverty and the overlaps of various dimensions of wellbeing among older people in two Nairobi slum settlements. Through the conceptualisation and measurement of poverty and wellbeing, the results can then inform policies aimed at reducing poverty and improving wellbeing. However, there must be a consideration of how these terms can be conceptualised in this context and these different conceptualisations are linked to residing in a slum setting and being an older person. These linkages will be further explored in the following sections.

2.2 Meeting Basic Needs

The absolute definition of poverty centres on the idea that there is a fixed minimum level of basic needs that a person requires in order to sustain life. This minimum level is linked to the monetary resources a person has, as the aim of this conceptualisation of poverty is to determine the number of people who cannot purchase or consume the fixed minimum (Alcock, 2006; Falkingham and Namazie, 2002). These basic needs are represented by a basket of goods; an individual is in poverty if they cannot afford this (Baker and Schuler 2004; Spicker, et al., 2006).

The contents of a basket of goods are the subject of much debate. Originally, this basket, proposed by Rowntree in the early twentieth century, consisted of the basic amount of food an individual needed in order to function as an effective worker (Glennerster et al, 2004). These rations formed the basis for the household budget and any family falling below the income level needed to purchase them was considered in poverty. However, as the analysis of poverty has become more international, there have been variations in these notions of basic needs and a basket of goods to reflect international and national conceptualisations of what people need to survive. The methods used to measure basic needs are further explored in section 3.2.3.

This absolute conceptualisation dictates that if policies were implemented which allowed all people in poverty to afford what they needed to survive, poverty would be eradicated. This conceptualisation of poverty is widely used in international targets for reducing poverty. In September 2000, the UN coordinated world leaders to pledge to encourage development and set out targets for this to be achieved by 2015; these were the Millennium Development Goals (MDGs). The MDGs were designed to improve the lives of millions of people worldwide. The eight goals cover a range of aspects related to poverty with the first goal focusing on eradicating extreme poverty and hunger by: reducing by half the proportion of people living on less than a dollar a day; achieving full and productive employment and decent work for all, including women and young people; and reducing by half the proportion of people who suffer from hunger (UNDP, 2012:online). A cut-off line is used of the minimum amount people need to survive, \$1 dollar per day, and encourage countries to implement policies which would ensure that people have this amount of money.

The scale of poverty in developing countries has been highlighted as an important consideration when conceptualising poverty and wellbeing. The absolute number of people living in poverty in these countries can be very large (Donkor, 2002; Townsend,

1993). As there are so many people in poverty, the poverty definitions tend to address fundamental sustenance for an individual and focus more on whether the basic needs for an individual are being met (Spicker, et al., 2006). Previous studies which have looked at poverty among older people in SSA have also focused on using an absolute approach (Kakwani et al, 2006; Kakwani and Subbarao, 2007). Absolute poverty in the study sites in Nairobi is high at 62 per cent (WBPA Kenya, 2009:59). It is therefore important to establish how many older people are not able to meet their basic needs in this context.

The absolute approach offers a straightforward way of conceptualising poverty however it has been argued that it is too technical with too much focus on low income whereas an alternative approach, relative poverty, focuses on the “conditions induced by particularly low levels of income” (Townsend, 1993:35). Relative poverty involves defining poverty in relation to an average level in society with a comparison made between the standard of living of those who are deemed to be poor and the standard of living of those who are not; as such, it goes beyond physiological needs (Alcock, 2006; Falkingham and Namazie, 2002). Its premise is that people in poverty are unable to participate in society in the customary way that other people do. It focuses more on inequality as there will always be people who are poor in comparison to others, regardless of their basic needs being met. It therefore encourages policies aimed at the redistribution of wealth among the population as opposed to policies aimed only at increasing incomes, which are propagated by the absolute stance.

The relative approach to conceptualising poverty has been adopted in policies tackling poverty in countries such as Britain (Townsend, 1993) but it has been suggested as a less applicable approach in low-income countries. If absolute poverty is the social norm, then the absolute approach of conceptualising and measuring poverty is acceptable (Falkingham and Namazie, 2002). However, it is also important to consider the distribution of people in relation to whether their basic needs are being met. There may be large numbers of people within the slums who are not meeting their basic needs but within this group, there may be people who are having greater difficulty in achieving this and who are living in extreme poverty. Extreme poverty is a state where people are surviving on substantially less than the perceived minimum for subsistence (Spicker, et al, 2006). These people may need to be specifically targeted by policies to ensure they can satisfy their basic needs. As such, it is important to conceptualise poverty not only in terms of whether an older person’s basic needs are being met, but how far away they are from having their basic needs met. The fourth research question explores this further.

2.3 Conceptualising Other Dimensions of Poverty

It is important to ensure that basic needs are met for older people in the two slum settlements; however, there is a consensus that the conceptualisation of poverty should move beyond this narrow definition and encompass other dimensions that give a wider understanding of poverty (Alcock, 2006; Falkingham and Namazie, 2002; World Bank, 2001; UNDP, 1995; OECD, 2001). This section gives consideration to a variety of concepts which are multidimensional in nature and which can be closely associated with multidimensional poverty. It will firstly discuss multidimensional poverty, followed by the multiple deprivation approach, social exclusion, the capabilities approach and, lastly, wellbeing. The discussion will focus on how conceptually similar these different approaches can be and will highlight why wellbeing and deprivation have been selected as the best concepts to further explore wider dimensions related to poverty among older people.

Multidimensional poverty aims to combine a variety of indicators, monetary and non-monetary, in order to assess poverty across different dimensions (OECD, 2001; Alcock, 2006). The UNFPA and HelpAge International report on global ageing (2012) highlights the need to focus on multidimensional poverty that is linked to low income, lack of pension benefits, low literacy, poor health and malnutrition (2012:41). Multidimensional poverty is also better suited to the study of older people in developing countries as monetary indicators are potentially misleading when studying households containing older people where:

“Inequalities in power and influence within the household complicate inferences of individual wellbeing from household income or expenditure” (Barrientos and de la Vega, 2011:4)

Barrientos and de la Vega (2011) highlight that social pensions aimed at improving the living standards of older people may be given to other household members by altruistic grandparents or may be forcibly taken from them. As such, monetary household poverty may not accurately reflect poverty among older people. The multidimensional approach allows for the examination of the different dimensions to gain a broader picture of poverty at older ages.

Closely linked to the idea of multidimensional poverty is the concept of deprivation. Deprivation is the lack of socially perceived necessities and it is being deprived of these necessities which lead to poverty (Bradshaw and Finch, 2003). A study of older people in an urban area of China suggested that deprivation can provide evidence to

validate the existence of poverty (Saunders and Lujun, 2006). The authors also tie deprivation to exclusion, suggesting that there is a need for wider considerations of how poverty can impact on poor outcomes in life; deprivation and social exclusion are both connected to these poor outcomes (Saunders and Lujun, 2006). Older people can be deprived on a variety of indicators that are not just connected to money but more widely, they can experience material deprivation, deprivation in relation to their health as well as social exclusion from close networks and wider communities (Saunders and Lujun, 2006; Barrientos and de la Vega, 2011). The different indicators of deprivation that can be applicable to older people, and that interact with their monetary poverty, demonstrate the need to extend the traditional poverty concept.

As has been highlighted, social exclusion is another concept closely connected to poverty; poverty is seen as narrower and relating directly to economic resources whereas social exclusion is a wider concept, dealing with integration into society (Spicker, et al, 2006). The concept itself is more closely associated with research in developed countries, originating from studies connected to poverty, particularly in Europe in the 1990s (for further reading see Lenoir (1974), Townsend (1979), Silver (1994), Peace (2001)). However, it has received increasing recognition in research in developing countries (Saunders and Lujun, 2006). The UNFPA and HAI report (2012) on global ageing also suggests that social exclusion is an important dimension to explore for older people.

Social exclusion is closely connected to multidimensional poverty and deprivation. It has also been utilised in both the developed and the developing country context by Schroder-Butterfill and Marianti (2006) in their study of vulnerability among older people in the UK and in Indonesia. They conceptualised social exclusion as having low income, infrequency of social contacts, non-participation in social and political activities, poor health and low quality of environment (2006). These manifestations of social exclusion are closely connected to manifestations of multidimensional poverty. Scharf and colleagues (2005) studied social exclusion in England and focused on five domains: exclusion from material resources, social relations, civic activities, basic services and the neighbourhood. Interestingly, the authors used Evandrou's (2000) index of multiple deprivation as one measure of exclusion from material resources indicating how closely related these concepts are. Saunders and Lujun (2006) also use the two terms in an inter-connected way when looking at multidimensional hardship among older people in urban China.

Barrientos and de la Vega (2011) have highlighted how multidimensional poverty can be linked in to Sen's capabilities approach. This focuses on the idea that poverty encompasses a lack of capability on the part of the individual (Sen, 1983). Sen (1993) presented a differentiation between the functionings and capabilities of a person.

"Functionings represent parts of the state of a person – in particular the various things that he or she manages to do or be in leading a life. The *capability* of a person reflects the alternative combinations of functionings the person can achieve, and from which he or she can choose one collection" (1993:31)

Sen (1993) argues that there are a variety of functionings which range from an individual being adequately nourished and in good health, to more complex notions of achieving self-respect or being socially integrated. There is much differentiation within these functionings and individuals themselves will value and conceptualise each one differently. Haughton and Khandker (2009) have suggested that this is a broad approach and Sen himself offered some loose ideas revolving around health and education but fell short of determining the concept in terms that are measurable. Despite these shortcomings, the capabilities approach is used by the United Nations Development Programme in their Human Development Report (Nussbaum, 2006).

Lloyd-Sherlock (2002) highlights the work of Nussbaum (2000) which looked at how the capabilities approach can be applied to women; he argues that this approach could similarly be applied to older people. The capabilities approach takes the unusual step of not focusing on the outcome of an indicator measuring wellbeing but instead looks at how capable a person is and "what they are actually able to do or be" (Nussbaum, 2000:12). The focus on the abilities of people to be able to do things can be argued to be conceptually similar to the idea of active ageing. The active ageing notion propagates that policies should focus on encouraging older people to improve their own lives as opposed to perpetuating a culture of dependency whereby resources are transferred to older people (Lloyd-Sherlock, 2002). Lloyd-Sherlock (2002) suggests a capabilities approach is a useful method for exploring the dependency linked to older age as well as the contributions that older people make to society; this ties into ideas on multidimensional poverty and exploring how wellbeing can be perceived across many domains.

There is a consensus within international organisations that poverty is closely connected to wellbeing and is when people are deprived of wellbeing or are unable to meet living standards (World Bank, 2001; UNDP, 1995; OECD, 2001). The idea that

wellbeing reflects the ability to achieve a good standard of living can also be linked to how much an individual has command over their resources (Haughton and Khandker 2009). Wellbeing can thus be linked closely with concepts of multidimensional poverty, deprivation, social exclusion and capabilities. The World Bank defines poverty in terms of wellbeing with poverty being the “pronounced deprivation” of this (World Bank, 2001:15). The World Bank has sought to characterise poverty not only in terms surrounding material deprivation, which focuses on income or consumption, but also in terms of health, education and, more broadly, vulnerability and exposure to risk. There is a suggestion that the various dimensions of poverty impact on one another and can influence each other – for example, the improvement of health status leads to improved well-being but also better earning potential (World Bank, 2001). As such, there are advantages to the more holistic approach as it gives a better perception of how people are living overall.

There are various arguments as to why this multidimensional wellbeing approach is a good concept for older people. Barrientos and de la Vega (2011) have suggested that the multidimensional approach is especially relevant for older people due to the “apparent divergence of subjective and objective wellbeing indicators in later life” (2011:3). This approach suggests that life satisfaction can increase as people age whereas their conditions of daily living can decline. There is also policy relevance in exploring wellbeing among older people. Kaneda and colleagues (2011) created an index of wellbeing in older populations. They have highlighted that the change in the size of older populations will create challenges for health, services, family relationships, social security and pension programmes (2011); this suggests that a wellbeing measure is needed to encompass all of these dimensions, to ensure that research on older people can have a policy impact for more than just monetary-related interventions.

Although this older group may share a characteristic, in that they are of a certain age, they remain a heterogeneous group with different experiences of wellbeing and different needs; a diverse concept is required to measure this (Lloyd-Sherlock, 2002). It is important to be able to compare the relationship between indicators showing differing ends of the wellbeing spectrum, to better understand the complex lived experiences of older people. In addition to this, older women can have experienced a lifetime of exclusion from the labour market (UNFPA and HAI, 2012); as such, a multidimensional approach is more appropriate measuring their wellbeing as it encompasses a variety of dimensions that will be more applicable for them.

The evidence covered in this section strongly supports the use of a multidimensional measure to explore poverty for older people in the two slum settlements. A variety of concepts have been explored which relate to one another. Although concepts such as deprivation and social exclusion can be utilised to signify how a person is poor on a certain dimension, the overall effect is to present a picture of an individual's wellbeing and this is the concept that will be focused on in this study. The capabilities approach is the exception here as it uses a slightly different methodology to frame its argument; this focuses on the capability of the individual to function in society" (Haughton and Khandker, 2009:1). This study will not measure wellbeing in this way but will focus on the dimensions of poverty which can be measured directly. Wellbeing is combined with deprivation to enable an easier interpretation of the dimensions measured; this method has been utilised in a previous study on wellbeing among older people in urban areas of South Africa and Brazil (Barrientos and de la Vega, 2011). Each indicator and dimension will measure how deprived the older person is; the differences in deprivations by dimensions as well as the accumulation of these multiple deprivations will then indicate the overall wellbeing of the older person. Wellbeing is important in giving researchers an idea of how deprived older people are and how they cope with difficult situations and personal challenges (Demakakos et al, 2010); this approach is particularly relevant for looking at older people in the slum settlements and for informing policies to improve their wellbeing.

2.4 Dimensions of Wellbeing

The previous section established that wellbeing is the method used to study multidimensional aspects of the lives of older people. A further part of the conceptualisation of wellbeing is to consider the various dimensions that can constitute wellbeing among older people. Dimensions can be referred to as indicators in some studies, with a range of indicators selected representing different areas of wellbeing but viewed as one group (Barrientos and de la Vega, 2011). Other studies conceptualise wellbeing as constituting a variety of dimensions which, in turn, are made up of a set number of indicators (Kaneda et al, 2011; Saunders and Lujun, 2006; Fillenbaum, 1984; Demakakos et al, 2010). The latter approach is favoured in this study as it allows for indicators to be grouped according to key areas of an older person's wellbeing, giving a more intuitive and in-depth assessment of wellbeing.

A challenge with multidimensional wellbeing is that some dimensions can be seen as defining wellbeing whilst simultaneously also explaining wellbeing (Ateca-Amestoy and

Ugidos 2013). As such, some dimensions are discussed in this section on wellbeing dimensions but may also be discussed in further sections on characteristics of older people associated with poverty and wellbeing as well as sources of support for older people. There is no clear method for calculating which whether the area of interest constitutes a dimension of wellbeing or if it explains wellbeing or if it is a source of support associated with wellbeing. As such, the decision as to which category an area of interest falls into is justified using existing literature on wellbeing among older people as well as discussions with key stakeholders. This justification is found in section 8.2.

This next section explores the different dimensions which have been used to explore wellbeing among older people in particular, as well as in wider studies on wellbeing. The section discusses a variety of dimensions which are applicable at both the household and individual level. The discussion focuses on the dimension level and refrains from looking at the individual indicators which can constitute dimensions as these can be many in number and will be limited by the data available. The justification for the indicators used to represent the dimensions for the measure of wellbeing used in this study is found in section 8.2.

2.4.1 Economic Dimension

The multidimensional wellbeing of older people expands on the basic needs conceptualisations of poverty which revolve around whether basic needs are met. Other factors can be considered which better represent the overall wellbeing experience of older people. However, the economic dimension of wellbeing for older people remains an important one and can combine a variety of different indicators. **Absolute and relative** conceptualisations of poverty can be incorporated into a multidimensional measure of wellbeing of older people (Kaneda, 2011); however, other indicators can be informative as to the economic wellbeing of older people. Wealth indices can provide information on the long-term wealth of older people. In addition to this, subjective indicators of poverty can be important in demonstrating the view of the older person as to their own poverty experience. Employment can also be used to indicate economic wellbeing for an older person. These three indicators will be discussed in the following section.

A **wealth index** can be used as a measure of poverty for older people (Numbissi, 2004). A wealth index is a proxy measure of poverty in the absence of detailed income and expenditure information for the household (Filmer and Scott, 2012). It is also indicative of long-term wealth accumulation. The wealth index ranks households on a

scale incorporating the goods they own, the quality of their dwelling and their access to basic services. An index can be compiled using methods such as principle component analysis (PCA) with scores assigned to items which are standardised to create the wealth index; quintiles can be taken from the distribution to determine the level of wealth in the household (Rutstein and Johnson, 2004). The wealth index can also be used as an indicator of economic wellbeing for older people alongside other dimensions.

A study by Zimmer (2008) looks at how a wealth index is associated with health for older people in rural Cambodia. This index combined assets as well as structural components of the household (whether it had a modern toilet or floor) and found that doing poorly on the wealth index was associated with having the most health problems for older people. Another study among older people in South Africa created an index using household characteristics, household goods as well as access to infrastructure, such as electricity and clean water (Noumbissi, 2004). This study argued that poor living conditions – reflected in the index – could have a negative impact on the health of older people. These two studies show the linkage between scoring poorly on household wealth indices, which reflect the living conditions of the older person, and adverse health outcomes. It can therefore be argued that household information representing the wealth of the older people should be considered as a wellbeing dimension, as it can impact on other dimensions of wellbeing.

Another indicator of economic wellbeing is **subjective poverty**. This indicator is useful for the multidimensional approach as it can combine “the ‘objective’ circumstances of a person and their ‘subjective’ perception of their condition” (McGregor, 2006:3). The combination of objective and subjective indicators is important at older ages as it has been suggested that there is a divergence between these; older people may feel more positive about their situation while also experiencing declining standards of living (Bradshaw and Finch, 2003; Barrientos and de la Vega, 2011). This divergence supports the use of a multidimensional approach to the study of wellbeing.

Economic wellbeing can also be indicated by whether the older person is employed. This indicator is controversial in the literature as **employment** can be viewed as either positive or negative. In a context where social protection is limited, having employment could be seen as essential for economic wellbeing as poverty in old age can be associated with losing the capacity to work in later life (Masset and White, 2003; Najjumba-Mulindwa, 2003; UNFPA and HAI, 2012). Research has shown that the labour force participation rate of people over the age of 65 in Africa is high, at 40 per

cent in 2009 compared to 25 per cent in Latin America and the Caribbean and 24 per cent in Asia (UN, 2009b:42). The Kenyan government has highlighted the importance of having employment in later life for older people in order to ensure that they are provided for (MGCSD, 2009). The National Policy on Older Persons and Ageing (NPOPA) has highlighted the difficulty for older people in terms of finding employment in urban areas:

“In urban areas, older persons lack resources, skills and social support and sometimes in poor health become unemployable and end up as destitute in the slums within the informal settlements” (MGCSD, 2009:32)

The importance of employment for older people in the slums has been highlighted by workers in a Slum Care Home (2009) who suggest that a lack of employment is indicative of deprivation. As such, this is an important indicator of economic wellbeing for older people.

2.4.2 Housing Dimension

A lack of, or restricted access, to housing has been highlighted as an important indicator of poverty among older people (UNFPA and HAI, 2012). Indicators of a poor housing situation can incorporate the **assets** accumulated over a long-term period, **access to basic services and infrastructure** as well as information on **the quality of the dwelling**. Although the wealth index is a useful way of incorporating all of the household information of an older person into one measure (as discussed in section 2.4.1), it is not always a suitable method to use. If there are a variety of dimensions being looked at to define an older person’s wellbeing, the use of an index which incorporates a great deal of information into a single indicator could risk loss of detail of the separate pieces of information of assets, goods and access to services. As such, it may be more appropriate to look at combinations of these areas of household information, or focusing on particular indicators of housing, without transforming them into an index.

A multidimensional wellbeing study looking at older people in Brazil and South Africa used household goods and access to water as indicators of wellbeing; these indicators contributed to an overall score of wellbeing (Barrientos and de la Vega, 2011). Access to water and the state of dwelling, in relation to the low quality materials used to construct it, were also considered important in a study of multidimensional poverty among older people in Latin America (Gasparini et al, 2010). A study looking at multidimensional deprivation in urban China looked at inadequate housing facilities as

a dimension (Saunders and Lujun, 2006). This dimension covered access to services, such as piped water and gas, as well as characteristics of the household and ownership of household goods. The authors found that 35 per cent of the older people had severe housing problems; this dimension also contributed to multiple hardships for some older people. These findings indicate that household information should be included as a dimension of wellbeing, but not necessarily through the over-complication measurement of a wealth index.

There are flaws associated with these different aspects of household information, particularly when used together in an index. There is a tendency when constructing an index to assign equal weights to each item but it is unlikely that they are all equal to one another; the ownership of a radio does not equate to having safe drinking water (Falkingham and Namazie, 2002). There are other limitations in that no account is taken of the quality of the assets and the access to utilities such as electricity and drinking water does not consider the reliability of the service (Falkingham and Namazie, 2002). If services are poor quality and subject to frequent failure (i.e. electricity power-cuts), then having access to them does not necessarily improve a person's wealth status and they are likely to still reside in poverty. However, despite these flaws, household information is still valuable in regards to indicating the quality of the dwelling and the long-term wealth of household members. Additionally, when household information is combined with other wellbeing dimensions, as well as money-metric measures, it has the advantage of being able to generate a wider and more detailed picture of wellbeing across a range of dimensions.

Another aspect of poverty connected to housing is the **personal security** of the older person (UNFPA and HAI, 2012). A study looking at wellbeing and deprivation among older people in South Africa and Brazil (Barrientos and de la Vega, 2011) incorporated feelings of personal security into the wellbeing index. If an older person did not feel secure in their home or in their neighbourhood, then they are deprived of wellbeing in terms of their housing and this was highlighted as particularly important for older people living in the urban areas (Barrientos and de la Vega, 2011). Another study looking at social exclusion among older people in deprived neighbourhoods in three English cities (Scharf et al, 2005) used an indicator of personal security to signify the exclusion older people felt from their neighbourhoods. If the older people felt unsafe moving around their neighbourhoods, they were deemed to be excluded from their neighbourhood (Scharf et al, 2005). This issue has been highlighted in the slums by care home workers who note that older people can feel less secure in the slum

environment (Slum Care Home, 2009). As such, personal security may be important when considering the wellbeing of older people in urban areas.

2.4.3 Health Dimension

As has been highlighted in the previous section (2.4.2), quality of housing has been found to be associated with health among older people (Zimmer, 2008; Noubbissi, 2004). Health has also been associated with being in poverty in SSA countries (Kakwani et al, 2006; Najjumba-Mulindwa, 2003); therefore health constitutes another dimension of wellbeing for older people. There is a correlation between health and wealth with the poor less likely to live long, healthy lives (Barrientos, et al., 2003). It is important to note that there is a double burden for older people in SSA countries in terms of the health problems which accompany old age competing with continuing high rates of communicable disease (McLigeyo, 2002; MGCSD, 2009). As health is connected to poverty and to being older, it is important to consider this as a dimension of wellbeing.

Health is also connected to other dimensions of wellbeing. In Ethiopia, the World Bank Poverty Assessment found that “poor health among older workers can negatively impact labor productivity and reduce lifetime income” (2005:183). The World Bank Poverty Assessment in Malawi (2007) found that physical ability can be compromised at older ages “making households with older heads more vulnerable to health deterioration and potential economic loss” (2007:67). Other multidimensional wellbeing and poverty conceptualisations for older people have highlighted the importance of health as a dimension, with indicators focusing on health status as well as access to, and affordability of, healthcare (Barrientos and de la Vega, 2011; Gasparini, 2010; Kaneda, 2011; Saunders and Lujun, 2006; Srivastava and Mohanty, 2012).

Research investigating the health status of grandparents in Kenya (aged 65 to 85 years) explored the different characteristics associated with health (Ice et al, 2008); the findings of this research suggest that a multidimensional approach to wellbeing is appropriate. It found that females had a greater number of health complaints and lower quality of life than males, and that increased age was connected to poorer health. A higher socioeconomic status was also associated with better health, reiterating the link between poverty and poor health. Interestingly, increased levels of social support were also associated with better general health and physical functioning. The association between socioeconomic status and health as well as social support and health indicate that these separate aspects of older peoples’ lives can overlap, hinting at the

importance of looking at multidimensional wellbeing as a way of analysing these interactions between dimensions.

Another important aspect related to health is whether or not older people are getting enough to eat. Qualitative work to find out what it means to be poor to Kenyan people was undertaken by the government; the results showed that for both urban and rural communities, poverty was closely linked to food consumption (WBPA Kenya , 2009:15). The Kenyan government highlights food for older people in the NPOPA and suggests that “poverty in old age is both a cause and effect of food insecurity and malnutrition” (MGCSD, 2009:24). As such, food is important to consider for older people in Kenya. In addition to this, there is an overlap between food and other dimensions of wellbeing; a lack of access to food and adequate nutrition can impact on older peoples’ income generating abilities (MGCSD, 2009). Food can interact with employment to impact on older peoples’ wellbeing highlighting the need to consider this factor in a wellbeing measurement.

2.4.4 Social Participation Dimension

Another important dimension of wellbeing for older people is their level of social participation. This dimension can incorporate a variety of different measures reflecting different ways of conceptualising wellbeing. The weakness or absence of household and social networks contributes to poverty and vulnerability for older people (Barrientos, et al, 2003). Existing research on older people in the slums has explored social interaction and community participation (Kodzi et al, 2010). Existing research of older people in South Africa and Brazil has indicated that social participation is an important dimension of wellbeing (Barrientos and de la Vega, 2011). Kaneda and colleagues’ index of wellbeing for older people also highlights the importance of social connections and activities as a dimension of wellbeing (2011). As such, a measure of social participation of older people in the slums will be important to consider.

The difficulty in utilising social networks to explore poverty is that there is no direct relationship in terms of causation. Social networks are often propagated as a tool to combat poverty among older people so they cannot be used as an indicator of poverty. However, older people in Ghana have highlighted that someone with money but no children is poor (Barrientos, et al, 2003). This then leads one to question the traditional assumptions surrounding household or social networks and suggests that a lack of these in older age can mean that old people are poor in this dimension. There is a close relationship between household and community support in later life and the

welfare of the older person; as such, the effects of these networks on poverty cannot be understated (Barrientos, et al, 2003). These complexities in terms of how poverty is viewed by older people in sub-Saharan Africa highlight how poverty can be connected to household and social networks in old age and that this is important to consider further.

There are various ways in which the social participation of the older person could be conceptualised: as social participation in the form of an index with a variety of indicators making up the index (Barrientos and de la Vega, 2011); as social exclusion in that the older person does not participate socially or in relation to their community so is isolated and excluded (Scharf et al, 2005); it can also be viewed as how much an older person is part of their community through their contributions to informal financial support groups or their voluntary time for community projects (Saunders and Lujun, 2012). Asiyambola (2004) explored the link between social support networks and older people in an urban context (Ibadan) in Nigeria. Social support networks constituted the presence of household help as well as membership of community associations. The author found that there was a significant positive link between interaction with social support networks and household income for the older person. There was also a significant positive relationship between strong social support networks and the physical wellbeing of the older person. These results indicate that increased social interaction through support networks can have a positive impact on the poverty and health status of an older person in an urban SSA environment, indicating that this may be an important dimension to consider for multidimensional wellbeing.

2.5 Characteristics of Older People Associated with Poverty and Wellbeing

There are a variety of key issues in the debate on poverty and wellbeing in later life in developing countries. Many factors are connected to being in poverty at older ages in developing countries; these can include demographic characteristics, socio-economic characteristics and health-related issues. Some of these factors may be associated with higher levels of poverty and some may be associated with coping with poverty at older ages; some factors may be associated with both. The research questions in the first analysis chapter will explore the demographic and socio-economic characteristics associated with poverty among older people in the Nairobi slum settlements. The following sections in this chapter thus explore the factors associated with poverty and wellbeing among older people in developing countries in more detail and outline why

their consideration is important when examining poverty and wellbeing among older people in the slum settlements.

With the increase in numbers of older people in SSA, it is women who will be a larger share of the older population (HAI, 1999; McLigeyo, 2002). The Kenyan government has highlighted the difference in the gender ratio in Kenya as people age with women outnumbering men, especially among those 80 years of age and above; 121,000 women to 95,300 men (MGCSD, 2009:22). This female dominance of the older population is because women live longer and female widows outnumber male widows (UN, 2005). Although women will live longer than men, the UN (2002) has highlighted in the Madrid International Plan of Action on Ageing (MIPAA) that there is a **feminisation of poverty**, particularly for older women.

Poverty is associated with being an older woman for a variety of reasons. There is a disparity between the economic opportunities that men and women get over the life course, resulting in women being disadvantaged in old age; these range from interrupted work histories, lack of access to social protection and a lack of control over credit and land (UN, 2002; Vlachantoni, 2013). The limited formal employment opportunities as well as the disadvantages in ownership and assets among women in Kenya have also been highlighted by the government as increasing with age (MGCSD, 2009). The feminisation of poverty at older ages is a policy concern, particularly in countries with little formal safety nets for women in later life.

Contrasting evidence has indicated that in some contexts, older men are more disadvantaged than women (Knodel and Ofstedal, 2003; Aboderin, 2004b). Knodel and Ofstedal (2003) have suggested that sweeping general statements relating to disadvantages for females at older ages are based on presumptions as opposed to robust evidence. The Kenya National Commission for Human Rights (KNCHR) has highlighted that those older men without a family can be disadvantaged as older women have domestic skills and can be useful (2009). Knodel and Ofstedal (2003) suggest that research must move past generic assumptions about gender inequalities at older ages and focus on exploring the contexts that older people live in. Policies aimed at addressing poverty should consider the gender dimension but it is important that this gender dimension reflects the reality of the situation for older people in the research context.

People in the **oldest age** categories have been highlighted as particularly at risk of poverty in later life (UN, 2002). They can also have lower levels of wellbeing. A study in

the UK found that women aged over 75 years had particularly poor wellbeing with high rates of depressive symptoms, low life satisfaction, poor quality of life and high levels of loneliness (Demakakos, et al, 2010). A study in rural Tanzania found that people aged over 50 years reported less functional ability as the aged and this was particularly the case for women (Mwanyangala et al, 2010). A study in Uganda also connected more practical issues to being in the oldest age groups in that it is associated with a lack of employment opportunities as well as increased health issues and frailty (Najjumba-Mulindwa, 2003). As such, considering the impact that the age of the older person has in relation to their poverty is important, as the oldest old may demonstrate a specific group which need to be targeted by poverty-reduction interventions.

Marital status is associated with being in poverty and this is closely bound to gender as well. As was highlighted earlier, older women are more likely to be widowed due to their longer life expectancy and men's propensity to marry younger women (UN, 2005; MGCSD, 2009). The KNCHR (2009) highlights that older women can be doubly disadvantaged as they can be widowed but may also face a lack of property rights meaning that they can lose their home and thus face a greater risk of poverty. The MIPAA (2002) has highlighted the risk of poverty for women who are divorced, separated and unmarried as well as for households which are headed by females. Existing research on older people in the slums which looked at quality of life found that marital status was significantly associated with quality of life; older people in some kind of partnership were less likely to report poor quality of life, with separated or widowed respondents reporting significantly poorer quality of life (Kyobutungi et al, 2010). As marital status of older people has been connected to quality of life in the slums, it is important to consider this further when looking at poverty and wider dimensions of wellbeing.

Living arrangements of older people, in terms of household size and household composition, can be closely connected with economic status, especially in developing countries, and households containing at least one older person tend to be poorer than those without (Hosegood and Timaeus 2005; Barrientos, 2006; Ramashala, 2001). It has been suggested that co-residence with family may amplify the poverty of a household for older people and that there is increased vulnerability for a household with only older people and children (Hosegood and Timaeus, 2005; Barrientos, 2006); a composition that can be particularly applicable to Africa given the increasing role of older people as carers for dependent orphans of HIV/AIDS sufferers. In addition to this, findings from households containing older people in South Africa indicate that larger households have a stronger probability of being in poverty (Barrientos and Mase,

2010). Studies from developed countries have highlighted that older adults living alone may be particularly vulnerable to poverty, social isolation, adverse health outcomes, and mortality (Davis et al. 1997; Van Tilburg et al, 1998; UN, 2009b). These findings indicate that living arrangements can affect wider wellbeing.

There is a dichotomy in terms of defining whether living alone among older people equates to increased risk and vulnerability or to more independence and better living standards. Research in developed countries has suggested that separate living implies a certain degree of prosperity (Burch and Matthews, 1987). It has been suggested that a better economic status means that the older person has financial security and is able to maintain an independent lifestyle in their own household (Bicket and Mitra, 2009:1054; Hermalin et al, 1996:184; Palloni, 2000). Whether this is applicable in the context of the slums is questionable but there are suggested benefits to living alone. It can be seen as signifying less overcrowding, more privacy and control over the household (UN, 2005). As there are such differences in findings for how living arrangements of older people are connected to their poverty and wellbeing, it will be important to consider this in the analysis.

Education can be an important factor associated with poverty (UNFPA and HAI, 2012). The Kenyan government has highlighted that large numbers of people are reaching old age with few literacy and numerical skills (MGCSD, 2009). They suggest that this lack of education limits the ability of older people to ensure a decent livelihood. Conversely, however, Kakwani and colleagues (2006) found that working in old age was connected to education with those who were working more likely to have lower levels of education. This result may indicate that older people have not understood and utilised social protection mechanisms meaning that they risked poverty in old age and need to work to provide for themselves and reduce their poverty. The Kenyan government also highlights that the increasing use of technology in Kenya risks isolating older people, if they are not educated to use it; this could affect their wellbeing. A study from Kenya indicates that education level was significantly associated with quality of life; older people with no education or little education were more likely to report poor quality of life (Kyobutungi et al, 2010). There are varied relationships between education and poverty for older people with different findings according to different studies; however, the connection between education and poverty among older people is one that is important and requires further analysis.

HIV/AIDS impacts on poverty for older people through their caring responsibilities to infected family members and dependent children. Older people are relied upon to

provide care when HIV/AIDS has impacted on the family; studies found that HIV/AIDS orphans were increasingly likely to live with grandparents (WBPA Zambia, 2007; WBPA Malawi, 2007). This care provision can be associated with poverty because older people are looking after their grandchildren but are surviving without the support they would have traditionally received from adult children who have died from HIV/AIDS (WBPA Zambia, 2007). The loss of adult children to HIV/AIDS in the slum settlements has also led to concern among older people in terms of loss of material and social support from their adult children (Chepngeno-Langat et al, 2012). In addition to this, the actual caring process has been highlighted as depleting existing resources in the households as well as limiting the opportunities of the older people for income generating opportunities (MGCSD, 2009). As such, the caring status of an older person in the slums is important to consider when looking at factors associated with poverty.

In thinking about the wider wellbeing of older people, those older people in the two slum settlements who were directly or indirectly affected by HIV/AIDS (for example, through care-giving) reported worse health outcomes than those not affected, indicating the health burden placed on older people through interaction with HIV/AIDS (Kyobutungi et al, 2009). Additionally it is important to note the gendered nature of HIV/AIDS care giving among older people with older females more likely to take care of the infected adult children and orphaned grandchildren (UNFPA, 2002; WBPA Malawi, 2007). As gender and health are also associated with poverty, there could be an increased burden for older people who are female or in poor health and are also care givers. It is therefore important to consider all of these factors when investigating factors associated with poverty and wellbeing among older people in the slums.

2.6 Sources of Support for Older People in Developing Countries

There are a variety of sources of support in older age which can impact on the poverty of older people in developing countries. These can range from formal provision, such as state-funded social protection as well as support from NGOs and charities, to informal provision, such as community assistance and family support. These difference sources of support, and their association with poverty and wellbeing among older people, will be discussed in the following sub-sections.

2.6.1 Formal Support

Formal **social protection** can be an important source of support for older people. This form of provision aims to reduce poverty and ensure that older people are supported as they enter old age. The provision can take a range of forms but is usually discussed in relation to pensions for older people, whether contributory or non-contributory. It has been highlighted that contributory pension schemes tend to cover formal workers more so than those older people in informal sectors (MGCSD, 2009). This employment structure compounds the inequity in access to pensions as people who have spent their working life in the informal sector have been excluded from the regular income of the formal sector (MGCSD, 2009). As such, these people may have experienced poverty throughout their lives. This experience of poverty is then continued into older age as the exclusion from the formal sector has restricted the ability to save meaning the individual will have limited means to provide for themselves in old age as there is no social protection net to ensure their wellbeing.

In connection to this, where schemes are in place they tend to favour the better educated as pension schemes are usually aimed at formal sector workers which necessitates some kind of formal educational background (Palloni, 2000). This means that older people with lower levels of education are doubly disadvantaged as they are excluded from better paid, more secure jobs as well as the pension schemes which accompany them. This results in poverty not being just a working life experience but translating into an old age reality too which could have adverse effects for the wellbeing of poor older people, especially in a slum situation. In addition to this, higher education levels are also connected with being better prepared for older age; this may be due to increased knowledge and awareness of the need to save for later life (KNCHR, 2009). Education, pension receipt and poverty levels are thus closely linked. Gender and pensions are also linked in that women are more disadvantaged than men in pension receipt as a result of their exclusion from the labour market, due to care provision (Vlachantoni, 2013). This disadvantage can make them more at risk of poverty as they do not have this formal social protection mechanism to rely on. More could be done to address the awareness of pensions in SSA countries and to encourage more people to save for old age. A structural shift is also needed whereby women are given greater equality in pension coverage.

Recent developments have seen social pensions introduced in a number of SSA countries. Of the research which has been undertaken into social pension schemes in SSA, the impacts have been on reducing poverty and improving wellbeing for older

people have been assessed. The Swaziland Old Age Grant (OAG) was introduced in 2006 and research has since found that it has benefitted both the older person and the members of their household through reduced food insecurity and hunger with cash contributing to farming activities and easing financial difficulty (RHVP et al, 2010:3). The indirect effect of a social pension on other members of an older person's household has also been noted. In South Africa, the social pension scheme reaches 1.9 million older people and a further 8 million people through their household residence (Barrientos, 2006:19). This evidence is an example of how providing assistance to older people not only lessens their poverty but also has the indirect effect of assisting other groups in need.

The debate on social pension has focused on whether these should be means-tested or non-contributory. A study by Kakwani and Subbarao (2007) looked at pension simulations for 15 SSA countries and suggested that it would not be beneficial to have a universal social pension for all older people; it would be more effective to target some elderly, namely those who were most in need. Barrientos (2009) has gone slightly further and suggested that social pension schemes are not necessarily needed at all. He proposes that social assistance programmes in many countries operate with exclusions for older people and that if these were removed, older people would immediately start to see the benefits (Barrientos, 2009:82). Although there are differing stances on social protection, there is a consensus that some form of this is needed to ensure that older people can be provided for in old age.

Another type of formal support for older people is provision from **NGOs and charities** which can improve older people's wellbeing. The Kenyan government has highlighted the important role that civil society organisations can have in providing "basic social needs and amenities such as food, clothing, healthcare and shelter" for older people (MGCSO, 2009:37). This support can be important for older people who are destitute and have been abandoned by their families (Slum Care Home, 2009). Ethnographic research on older people in Indonesia found that those older people who were most vulnerable depended on day-to-day charity (Kreager, 2006). Even in cases where the older person had not been abandoned and was receiving support from their family, if several different generations of a family were sharing poverty, the regular support received by some older people from their children was not enough to prevent them from needing charity (Kreager, 2006). As such, support from charities and NGOs should be considered alongside other sources of support for older people, when investigating their poverty and wellbeing.

2.6.2 Informal Support

A different type of support received by older people can be more informal in nature. This provision can consist of community support and family support. **Community support** groups, such as self-help groups, have been highlighted as important in alleviating poverty among older people in Tanzania (HAI, 2000). These community groups provide day-to-day support, as well as assistance during crises. As such, they are effective in tackling long-term poverty but also in responding to shocks in household consumption which may lead to temporary spells of poverty. In terms of research on broader wellbeing, research from the slum study sites shows that having close friends and engaging in community activities are significantly associated with life satisfaction among older people (Kodzi et al, 2011). As such, it will be important to consider whether community involvement is associated with not being in poverty or for having a higher level of wellbeing for older people in the slums.

The disadvantage of community groups is that membership is often a prerequisite, meaning that some older people may not be members. If membership is denoted by initial and then regular financial contributions, these organisations may effectively exclude older people already in poverty. Barrientos (2007) highlights an example of a community micro-credit scheme in India which excludes older people on the basis of the work they would be required to undertake as part of membership. This would have the effect of perpetuating the cycle of poverty as poor older people cannot become members thus have no way to alleviate their poverty. Community support should thus be examined in relation to the poverty experienced by older people in the two slum settlements to ascertain the degree to which this form of support is used and whether it is associated with being in poverty.

Another type of informal support which is important for older people in developing countries is the provision given by the **family**. This type of support has been highlighted as the primary source of care for older people in Kenya (MGCSD, 2009). It has been highlighted in Zambia that exchanges between households can be particularly important in ensuring the wellbeing of older people (WBPA Zambia, 2007). Research from the slums shows that extended family support and ties are significantly associated with life satisfaction among older people (Kodzi et al, 2011). As such, support from the family will be explored further to investigate how it is associated with poverty and wellbeing for older people in the slums.

Research from Asia suggests that the family still remains at the forefront of support for the elderly in developing countries. Research by Kim and Cook (2011) in South Korea suggests that in the longitudinal analysis of 3,981 older people, 70 per cent received financial transfers from children. These transfers substantially mitigated poverty among the older people and filled a quarter of the poverty gap. In addition to this, income inequality among the older people was reduced as transfers from children tended to be proportionally larger to older people with low-incomes. These results highlight the importance of familial support in relieving poverty among older people, especially in countries which have limited formal provision for older people.

2.7 Conceptualising Poverty for this Study

This section summarises the literature covered in this chapter in relation to older people and poverty and wellbeing. Studies have been cited from both developed and developing countries. The first distinction to make in the conceptualisation for this study is between monetary and non-monetary measures of poverty. Poverty in this study refers to the traditional monetary measure whereas wellbeing is multidimensional and can incorporate a variety of dimensions and indicators.

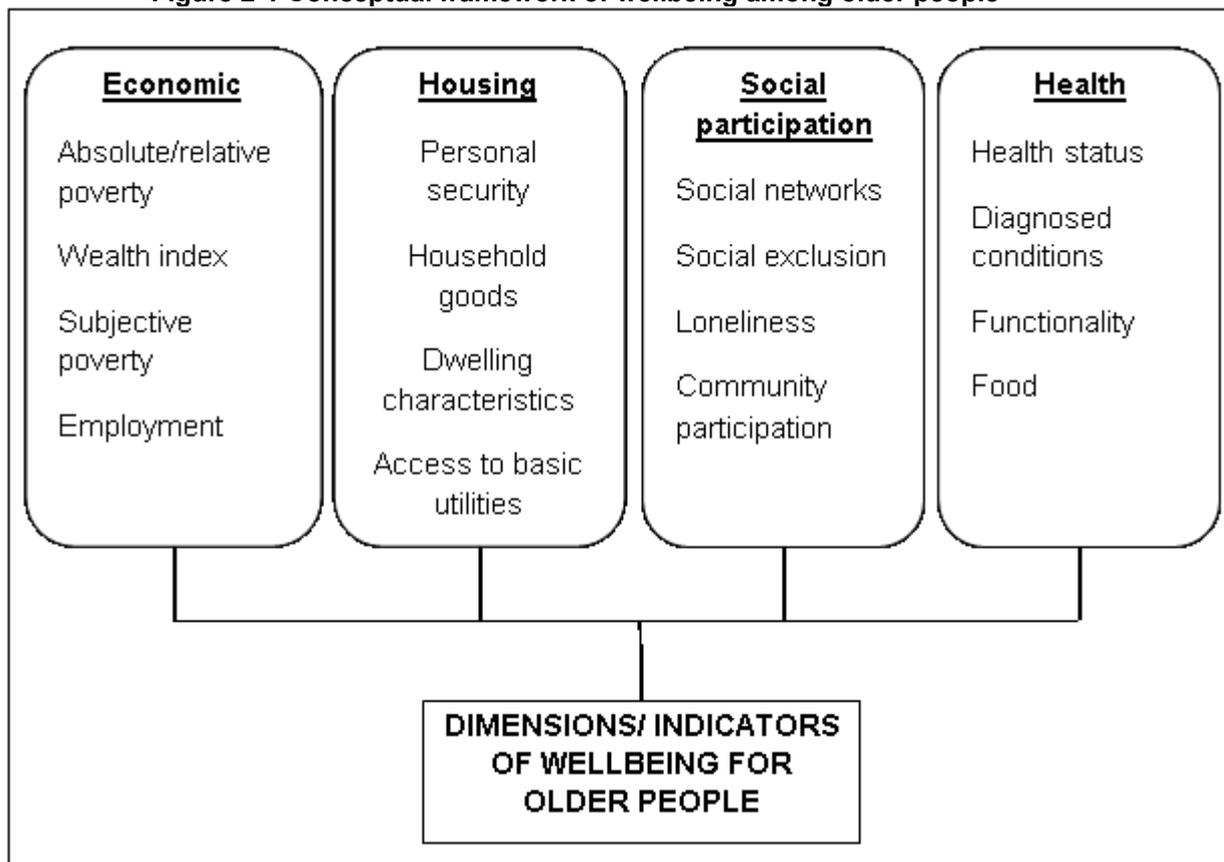
The conceptualisation of monetary poverty centres on absolute and relative ideas; absolute poverty focuses on a pre-determined set of basic subsistence needs being met whereas relative refers to poverty in “relation to the standards which exist elsewhere in society” (Spicker et al, 2006:169). These two concepts of poverty will be explored in the first research analysis chapter (chapter 6). The absolute conceptualisation allows for poverty of older people to be compared with a national poverty line (further explained in section 3.3.4). The relative conceptualisation allows for the comparability of the poorest older people and the least poor older people in the slums, giving an indication of inequality.

It is also important to extend the study of poverty to incorporate different dimensions. The need for a multidimensional conceptualisation of poverty for older people has been highlighted by international agencies (UNFPA and HAI, 2012). Section 2.3 discussed the different ideas connected to multidimensional poverty such as deprivation, social exclusion, capabilities and wellbeing. Wellbeing encompasses a broad notion of multidimensional poverty as it can cover a variety of dimensions and indicators connected to poverty, social exclusion and deprivation. This study conceptualises the multidimensional nature of poverty as **wellbeing** with deprivation used to assess low levels of wellbeing for each of the dimensions studied; this follows conceptualisation

utilised in other studies of older people (Barrientos and de la Vega, 2011; Saunders and Lujun, 2006; Demakakos et al, 2010; Kaneda et al, 2011). The consideration of these dimensions and how they overlap can help to highlight where deprivation for older people may be more severe and can show vulnerable groups who need targeting through a variety of policies. The study of these dimensions can thus help inform a diverse range of policies to help older people.

A conceptual framework has been produced which uses the evidence from the different studies discussed to show how the different indicators can be classified into dimensions of wellbeing (figure 2-1). This framework will inform the study research design. The literature has highlighted four broad dimensions of wellbeing for older people: economic, housing, health and social participation. These four dimensions will be explored further in chapter 8 where there will be a detailed discussion on the choice of indicators used for this study which can be informed by the context being studied as well as the availability of the data.

Figure 2-1 Conceptual framework of wellbeing among older people



Source: Author's conceptual framework based on existing studies of wellbeing among older people

Absolute and relative concepts of poverty are embedded within a larger dimension which indicates the economic part of wellbeing. Another measure of poverty included in the economic dimension is the wealth index which can be used to measure poverty in the absence of monetary data (Noumbissi, 2004; Zimmer, 2008; Filmer and Scott, 2012). As the household monetary information of older people is known for this research site, it was decided to utilise the absolute and relative concepts as opposed to the wealth index. The wealth index may also overcomplicate the analysis as this would necessitate having an index within a dimension. Further indicators of the economic dimension are subjective poverty and employment. Subjective poverty can be used in conjunction with more objective measures of poverty, such as absolute poverty, to gain a wider understanding of multidimensional poverty (Bradshaw and Finch, 2003). Employment can also be used as an indicator of economic wellbeing as it signifies an older person's ability to generate their own income (Masset and White, 2003; Najjumba-Mulindwa, 2003; UNFPA and HAI, 2012).

The housing dimension encompasses the indicators which can be used to create a wealth index: household goods, dwelling characteristics and access to basic utilities such as water and sanitation. When used separately, they can inform the measurement of wellbeing (Barrientos and de la Vega, 2011; Gasparini et al, 2010; Saunders and Lujun, 2006). In addition to these indicators is personal security which can focus on how safe an older person feels in their neighbourhood or community (Barrientos and de la Vega, 2011; Scharf et al, 2005). This indicator can be used to measure the wellbeing of an older person.

Social participation can be used as a measure of wellbeing and can incorporate different indicators such as: exclusion (Scharf et al, 2005); involvement in community support groups (Saunders and Lujun, 2006); or a mix of these indicators (Barrientos and de la Vega, 2011). Health constitutes another dimension of wellbeing and there are a variety of indicators which can measure this. Subjective measures of health status can be indicative of wellbeing among older people (Barrientos and de la Vega, 2011). Objective measures of health which look at diagnosed conditions utilise more formal measures of health and functionality can also indicate an older person's wellbeing (Fillenbaum, 1984; Kaneda, 2011; Demakakos et al, 2010).

Table 2-1 summarises the demographic, socio-economic and health variables which can be associated with poverty. Gender has been associated with poverty and wellbeing among older people, with women faring worse on these measures in older age than men (MGCSD, 2009; Saunders and Lujun, 2006; UN, 2002). The age

category of the older person is also important with those in the oldest age groups being associated with having greater levels of poverty or lower levels of wellbeing (Srivastava and Mohanty, 2012; Noubbissi, 2004; Mwanyangala et al, 2010).

Table 2-1 Summary of demographic and socio-economic characteristics associated with poverty or wellbeing among older people in developing countries

Variable		Evidence
Demographic	Gender	MGCSO (2009) Saunders and Lujun (2006) UN (2002)
	Age	Srivastava and Mohanty (2012) Mwanyangala et al (2010) Noubbissi (2004)
	Marital status	Kyobutungi et al (2010) KNCHR (2009) Najjumba-Mulindwa (2003) UN (2002)
	Household size	Barrientos and Mase (2010)
	Household composition	Barrientos and Mase (2010) Kakwani and Subbarao (2007) Barrientos (2006) Hosegood and Timaeus (2005) Ramashala (2001) Najjumba-Mulindwa (2003)
	Providing care	Chepngeno-Langat (2012) MGCSO (2009) WBPA Zambia (2007)
Socio-economic	Education level	UNFPA and HAI (2012) Kyobutungi et al (2010) MGCSO (2009) Kakwani et al (2006)
	Employment	UNFPA and HAI (2012) Ondigi and Ondigi (2012) MGCSO (2009) Najjumba-Mulindwa (2003)
	Receipt of pension	Barrientos and de la Vega (2011) RHVP et al (2010) Kakwani et al (2006)
Health	Health status	Mwanyangala et al (2010) Ice et al (2008) WBPA Malawi (2007) Kakwani et al (2006) WBPA Ethiopia (2005) Najjumba-Mulindwa (2003) Barrientos et al (2003)

Source: Author's compilation of evidence from existing literature on poverty and wellbeing at older ages in developing countries

Marital status is connected to poverty and wellbeing (KNCHR, 2009; Najjumba-Mulindwa, 2003; UN, 2002). Widows, people who are divorced or separated and those

who have never been married have been shown to be at greater risk of poverty and low levels of wellbeing in old age (Kyobutungi et al, 2010).

Living arrangements, in terms of household size and household composition, can be associated with greater risks of poverty and poor wellbeing, especially for older people co-residing in larger households (Hosegood and Timaeus, 2005; Barrientos, 2006). Older people providing care for a person infected with HIV/AIDS or providing care for children were also found to have higher levels of poverty and poorer wellbeing (WBPA Zambia, 2007; Chepngeno-Langat et al, 2012, Kyobutungi et al, 2009).

There are a range of socio-economic characteristics which are also associated with poverty or wellbeing. Lower levels of education are associated with being poor or having limited wellbeing for older people (Kakwani et al, 2006; Kyobutungi et al, 2010). A lack of employment can also be associated with poverty and can impact on an older person's wellbeing (Najjumba-Mulindwa, 2003; MGCSD, 2009; Ondigi and Ondigi, 2012; UNFPA and HAI, 2012). In addition to this, the receipt of formal social protection, such as a pension, can reduce poverty and improve wellbeing (Barrientos and de la Vega, 2011; RHVP et al, 2010; Kakwani et al, 2006).

Lastly, health status can also be connected with poverty with poor health being associated with higher levels of poverty (Mwanyangala et al, 2010); Ice et al, 2008; WBPA Malawi, 2007; Kakwani et al, 2006). As these characteristics have been shown to be associated with poverty and wellbeing among older people in developing countries, they are thus informative for studying older people in the Nairobi slum context, to see if the same groups are vulnerable in terms of poverty and wellbeing in this context.

In addition to these factors associated with poverty, it is also important to highlight the important role played by different support mechanisms. Formal support and informal support are both associated with reducing poverty and improving wellbeing for older people. Formal social protection, in the form of pensions, has been shown to reduce poverty and improve wellbeing for older people (Kakwani et al, 2006; Barrientos and de la Vega, 2011; Saunders and Lujun, 2006; Najjumba-Mulindwa, 2003). NGOs and charities have also been shown to be beneficial to older people (Kreager, 2006; Ondigi and Ondigi, 2012). There are also informal sources of support which are important for older people. Community support can be used to reduce risk of poverty and improve wellbeing for older people (Kodzi et al, 2011; Barrientos 2007). Most importantly for older people, the provision from the family can be vital in reducing poverty and

improving wellbeing (Kodzi et al, 2011; WBPA Zambia, 2007; Najjumba-Mulindwa, 2003; Ondigi and Ondigi, 2012). It is also important to note that older people may also contribute to their families and communities and this may impact on their poverty and wellbeing (Evans et al, 2005; Najjumba-Mulinda, 2003). These different forms of support will be explored in the final chapter of analysis (chapter 9) to assess the types of support received by older people in the slums and to consider how they link to their levels of poverty and wellbeing.

3. Operationalising the Poverty and Wellbeing Concepts

This chapter moves on from the conceptualisation of poverty and wellbeing to look at the different ways of measuring poverty and wellbeing. After a brief introduction, the chapter discusses measuring monetary poverty and the choice of measuring income or expenditure information. It also explores the issue of determining individual poverty estimates from household data through the use of equivalence scales. Poverty lines and indicators of poverty are also then discussed. The chapter moves on to examine the measurement of multidimensional wellbeing and the different aspects of this before briefly discussing the use of qualitative methods in measuring poverty and wellbeing. The chapter finishes by summarising the methods that will be used to measure poverty and wellbeing in this study.

3.1 Introduction

The difficulties in conceptualising poverty have been highlighted in chapter two. These difficulties are also applicable when attempting to measure poverty. The object of measuring poverty is the same as conceptualising it – poverty must be measured and tracked in order to establish progress in eliminating it (Lister, 2004). Poverty concepts have become increasingly complex since the 1960s and this has translated to augmented complexities in expanding empirical measurements for global poverty. It is challenging to make international comparisons when measuring poverty due to the variety of indicators, poverty lines, measurement units and equivalence scales utilised (Alcock, 2006:50). The lack of consensus on the best way to measure poverty and the complex nature of the data needed to do this continue to make measuring poverty a global challenge.

It should be recognised that in one form or another, all measures of poverty are imperfect – each has its own strengths and weaknesses – and that they partially mirror the flawed conceptualisations of poverty which they seek to measure (Lister, 2004; Haughton and Khandker, 2009). Although these measures are imperfect, the measurement of poverty remains vitally important and should continue to be explored, with researchers being aware of the limitations and taking account of these when detailing their poverty studies. There also needs to be a firm discussion surrounding how the measures were constructed (Haughton and Khandker, 2009) which need to be suited to the research setting, the respondents measured and the conceptualisation of

poverty which is being measured. This chapter aims to examine the different ways to construct poverty measures and will outline how poverty is measured in this study, and why these are the most appropriate methods to use. The next section explores the measurement of monetary poverty.

3.2 Money-metric Poverty

The measurement of poverty has traditionally been associated with money; a person's income or expenditure is seen to determine how poor they are in terms of whether the amount falls below a certain level (Falkingham and Namazie, 2002). It takes four steps to estimate poverty (Saunders and Lujun, 2006; Haughton and Khandker, 2009).

Firstly, an indicator of welfare needs to be defined utilising either household income or expenditure information (section 3.2.1). Secondly, the unit of analysis needs to be specified (section 3.2.2) Thirdly, a minimum acceptable standard relating to the indicator needs to be established, such as a poverty line; this is a way of segregating the poor from the non-poor (section 3.2.3). Fourthly, a summary statistic needs to be produced to highlight the number of people who are poor (section 3.2.4). However, there are numerous debates in relation to the first step as to whether it is better to measure income or expenditure when investigating money-metric poverty. The advantages and disadvantages of both will be explored in the following section.

3.2.1 Income and Expenditure

Income can be used as an indicator to measure poverty and represents an individual's control over their resources. Income can constitute fairly simple sources to measure such as earnings, salaries or business incomes (Spicker et al, 2006). Income can also be generated from other sources aside from wages including interest, dividends and income from self-employment (Haughton and Khandker, 2009). It also represents the household 'potential'; i.e. what a household can potentially spend on acquiring resources (Haughton and Khandker, 2009).

There are disadvantages in using income to measure poverty. Income is commonly underreported; this can occur as people may have difficulty in remembering what has constituted their income over the previous time period or they may have difficulty in calculating the exact income (Haughton and Khandker, 2009; Rutstein and Johnson, 2004). People may also not feel comfortable with disclosing the full details of their income due to illegally obtained money or tax issues (Rutstein and Johnson, 2004). Another issue is that income can be affected by short-term fluctuations – this is particularly problematic when income is dependent on agricultural production or an

informal cash economy which can be subject to variations in terms of productivity (Haughton and Khandker, 2009; Rutstein and Johnson, 2004). All of these issues interact to make poverty more difficult to measure using income. As such, it may be better to consider the alternative to income, which is expenditure.

Expenditure information revolves around monitoring what a household consumes; however, calculating what households actually consume is too difficult. For example, information collected on the exact consumption of food by household members is extremely challenging to record accurately and it is difficult to directly measure the consumption of services such as health and education (Falkingham and Namazie, 2002). As such, expenditure information is used as a proxy for consumption as it is easier to recall for the respondent, and is thus more widely available. Given the close relationship between the two concepts, the terms 'consumption' and 'expenditure' can be used interchangeably.

Expenditure constitutes the goods and services that individuals may purchase as well as those that they produce themselves. The main difference between income and expenditure is that income represents spending power and expenditure represents spending patterns (Alcock, 2006:85). Expenditure has been argued as better representing the welfare of households as it remains fairly stable in comparison to income which can fluctuate and is more changeable (Haughton and Khandker, 2009). This measure would be more applicable in developing countries where informal economies and agricultural production make income more volatile and thus more unreliable to use as a measure of poverty. Additionally, expenditure reflects the current actual material standard of living as the researcher can see the expenditure patterns and whether or not these are constrained. As has been highlighted, income can be seen as the potential a household has in terms of its resources (Haughton and Khandker, 2009). However, a household may not utilise all of its income and could thus still be in poverty. As such, expenditure would be a more accurate reflection of whether a household is meeting its needs.

There are also methodological advantages in using expenditure information. When people are questioned in surveys, they may be more willing or more able to remember what they have spent as opposed to what they have earned (Haughton and Khandker, 2009). Conversely, households may not be truthful about their expenditure on luxuries or illicit items (Haughton and Khandker, 2009). This can give misleading results as to a household's expenditure. Linked to this is the problem that what people choose to consume can be misleading – a better-off household may make a choice to live simply

but this does not mean that it is in poverty (Haughton and Khandker, 2009:30). Following this reasoning, if eating meat regularly constitutes not being in poverty, then vegetarians would be seemingly poor despite this being a lifestyle choice and not reflective of their inability to afford to meet (Piachaud, 1981). These points highlight that there are disadvantages to expenditure information as well.

There is also a difficulty in defining exactly what expenditure is in order to measure it – for example, durable goods are difficult to quantify. A wider problem with items such as durable goods is that they are often an expensive one-off purchase and this can hugely alter the expenditure of a household for the period of time being measured (Alcock, 2006). In addition to this, the reference period of the expenditure is important to note. Expenditure can be in one period but the item can be consumed in another period, for example the bulk buying of dry food stuffs may be cheaper and will occur in one time period but the consumption period may occur in the next one. This is misleading as expenditure would be seen to be large for the household at this point, and potentially less over other time periods; however, this would not be reflective of the ability of the household to spend over this time period.

This section has highlighted the advantages and disadvantages in using income and expenditure to measure poverty. Existing studies on poverty among older people have used both income and expenditure. Studies which have used income to measure poverty have tended to be focused on older people in developing countries (Kaneda et al, 2011; Zaidi, 2008) although studies in China and Vietnam have utilised income data (Saunders and Lujun, 2006; Evans et al, 2005). Other studies have used expenditure to measure poverty and these have tended to focus on older people in developing countries (Kakwani et al, 2006; Kakwani and Subbarao, 2007; Srivastava and Mohanty, 2012). The informal cash economy which characterises the study sites for this research may make income information unreliable. Expenditure, which can represent the spending patterns of households containing older people, is therefore used to measure poverty for this study.

3.2.2 Specifying the Unit of Analysis

This section considers the second step in measuring poverty which is the specification of the unit of analysis. When measuring poverty, the unit of interest is usually the individual's welfare. However it is very difficult to define what the individual unit is in relation to welfare and it is difficult to collect data on this, especially as some goods that determine individual welfare are actually shared household goods (Deaton and Zaidi,

2002; Dreze and Srinivasan, 1997). Alcock (2006) highlights this issue in that although individual people experience poverty, most people do not actually live as individuals. Individual needs will be hard to disentangle from the needs of other household members and it would be difficult to disengage the allocation of resources at the household level from those at the individual level (World Bank, 2004). As such, monetary poverty is rarely measured at the individual level, but at the household level.

As expenditure data is likely collected at the household level, as in this study, it is necessary to calculate the poverty estimate at the household level and then to ascribe this to the individual level. One method for calculating this involves producing an overall household poverty estimate and dividing it between the number of people in the household; this is the per capita method, or poverty per person (Haughton and Khandker, 2009:28). The main problem with the per capita measurement approach is that it assumes that every household member has equal access to all of the resources within the household. Although household resources are likely to be pooled, there is widespread recognition that these are not shared out equally (Spicker et al, 2006; Falkingham and Baschieri, 2009). This means that poverty can be under or overestimated for an individual if their household does not allocate resources equally. In addition to this, it has been argued that households are composed of different people who will have different needs; for example, it is unlikely that children will have the same needs as adults (Lanjouw and Ravallion, 1994; Haughton and Khandker, 2009). It is also possible that economies of scale could be operating, in that larger households can live together more cheaply than one person living alone (Lanjouw and Ravallion, 1994; Alcock, 2006). As such, there is a greater level of complexity to the calculation of poverty. These complexities are explored further in section 7.2.

In order to account for potential differences in household composition and needs, as well as economies of scale, an equivalence scale can be used. An equivalence scale takes household level expenditure information and adjusts for different needs of household members, as well as the impact of economies of scale; thereby creating equivalised household expenditure. There are a number of different equivalence scales which can be used; however, there remains controversy as to what scales are suitable and the choice depends on the context being studied (Deaton and Zaidi, 2002; Spicker, et al, 2006; Haughton and Khandker, 2009). It is important to consider the choice of equivalence scales as different assumptions for the needs and economies of scale can produce slightly different poverty estimates, and may even alter relationships established between being in poverty and having other characteristics (Falkingham et al, 2009). As such, it is important to conduct sensitivity analyses to assess the level of

variation in poverty estimates based on different equivalence scale assumptions. Chapter 7 will further discuss the different equivalence scales which can be used to calculate poverty estimates, particularly in relation to older people.

3.2.3 Choosing the Poverty Line

Once the equivalised household expenditure has been calculated, the third step in calculating a poverty estimate is to compare the expenditure against a standard to determine who is poor and who is not poor. Alcock (2006) suggests that a poverty line is a “definition of poverty based on the notion of an observable threshold below which adequate standards of living could not be maintained” (2006:69). The identification of the poverty line within a distribution can be controversial. It has been suggested that the selection of the threshold can be based on observation or on the assessment of needs (Spicker, et al. 2006). It is likely that the choice of poverty line will depend on the intended use of the poverty rates. This section explores absolute poverty lines, and highlights the national poverty line used in Kenya. It then discusses the relative poverty line.

An **absolute poverty line** is fixed meaning that the indicator being used is the same and this remains so when poverty is compared, even over time. The idea that a poverty line is set so that it represents the same purchasing power each year (it is adjusted for inflation) and is defined in the same way is useful in order to track poverty over time and measure the impact of poverty-reduction policies (Haughton and Khandker, 2009:45). An example of an absolute poverty line is the World Bank’s ‘below \$1 a day’ line (at 1985 prices) which is adjusted for purchasing power parity within each country to allow international comparisons. If people are deemed to be living on less than a dollar per day, they are categorised as being in poverty. This is applied to developing countries (it is adapted for Latin American countries to \$2 a day, and transitional economies to \$4 a day) and people who fall below it are defined as having inadequate standards of living (World Bank, 2001).

Critics of the World Bank poverty line have suggest that the amounts used for the poverty line cut-offs are arbitrary figures and fail to properly demonstrate the experience of poverty within poor countries (Satterthwaite, 2003). An international poverty line such as \$1 a day will generalise across countries and thus national poverty lines may be more useful. However, this measure is used by the United Nations to monitor the progress in their first MDG; advancement in eradicating poverty is based on how many people are surviving on less than a dollar a day (UN, 2013:online).

Estimating the cost of a basket of goods to meet basic needs is the most common way to derive an absolute poverty line. The Cost of Basic Needs (CBN) approach represents the level needed “to purchase a basic basket of food and other items such as clothes, fuel, shelter” (DFID, 2007:2). The calculation of the food basket for this approach is especially important. The CBN approach determines a minimum amount of food based on nutritional values, usually a level of 2,100 calories a day for a working age adult (Falkingham, 2008). This level allows people to participate fully in society and defines a minimum food basket (MFB) needed in monetary terms.

The CBN food basket calculation has two approaches. The least cost approach selects foods that are traditionally part of population diets and constructs an MFB based on their nutritional values. The value of the MFB is obtained by assigning monetary terms to the products using affordable prices and the appropriate quantities needed. In order to determine the least costly basket, one must:

“Select a number of food baskets that provide the same calories intake and then select the one that is less costly and use the value of this basket as the poverty line” (Falkingham, 2008:20)

This selection then sets the food poverty line (FPL) and the relationship between the MFB and the FPL is characterised as follows:

$$\text{MFB}=\text{FPL}=\sum q_i \cdot p_i$$

(Falkingham, 2008:20)

Where q_i = quantity of good i and p_i =price of good i . The advantage of this method is that data on household consumption does not have to be detailed. The drawback is that assumptions are made that the basket will be consumed by all households.

The expenditure based method for CBN firstly looks at consumption patterns in a population, usually focusing on the poorest group. The food consumed by this group then constitutes the basket and “the basket is weighted according to the share of different foods consumed by the target population” (Falkingham, 2008:21). This basket is then converted into calories and adjusted in order to meet the minimum amount of calories required. The advantage of this method is that the food basket is relevant to the study population (Falkingham and Namazie, 2002). However, the diet may not have the correct nutritional composition to reach the minimum amount of calories.

A concept connected to absolute poverty lines is 'income inelasticity of demand' which suggests that once people have met their minimum needs for goods, they will begin to spend proportionately less on these as their incomes rise (Spicker, et al, 2006:103; Alcock, 2006:72). This can be used to establish a minimum income and suggests that poverty in a household is represented by a large proportion of income being spent on minimum needs. Related to this is the notion of calorie-income elasticity which is applied to food consumption. Engels propagated that subsistence poverty lines could be constructed for food because "a subsistence diet could at least be prescribed and costed" (Spicker et al, 2006:64). This relationship is represented by the Engel coefficient and suggests that as expenditure increases, the proportion spent on food will decline.

As with the conceptualisation of absolute poverty, the absolute poverty line can be problematic in terms of deciding what constitutes the standard of living which establishes the poverty line and gives the measure of poverty. For example, if an absolute poverty line were to take commodities into account, it would then become relative as it would be tracking changes in the affluence of society (Haughton and Khandker, 2009:48). More importantly, the absolute poverty line can be inflexible in that as living standards change, so too would the adequate minimum that was needed (Falkingham and Namazie, 2002). It is also important to consider how the poverty line reflects the population being studied. As such, many countries construct their own national poverty lines.

The **Kenya national poverty line** in Kenya is set by the Kenya National Bureau of Statistics (KNBS) which implements a national household survey in order to gather information on a variety of indicators for households in Kenya with the aim of improving the welfare of Kenyan people. The Kenya Integrated Household Budget Survey (KIHBS) collected information in 2005/2006 on income and expenditure. It was used to update the household budget expenditure weights used to compute the Consumer Price Index (CPI) which is used to monitor the rate of inflation in Kenya (KNBS, 2006:1).

The KNBS calculate a CPI basket based on household expenditure for the monthly purchase of necessary items with food prices accounting for half of this basket. This basket then constitutes the absolute poverty line for Kenya which is differentiated for rural and urban areas. The poverty lines utilised in Kenya are 1,562 Kenya Shillings (KSh) per month per person for rural households and 2,913 per person per month for urban households, which includes minimum expenditure for both food and non-food

items (WBPA Kenya, 2009:12). These figures equate to \$0.61 in rural areas per person per day and \$1.14 per person per day in urban areas¹. The higher allocation of expenditure for urban households reflects the augmented living expenses of residing in an urban area.

Joint work between the World Bank and APHRC has found that poverty rates in the slums, utilising the Kenyan poverty lines, are almost double the national urban average (WBPA Kenya, 2009:14). Although these lines are useful in highlighting the high rate of poverty experienced within Nairobi slums, it is important to note that experiences of poverty are not solely determined by the income required to meet minimum needs. Kenya has been highlighted as being vastly unequal and so a relative poverty line that takes into account the wealth distribution of the population may add detail to the picture of poverty in the country.

Relative poverty lines mirror the conceptualisation of relative poverty. This attempts to quantify the idea that experiences of poverty are relative to experiences of other members of society and tends to account for more than a fixed amount which everyone is deemed to need. The most common form of the relative poverty line is that employed by the European Union (EU). The threshold for poverty is if a person's equivalised disposable income falls below "60 per cent of national median equivalised disposable income" (ONS, 2013:4). An additional advantage in this measure is that poverty is comparable across the countries of the EU. An extension of this method is to use percentage cut-off points in the welfare distribution to define those in poverty (Falkingham and Namazie, 2002). This measure sets cut-off points as the bottom 20 per cent or bottom 40 per cent of the population, which is a relatively simple approach.

The important thing to note about relative poverty lines is that there will always be poverty, even if the wealth of society improves proportionally across all members. This is the overarching disadvantage of the relative poverty line. As it operates according to a distribution, there will always be some people who are poorer than others. This approach is not useful in terms of monitoring extreme poverty as faced by developing countries. When being able to afford to meet minimum needs is difficult for a large proportion of society, the absolute poverty line is better suited to measuring poverty. As the slum settlements in Nairobi have been highlighted as having high rates of poverty for the general population, it follows that high rates of poverty may be found among the

¹ Conversion rate: \$1 = KSh 83.80 as of 17/04/13

older people in these study sites. As such, an absolute poverty line will be used and this will be the Kenya national poverty line.

3.2.4 Indicators of Poverty

The aim of poverty lines is to provide a distribution to measure to ascertain poverty levels within a population. The most common measure utilised in this situation is the **head-count index or the incidence of poverty**. This is the proportion of the population living on less than the set poverty line, so those who are counted as poor (Ringen, 1988; Alcock, 2006; Spicker et al, 2006). The equation for headcount poverty is:

$$H = \frac{q}{n}$$

(Falkingham, 2008:30)

If q = the number of households/individuals who are poor and n = the total households/population. This is a simple measure and is easy to construct but it is notable for its lack of utility in establishing the intensity of poverty, so it does not indicate how poor the poor are. This means that if a person below the poverty line becomes poorer, the proportion in poverty remains the same despite their circumstances having worsened (Haughton and Khandker, 2009:69).

The **poverty gap index** measure may go some way towards resolving this problem as it measures the extent to which people fall below the poverty line as a percentage of the poverty line (Haughton and Khandker, 2009:67). This measures the depth of poverty and the equation for doing so is as follows:

$$PG = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]$$

(Falkingham, 2008:33)

Where z = poverty line, and y_i is the income of individual i , and the sum is taken only on those individuals who are poor (Falkingham, 2008). The poverty gap measures how far households are away from the poverty line. An extension of this is the **aggregate poverty gap** which is the sum of all of the poverty gaps in the sample; it can be thought of as the minimum amount of resources necessary to eradicate poverty. This indicator shows “how much would have to be transferred to the poor to bring their incomes or expenditures up to the poverty line” (Haughton and Khandker, 2009:70).

The **squared poverty gap index** measures the severity of poverty:

$$P2 = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]^2$$

(Falkingham, 2008:36)

It accounts for “the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor” (Falkingham, 2008:35). This is different to the poverty gap as the gaps are not weighted equally, but the larger gaps are given a larger emphasis in the measure.

A study among older people in Kenya at the national level utilised the headcount index, the poverty gap index and the squared poverty gap index to investigate poverty (Kakwani et al, 2006). These indicators will also be used in the analysis of poverty of older people in the two Nairobi slums as they are informative as to the level of poverty among older people as well as the depth and severity of this poverty.

3.3 Measuring Multidimensional Wellbeing

As was discussed in chapter 2, this study is measuring multidimensional wellbeing among older people in the slums. The different dimensions that can be used to represent wellbeing were discussed in chapter 2 and are summarised in the conceptual framework in section 2.7. There are a variety of methods to measure these different dimensions as well as challenges associated with doing this; these will be discussed in the following sections.

It has been highlighted, however, that simply using projections of headcount poverty based on purchasing power parity (such as the \$1 a day measure) may over-estimate the lack of progress in African countries (UN, 2009a:5-6). As such, there are limitations to income and expenditure data and a better measure for developing countries would be multidimensional in nature. Satterthwaite (2003) has argued vigorously that the absolute indicators of poverty, such as \$1 a day for the first MDG target, are poor at measuring poverty in urban areas as they do not account for the heterogeneity and complex nature of poverty in these settings. This criticism extends to national poverty line which, even with a rural/urban differentiation, will potentially understate “who is poor in high-cost locations” (Satterthwaite, 2003:187). There is an assumption that these absolute poverty line measures are valid in urban places such as the slums settlements in Nairobi yet this assumption is based on no evidence. Ensuring that poverty measures in this context are more robust requires more detailed investigation

of the factors involved in surviving in the relevant environment, which necessitates more complex analysis.

Baker and Schuler (2004) highlight the complexities of measuring poverty in the urban context in developing countries. These complexities revolve around the reliance on a cash economy which makes income vulnerable to fluctuations, the lack of tenure security of slum settlements and the lack of access to basic services such as water, sewage, health and education (Baker and Schuler, 2004:4). They highlight that measures which encompass the amount of floor area per person are important to determine levels of overcrowding and the adequacy of living space in dwellings. The idea that access to water and sanitation need to be considered when exploring urban poverty has also been highlighted as important by Kumar (2002) who argues that income-based poverty lines do not account for all deprivation in urban areas (2002:276). This hints that a more multidimensional measure would be better as it incorporates the lack of access to services which is commonly experienced by households in poverty in developing countries.

Evidence from a poverty study in Ghana has suggested that basic needs indicators are better at capturing poverty in low and middle income countries, especially in terms of the informal economies which operate there (Donkor, 2002:216). Different indicators revolving around the urban/rural divide, household expenditure, geographical regions, individual occupation, and basic needs provision such as health, education, water and sanitation are better at formulating a picture of poverty in these contexts (Donkor, 2002). This again suggests that multidimensional conceptualisations and measurements of poverty are better suited to developing country, and specifically African, contexts.

3.3.1 Choosing Dimensions and Indicators

Wellbeing can be measured in a variety of ways. There can be different combinations of dimensions or indicators, the choice of which can be widely debated. Section 2.4 highlighted a variety of dimensions and indicators which have been used to measure wellbeing among older people. The choice of dimensions and indicators needs to be carefully considered in relation to older people, as well as the context being studied. It has been suggested that there are five different methods to select dimensions which are: existing data or convention; assumptions; public 'consensus'; on-going deliberative participatory processes; and empirical evidence regarding people's values (Alkire, 2007). It is important to justify why the dimensions and indicators are being chosen and how they will be measured; i.e. what variables will be used for the different dimensions

or indicators and what cut-off point will be in place to signify wellbeing for these variables. The selection process for the dimensions used in this study is detailed in section 8.2.

3.3.2 Combining Individual and Household Level Indicators

The dataset utilised in this study has combined information from a household level survey and an individual level survey. A drawback of using the household survey is that the information at the household level is automatically ascribed to the older person. The majority of older people in this study were interviewed for the household survey (78%). However, in cases where the older person was not the respondent for the household survey, there may be a problem as the older person may have given different information for the household survey, had they been interviewed. For some of the household level indicators, the discrepancy will not matter – housing information regarding quality, for example, will be answered the same in both surveys. The problem could be for the reporting of income and expenditure information at the household level which is equivalised to give the individual level. This equivalised level may not reflect the level that older people have access to (Falkingham and Baschieri, 2009; Haddad et al, 1997). Given the complexity of measuring poverty at the individual level and separating out the intra-household transfers, this method (although limited) will be used as the household level monetary information is important in addressing the research questions. In terms of addressing poverty, this method does have an advantage. Hulme and colleagues (2001) suggest that most poverty reduction interventions are aimed at the household level, thus having more accurate monetary information at this level is important.

Despite this lack of specific financial information at the individual level, the analysis of both individual level indicators and household information will still allow for a thorough examination of the wellbeing experienced by older people in this context. Wellbeing can be seen as an individual concept, as wellbeing is experienced on a personal level by the older person. However, some aspects of wellbeing are also likely to be shared across the household, such as quality of housing, and it is difficult to determine whether these experiences are independent of the other household members and if they can be separated out (Atkinson et al, 2010:390). Hulme and colleagues (2001) have highlighted that wellbeing can be “stratified *within* the household, especially along the lines of gender, age, and health status” (2001:31). As such, including dimensions at both the individual and the household level allows for some comparison between the

wellbeing experienced by the older person on an individual level as well as their experience within their household.

3.3.3 Approaches to Multidimensional Measurement

There are different approaches to measuring multidimensional wellbeing. It is feasible to focus solely on different dimensions and give descriptive statistics as to the levels of wellbeing for each of these (Ondigi and Ondigi, 2012). However, this approach is relatively limited in that it the level of overall wellbeing and the overlaps between different dimensions are unknown. As a result, the multidimensional detail for the wellbeing measure would be lost limiting the policy recommendations. As such, methods which aggregate the dimensions can be used; the counting approach and the social welfare approach. These methods will be discussed in this section.

Barrientos and de la Vega (2011) argue that the **counting approach** is used in applied work, more so than the social welfare approach. In their study of wellbeing among older people in Brazil and South Africa, they have nine indicators of wellbeing which are dichotomous. They count the number of indicators that an older person is deprived on; an individual with a higher number is more deprived. However, there is a limitation with the use of this method by Barrientos and de la Vega (2011). As the indicators are accumulated into a single index, it is difficult to determine who is deprived on which particular indicators; only an overall level of deprivation is known. This method makes conceptual sense for this study as the authors are comparing the extent of deprivation between older people in two countries. However, this thesis is not making such a comparison; the focus is on one group of older people in Nairobi slums. As such, this method may be useful in establishing the extent of deprivation for older people in the slums, but the main analysis will want to focus on how the different dimensions overlap, in order to gain detail of multidimensional wellbeing and to better inform policy.

This point has been highlighted in research which has looked at cumulative poverty over three dimensions in the Poverty and Social Exclusion Survey in Britain. The authors suggested that where these overlap, poverty is likely to be more “validly prescribed” and will be more harshly experienced (Bradshaw and Finch, 2003:515). The people deprived on all indicators may have different socio-economic characteristics to those identified as poor on just one of the measures. However, the authors found that only six per cent were poor on all three dimensions simultaneously (Bradshaw and Finch, 2003:516). As such, the authors suggested that policies need to be tailored according to the measure used. This finding indicates that focusing just on

the number of dimensions people are poor in is not helpful and that a consideration of the different overlaps may better inform policy. However, the counting approach is still a useful measure as it gives a detailed picture of how severe the level of deprivation is across a variety of indicators. A useful way to group indicators on dimensions is to produce a venn diagram; this representation of multidimensional deprivations has been used by Ferreira and Lugo (2012) and Atkinson et al (2010).

The counting approach has been criticised as being severely restrictive. Bourguignon and Chakravarty (2003) suggest that the counting approach is akin to conceptualising multidimensional poverty as “single dimensional income poverty, with some appropriate generalisation of the concept of ‘income’” (2003:27). The issue is that if the measure is using income, this would be a strong underlying indicator and it would be difficult to differentiate from other indicators, which may be closely associated with it. As such, the use of other dimensions in the counting approach would reflect these associations resulting in the aggregated measure reflecting income.

The **social welfare approach** has been argued as being used in theoretical work on poverty and assesses “multidimensional wellbeing by measuring the impact of changes in wellbeing on a social welfare function” (Barrientos and de la Vega, 2011:3). Bourguignon and Chakravarty (2003) argue for using the social welfare function in aggregating dimensions; this approach defines multidimensional poverty as “a shortfall from a threshold on each dimension of an individual’s wellbeing” (2003:27). A person can be poor in this multidimensional framework depending on the number of thresholds which they are not achieving for each attribute. The authors argue against determining poverty as falling below the threshold for all poverty indicators and instead suggest that the poverty is reported according to the dimension it is determined on. They suggest that poverty can be viewed as one-dimensional (if the threshold is not met on one dimension) and two-dimensional (if the threshold is not met on two dimensions) (2003:29). However, this approach has been suggested as being used more in theory whereas the counting approach is used more in applied work (Barrientos and de la Vega, 2003). As such, the counting approach will be utilised to measure multidimensional wellbeing in this study.

3.3.4 Weighting of Dimensions

An important consideration in multidimensional measurement is whether the dimensions have equal weighting or whether one can count for more than another. An approach can be taken which assumes that certain dimensions have more merit than others and can be weighted to reflect this. For example, it is questionable whether a

person can be defined as poor if they do not actually feel poor, with feeling poor suggested as “a necessary condition if not a sufficient condition” of being in poverty (Bradshaw and Finch, 2003:521). There is also an issue in assuming equal weighting as there is an assumption that an indicator could be substituted for any other (Barrientos and de la Vega, 2011). In reality, this is not the case. Ravallion (2011) has highlighted that some dimensions are more important than others; for example, meeting basic nutritional needs is more important than ownership of certain assets. Allowing for the weighting of dimensions in this way can reflect the importance of different dimensions.

The broad approach to weighting dimensions is to ascribe values on an individual basis based on the views of the researcher, as there is little theoretical support for implementing them (Zaidi, 2008). There is also the more complex issue of whether you weight domains or whether you weight indicators within domains. These weights may be permissible if the researcher justifies their use and demonstrates their robustness through sensitivity analyses. However, Barrientos and de la Vega (2011) highlight that there is a lack of reliable information on how the different indicators contribute to overall wellbeing for an older person and it is unlikely that there would be a broad consensus on the use of weights. As such, the most appropriate approach continues to be to weight all dimensions equally (Zaidi, 2008; Barrientos and de la Vega, 2011). As such, this study will ascribe equal weights to all indicators and to all dimensions, to avoid superimposing any value judgements of the researcher.

3.4 Measuring Poverty and Wellbeing in this Study

This chapter has discussed a variety of ways to measure poverty and multidimensional wellbeing. It firstly discussed the monetary measurement of poverty and the income and expenditure data which is collected at the household level. It highlighted that exploring information for both of these is important to give a detailed picture of differences in household income and expenditure. For studying older people in the slums, the expenditure data was highlighted as being a more accurate as there is a cash economy operating in the slums which may make incomes fluctuate, thus giving unreliable information to calculate poverty prevalence (Haughton and Khandker, 2009). The chapter then discussed the way that the monetary information at the household level needs to be equivalised to indicate poverty at the individual level. This is achieved through the application of an equivalence scale to the data, but the choice of the equivalence scale can be contested (Deaton and Zaidi, 2002). This will be explored further in chapter 7.

The different poverty lines available were then discussed with the absolute poverty line highlighted as important for considering poverty in this context, where basic needs may not be met for a larger number of people (World Bank, 2001). The Kenyan national poverty line was discussed in particular as this is the line that will be used for analysis in chapter 6. The different measures of monetary poverty were then discussed including headcount poverty, the poverty gap index, the aggregate poverty gap and the squared poverty gap index. These measures of poverty will be used in chapter 6.

The chapter then explored the different ways that multidimensional wellbeing can be measured, including the importance of choosing dimensions and indicators; this will be further discussed in section 8.2. The combination of household and individual level indicators was then examined to highlight the potential issues with this; although it was highlighted that this is recognised as a shortcoming with the acknowledgement that separating out the household and individual level indicators would be complex (Atkinson et al, 2010). It was also highlighted that poverty tends to be experienced at the household level (Hulme et al, 2001); as such, that the combination of these two levels can actually add greater depth to the measure. The different approaches to measuring multidimensional wellbeing were then discussed with the counting approach highlighted as the most applicable method for this study. This approach will show how dimensions overlap as well as indicate the severity of deprivation for the older people in the slums. The issue of the weighting of dimensions was also explored with the decision taken to weight all indicators and dimensions equally, to avoid superimposing value judgements of the researcher. Lastly, the use of qualitative methods was briefly explored to highlight that this method would not be suitable for this study. The next chapter will move on to consider the context of the research by exploring poverty among older people in Kenya.

4. Studying Older People and Poverty in Kenya and in Nairobi Slums

This chapter explores the context for this research study. As was highlighted in the introduction, the study aims to explore poverty and wellbeing among older people in two Nairobi slum settlements. It is important to consider the context of the research setting as this will inform the understanding of the poverty estimates and wellbeing results produced in the analysis chapters. A clear understanding of the national and local level context, as well as policy developments in Kenya, will strengthen the interpretation of the findings. This context chapter firstly discusses ageing and poverty among older people in Kenya, as well as the policies currently in place to support them. The chapter then focuses on the development of the slum settlements in Nairobi, two of which are the research sites for this study, and then examines the existing knowledge about older people residing there.

4.1 Older People in Kenya: Demographic Characteristics, Poverty Incidence and Social Protection

This section will examine older people in Kenya. It will explore the projected increase in the number of older people in Kenya in the coming decades as well as levels of poverty among older people in Kenya. It will highlight how these rates are high compared to the general population, indicating the need for this research on older people in Nairobi slums to be undertaken. Finally, it examines the social protection which currently benefits older people in Kenya.

4.1.1 Ageing in Kenya

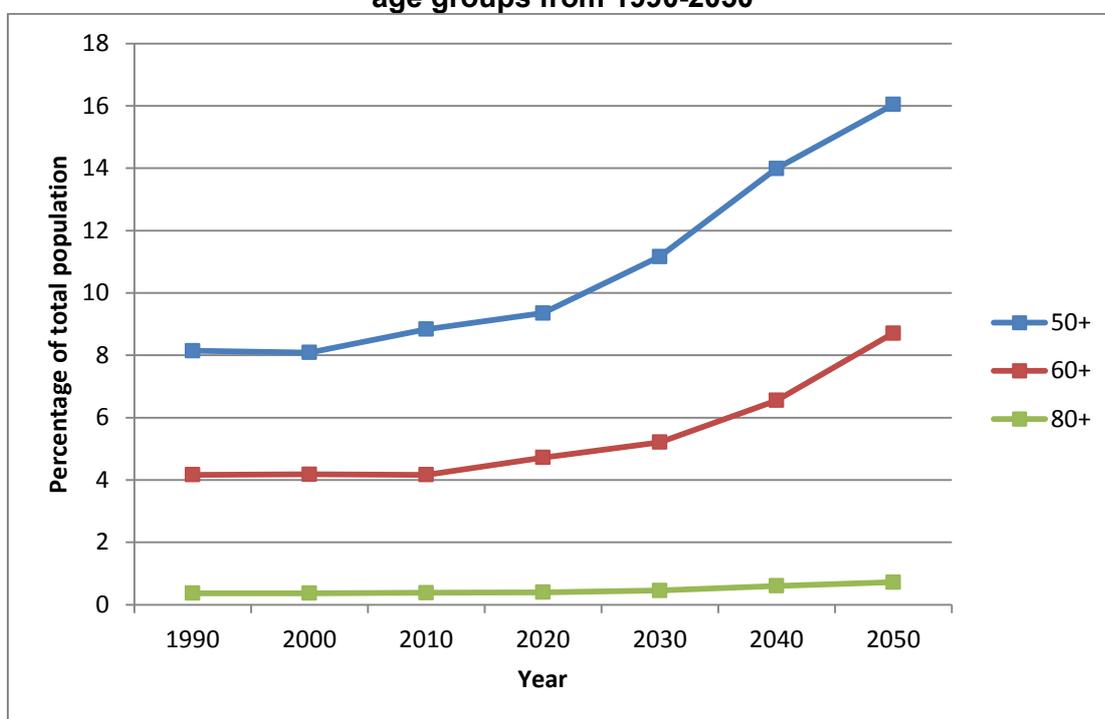
Kenya is situated on the east coast of Africa and has a population of approximately 41 million people (UNDESA, 2013). Although Kenya currently has a relatively youthful population, it has been predicted that between 2008 and 2040, it will experience a 260 per cent increase in the population aged 65 and over (Kinsella and Wan 2008:25). Figure 4-1 shows the predicted increase in the older population in Kenya in the coming decades. Between 1990 and 2050, the percentage of the total population in Kenya over the age of 50 will double from eight to 16 per cent. The proportion over 60 years will increase from four per cent in 1990 to nine per cent in 2050. Kenya currently has high birth rates with a total fertility rate of 4.8 children per woman, yet mortality rates are

declining (UNDESA, 2013); this means that Kenya has a demographically young population with substantial population momentum, as each birth cohort is larger than the previous one. As such:

“The members in older age groups expand throughout the demographic transition because of the long-run, flow-on effects of lower death rates among the young” (Rowland, 2003:333)

This effect explains the increase that will be seen in the proportions of the over-50 and over-60 year olds in Kenya in the coming decades.

Figure 4-1 Predicted change in the proportion of the Kenyan population in older age groups from 1990-2050



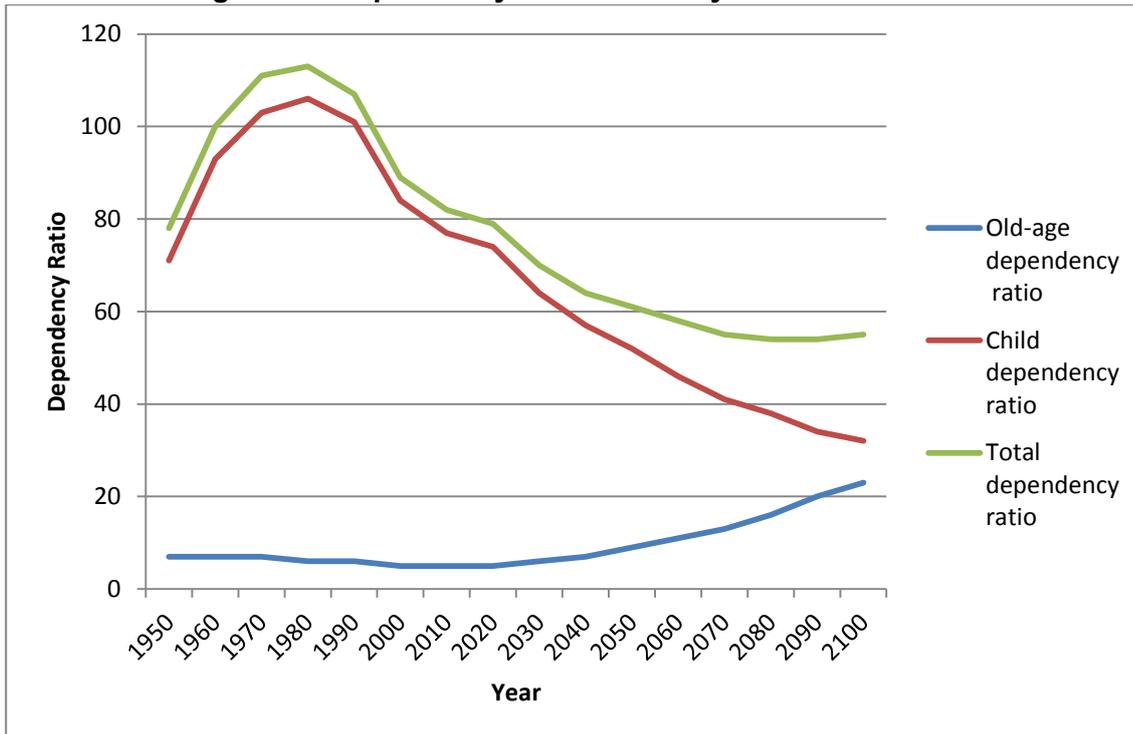
Source: UN Department of Economic and Social Affairs World Population Prospects (2013); The 2010 Revision; projections are using medium variants

The population over 80 will increase by less than half a per cent from 0.4 per cent in 1990 to 0.7 per cent in 2050. In general, it is increases in life expectancy coupled with low fertility which increase the number of people over the ages of 80 years in a population. If the life expectancy of a country is less than 70, the impact of better survival has been suggested as more beneficial for younger age groups, as opposed to older age groups (Rowland, 2003; UN, 2009b). Kenya’s life expectancy is only projected to reach 70 years in 2050 and low fertility is not predicted to occur in Kenya until later in the 21st Century (UNDESA, 2013). As such, the proportion of people in this oldest age category is likely to remain low in the coming decades.

Population ageing is associated with declining fertility and mortality rates. As mortality rates decline, there is an increase in the numbers of people in older ages (Rowland, 2003); this is the situation Kenya will see in the coming decades as increasing numbers of people are surviving into old age. Declining fertility rates result in an increase in the percentage of people in older age groups, in relation to the total population (Rowland, 2003). As has been highlighted, Kenya will not start to see significant fertility declines until the latter half of the 21st century (UNDESA, 2013). The increase in the percentage of older people in a country has implications for dependency ratios.

Figure 4-2 shows that the old age dependency ratio in Kenya is currently around five older people (aged over 65) to every 100 people aged between 15 and 64 years; this is unlikely to increase until later in the century. In contrast to this, the child dependency ratio will continue to remain high in Kenya, above 40 children per working-age adult until 2075. The pace of these demographic changes means that population ageing in terms of dependency will not be something Kenya has to contend with in the near future. However, it does indicate that there may be a potential demographic dividend; this refers to a period of accelerated economic growth which results from declining fertility and mortality and subsequent changes in the age structure (Canning, 2011). In order to harness this potential demographic dividend, policies must be put in place now which can create the necessary conditions for accelerated economic growth. Most importantly, this means that fertility must decline so that the size of the child population can decrease in relation to the working age population (Gribble and Bremner, 2012). If this were to happen, there would be an opportunity for a period of productivity which would allow for rapid economic development in Kenya, as child dependency would be significantly reduced and old age dependency would be yet to increase.

Figure 4-2 Dependency ratios for Kenya from 1950-2100

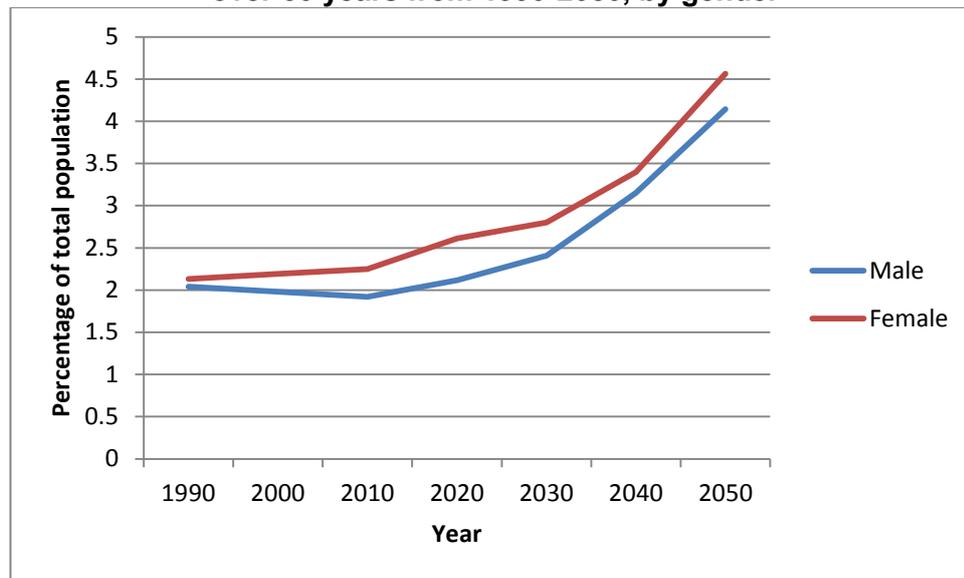


Source: UN Population Department of Economic and Social Affairs World Population Prospects: The 2010 Revision; projections are using medium variants

Note: All ratios are presented as number of dependants per 100 persons of working age (15-64)

There are gender differences in the predicted increase in the proportion of older people in Kenya. Figure 4-3 shows that the gap between the proportion of older women (aged over 60 years) in the total population and the proportion of older men has widened up to 2010. This gap will continue to widen until 2030, when it will begin to narrow. There are a larger proportion of older women in the population, echoing literature from international reports which highlights the propensity for larger numbers of women to survive to older age compared to men, due to their differences in life expectancy (UNDESA, 2007; UN, 2009b). As was highlighted in the introduction (section 1.2), older females have been highlighted as more at risk of poverty. As there are a greater number of older women than men in Kenya, it is important to consider how poverty is differentiated by gender at older ages, as this can have implications for policy.

Figure 4-3 Predicted change in the proportion of the Kenyan population aged over 60 years from 1990-2050, by gender



Source: UN Population Department of Economic and Social Affairs World Population Prospects: The 2010 Revision; projections are using medium variants

Figure 4-1 showed that there will be a sizeable increase in the percentage of older people in Kenya in the coming decades. However, it is also important to note that the absolute number of older people will increase dramatically. Kenya had three million people over the age of 50 in 2006 but this is predicted to more than double to almost eight million by 2030 (Velkoff and Kowal, 2007:8). It is important to consider how the increase in absolute numbers of older people will impact on society, as this group can be more vulnerable than other groups. There are also questions as to how many of these older people will need support in the form of “pensions, housing, and health and welfare services” (Rowland, 2003:334). The Kenyan government will need to ensure that health and social care systems, as well as social protection provision, are in place such that people are supported and can continue to contribute to society as they grow old.

4.1.2 Poverty among Older People in Kenya

It has been suggested that older people in Kenya, and in other African countries, who have endured poverty throughout their life “enter old age with few resources and very often in poor health” (HAI, 2004:69). The increase in the absolute number of older people in Kenya in the coming decades will have implications for policy, as old age can be associated with a variety of challenges, particularly poverty. Evidence suggests that older people can experience higher rates of poverty in comparison to the general

population. Research by Kakwani and colleagues (2006) found that during the 1990s, a larger proportion of the older population were in poverty in Kenya compared to the overall population, and their poverty depth and severity was also greater (2006). This finding indicates the need to improve the provision for older people, to ensure that they do not experience poverty.

The data used by Kakwani and colleagues (2006) is fairly dated now but recent figures underline similar findings. Poverty figures reported in a government review of social protection programmes in Kenya underline the findings that older people face a greater risk of poverty (Republic of Kenya, 2012). Of older people aged over 60 in Kenya, it is estimated that 53 per cent were absolutely poor in 2006; this figure is higher than the national poverty rate of 47 per cent (2012:7). This figure means that more than half of older people in Kenya were unable to meet their basic needs, both food and non-food. A quarter of older people in Kenya experienced 'hardcore poverty' in 2006; according to the KNBS this means that even if they had spent all of their money on food, they would still be unable to meet their minimum food needs (Republic of Kenya, 2012:6). These findings indicate that larger proportions of older people can experience poverty compared to the general population.

The relationship between being in poverty and being older has also been replicated at a more local level. A study using period panel data from three rural areas in Kenya investigated rural incomes, poverty and inequality; they found that a key factor in the likelihood of becoming poor at some point is having an older head of household (Suri et al, 2008). The study also found that once households with older heads become poor, they are less likely to exit poverty. These figures highlight the difficult situation that older people can experience in Kenya and emphasises the need for policies and social protection programmes to counter the poverty that older people live with.

4.1.3 Social Protection and Older People in Kenya

With predicted increases in the absolute number of older people in Kenya, the government has made progress in recognising this subgroup of the population in policies and social protection programmes, which recognise their increased likelihood of experiencing poverty. This section explores these different policies and considers how they might impact on the older people living in the slum settlements, who are the target population for this study. The first part of this section considers how older people have been incorporated into various national policies. The following sections then look at the different social protection mechanisms in place to support older people in Kenya.

It firstly looks at social security for older people and explains the different pension schemes in place in Kenya. It then looks at social assistance and the different social protection programmes which are in place to support older people in Kenya.

4.1.3.1 Recognition of Older People in Law

The Ministry of Gender, Children and Social Development (MGCSD) in Kenya introduced a National Policy on Older Persons and Ageing (NPOPA) in 2009; this was developed in line with the Madrid International Plan of Action on Ageing (MIPAA) (2002), of which Kenya is a signatory. The vision for the policy is:

“To have an environment in which older persons are recognized, respected and empowered to actively and fully participate in society and development” (2009:9)

The NPOPA recognises that to incorporate older people into development processes, there needs to be an overall framework to give coherent and comprehensive guidance to the different sectors and agencies which impact on older people (MGCSD, 2009).

The NPOPA highlights that societal changes have impacted on older people in Kenya, sometimes adversely, and that this group are not recognised for the contributions they make to society. Urbanisation has led to changes in traditional family structures and support systems. In addition to this, the contributory role of older people to their families and wider communities has become ever more significant in the context of the HIV/AIDS pandemic (MGCSD, 2009). In recognition of the impact these changes can have on older people, the NPOPA aims to enshrine the position of older persons within formal policy addressing key issues such as access to food, healthcare, income and social welfare (Shiundup, 2009). The policy acknowledges the challenges faced by older people and formalises the responsibility of the government to improve the situation.

Older people have also been recognised in the new Kenyan Constitution, introduced in 2010. The Constitution highlights the State’s role in addressing the needs of all vulnerable groups within Kenya, including older people (National Council for Law Reporting, 2010). Article 57 of the Constitution states that:

“The State shall take measures to ensure the rights of older persons—(a) to fully participate in the affairs of society; (b) to pursue their personal development; (c) to live in dignity and respect and be free from abuse; and (d) to receive reasonable care and assistance from their family and the State” (National Council for Law Reporting, 2010:38)

The efforts of the Kenyan government to ensure that older people's needs and rights are protected by law is an important step forward in improving the living conditions of older people in Kenya, particularly those in poverty.

At older ages, social security provision (such as pensions) can be an important source of support. The right to social security is enshrined in article 43 of the Kenyan Constitution with the proviso that:

“The State shall provide appropriate social security to persons who are unable to support themselves and their dependants” (National Council for Law Reporting, 2010:31)

This Constitutional right has been further strengthened by the introduction of the National Social Protection Policy (NSPP) which was passed as an act of Parliament in May 2012 (Knox-Vydmanov, C. et al, 2012:2). This policy aims to consolidate the management of safety nets and contributory programmes in order to further reduce poverty (Republic of Kenya, 2012). The NSPP recognises that in order to ensure that there is social cohesion in Kenya, there is a need to avoid having large numbers of the population living in poverty; with social protection programmes highlighted as the way to reduce poverty (Republic of Kenya, 2012). There are a range of social protection programmes which are operating in Kenya, some are social assistance programmes, which are non-contributory and some are social security programmes, which tend to be contributory. The Government of Kenya spends approximately 0.9 per cent of its GDP on funding social assistance but the majority of funding for these programmes (90%) comes from its development partners (MGCSD, 2011:10). As such, there are questions as to how sustainable these programmes are and whether they can, in time, become fully funded and administered by the Kenyan government.

The NSPP recognise the need to reduce the poverty of older people in Kenya. The NSPP incorporates a wide variety of social protection programmes some of which are concentrated on making provisions for people already in chronic poverty whilst others are focused on preventing poverty. The policy makes the distinction between people who may be helped out of poverty, such as unemployed young people, and those who may need longer term assistance to manage their poverty, such as older people and persons with disabilities (Republic of Kenya, 2012:2). The highlighting of older people as being at risk of long-term poverty is important and this policy recognises that poverty can be difficult to escape from at older ages, as employment opportunities may be fewer and poor health may prevent older people from being able to earn money and

improve their economic situation. It is therefore underlining the importance of providing social protection to older people in Kenya, as they are considered a vulnerable group.

4.1.3.2 Pensions

An important aspect of social protection in Kenya is pension provision; there are currently a number of different schemes in place which provide benefits for older people. However, the Kenyan Government recognises that these have differing approaches to coverage and benefit provision and that they would benefit from increased harmonisation (MGCSD, 2011). Overall, pension coverage in Kenya is low. A publication from 2006 suggests that only three per cent of elderly people reported receiving any pension income (Kakwani et al, 2006:2). This report would not have been produced long before the data for this study were collected, indicating that pensions for older people at the time were limited.

The importance of pension receipt in reducing poverty has been identified. A multivariate regression analysis was conducted by Kakwani and colleagues (2006) to analyse the effects of pensions on reducing the probability of poverty among older people (aged 55 and over), when controlling for other factors. They found that the probability of being in poverty was reduced by 17 per cent if the older person was in a household receiving a pension (2006:2). This result demonstrates the impact that the existing pension programme had for reducing poverty among older people in Kenya in 2006. Given that there was a strong benefit associated with pension receipt for older people, the introduction of a social pension in 2009, in the form of a means-tested cash transfer, is likely to also impact on reducing poverty among older people in Kenya. However, figures are not yet available on what impact this has had.

The statutory pensionable age for both men and women was 55 years at the time that the data used in this study were collected; this age had increased to 60 years for both men and women by 2009 (ISSA, 2007:21; ISSA, 2009:21). Older people in receipt of a pension in Kenya in 2006 are likely to have higher levels of education and to earn more money as well as having accrued more long-term wealth such as assets and land (Kakwani et al, 2006:2). There is currently no universal social pension, although a motion for a universal pension for all people aged over 60 years in Kenya was passed in June 2011 (Knox-Vydmanov, et al, 2012:3). All but one of the current pension schemes are contributory; the main pension scheme is the National Social Security Fund (NSSF) and there is also a Civil Service pension scheme, the Mbao pension

scheme, as well as individual and occupational schemes. These will be explored further in this section.

The NSSF is a contributory scheme which provides social protection for informal and formal sector workers, preparing working age people for retirement as well as providing support for invalidity benefit, funeral expenses and dependants (NSSF website, 2013). According to the Kenyan government's Social Protection Review (2012):

“The National Social Security Fund (NSSF) provides opportunities for employers and employees to contribute to the reduction of old age poverty and vulnerability” (Republic of Kenya, 2012:11)

The majority of its provision focuses on retirement benefits whether paid at retirement age or earlier (NSSF, 2010:13). The NSSF is currently structured as a provident fund, meaning that beneficiaries are paid only once (in a lump sum) upon retirement (NSSF website, 2013; MGCSD, 2011). It has been suggested that a lump sum payment may not provide protection against poverty as it can be spent on dependants, rather than the older person, and that a consistent payment may be a better payment method (Republic of Kenya, 2012). Efforts are needed to improve the structure of the NSSF in order to make it an effective poverty-reduction mechanism in old age.

The contribution rates for the old age, disability and survivors social security programme for Kenya in 2007 was 5% of monthly earnings for the insured person and 5% for the employer with the government contributing nothing (ISSA, 2007:23). Under the existing scheme, retirement benefits were paid at 55 years of age but this has since increased to 60 years; early retirement withdrawals are still permitted from the age of 50 (ISSA, 2007:101; ISSA, 2009:101). Even though this pension scheme is in place, it has been suggested that there are inefficiencies in processing it with receipt of payments reported to take a number of years (Republic of Kenya, 2012; HelpAge International, 2002:35). Effective reforms may help in improving the quality of the NSSF and ensure it achieves its intended purpose of reducing poverty among older people.

This scheme has limited coverage with only 4.6 million members (only 1.2 million are actively contributing to the NSSF) and 38,339 beneficiaries registered in 2010 (Republic of Kenya, 2012:115; MGCSD, 2011:12). Efforts have been made to improve coverage; from 2009, the NSSF has covered all categories of employers and was extended to cover employers with only one to four employees (MGCSD, 2011:12). Coverage could be further extended under plans to encourage increased membership contributions from self-employed people and those working in the informal economy

(Republic of Kenya, 2012). This reform could, in the future, potentially impact on older people in the slum settlements who more commonly work in the informal sector and in self-employment (see section 6.7.3). Pension coverage for these people would improve their financial situation and may reduce poverty experienced at older ages.

It has been highlighted that contributory pension schemes are problematic in Kenya due to the informal nature of the labour market as well as the high rates of poverty (Knox-Vydmanov et al, 2012). Due to limited financial resources, most Kenyans are unable to contribute regularly to a pension scheme, leaving them outside of this social protection mechanism (Kwena and Turner, 2013). Efforts have been made to address the problem with pension contributions in the informal sector through the Mbao Pension Plan, introduced in 2009 which has 38,000 members and is a voluntary savings scheme for old age aimed at employees in small and medium enterprises (Kwena and Turner, 2013:88). The low rate of contributions, as well as the flexible nature of the scheme, means that the savings will be small and are paid as a lump sum, as opposed to a regular income (Knox-Vydmanov, et al, 2012). This scheme will help some people reduce their risk of poverty in old age but it is questionable as to how much impact it will have.

There are other contributory pension schemes in Kenya which are individual or employer-based schemes. According to the Kenyan Ministry of Gender, Children and Social Development, there are 1,300 occupational schemes operating in Kenya with around 300,000 members and varying levels of benefits (MGCSD, 2011:12). In addition to this, there are 16 individual schemes which are open to all workers on a voluntary basis and have differing benefits depending on the scheme (MGCSD, 2011:12). These schemes are also fairly limited in coverage and still exclude those people most in need of social security at older ages.

Another pension scheme in Kenya is the Civil Service Pension Scheme which is solely for public service employees in Kenya; it is entirely funded by the national budget covering 425,000 civil servants as well as 209,384 beneficiaries in 2010 (Republic of Kenya, 2012:14). It provides retirement benefits as well as disability benefits and survivors' benefits, particularly for widows and orphans (MGCSD, 2011). Retirement is at age 60 but early retirement can be taken at 50 years; the beneficiaries can claim a quarter of their pension as a lump sum with the remainder paid in monthly instalments (Republic of Kenya, 2012:11). The difference in the number of beneficiaries for the Civil Service Pension Scheme and the NSSF (209,384 to 38,339) is vast and highlights inequality in pension provision among older people in Kenya.

The inequality between the social protection schemes offered by the Kenyan government has been highlighted as an issue to be reformed. Government spending on social assistance and contributory schemes was 1.28 per cent of GDP in 2010; in contrast, spending on the civil service pension scheme, which is non-contributory and full-funded by the government, was one per cent of GDP (Republic of Kenya, 2012:12). There is a continuing discussion as to how the civil service pension scheme can be converted into a contributory pension scheme (MGCSO, 2011). Enabling a joint contribution from the civil servants and the government would allow the government to make substantial savings which could be diverted to fund poverty reduction in other areas, such as through social transfers (Republic of Kenya, 2012). Those people who are vulnerable and would benefit from social protection are currently not benefitting as much as they should, if at all; there is a need to redistribute resources more fairly and to ensure greater coverage of the population.

This section has highlighted that pension coverage is particularly limited for people in the informal sector, which would constitute the majority of the people in the slum settlements. Although there are indications that pension schemes are being reformed to make them more inclusive, these will not benefit current older people who have not had the opportunity to invest for their retirement, due to the limited schemes available and due to their poverty (Knox-Vydmanov, et al, 2012). As such, social assistance programmes are important in providing for older people in poverty and ensuring that they receive support to help reduce their poverty levels and meet their basic needs. The introduction of the older persons cash transfer programme was aimed at providing for older people currently experiencing poverty.

4.1.3.3 Older Persons Cash Transfer (OP-CT) Programme

Kenya does not have a universal social pension, as some other Southern African countries do (KNCHR, 2009). However, the Kenyan government has recently introduced a means-tested cash transfer to older people. The OP-CT is a nationwide programme equally allocated between urban and rural households with the aim of reducing poverty among older people in Kenya (Republic of Kenya, 2012). This cash transfer has progressed from a small pilot in 2004 to cover 33,000 households in 2011, with eligible older person households receiving KSh 2,000 per month; there was provision in the 2011/12 budget for this to be scaled up to 48,000 households (Republic of Kenya, 2012:95). Elderly people who are eligible must be 65 years and above, must reside in extremely poor households, and should not be enrolled in any other cash transfer programme and should not be receiving a pension (Republic of Kenya,

2012:105). Ranking criteria are in place to target the cash transfers. Within each households, these consider the number of orphans and vulnerable children, the number of persons with disabilities, the age of the oldest member, the poverty level and the number of chronically ill (Gov of Kenya, 2012:online).

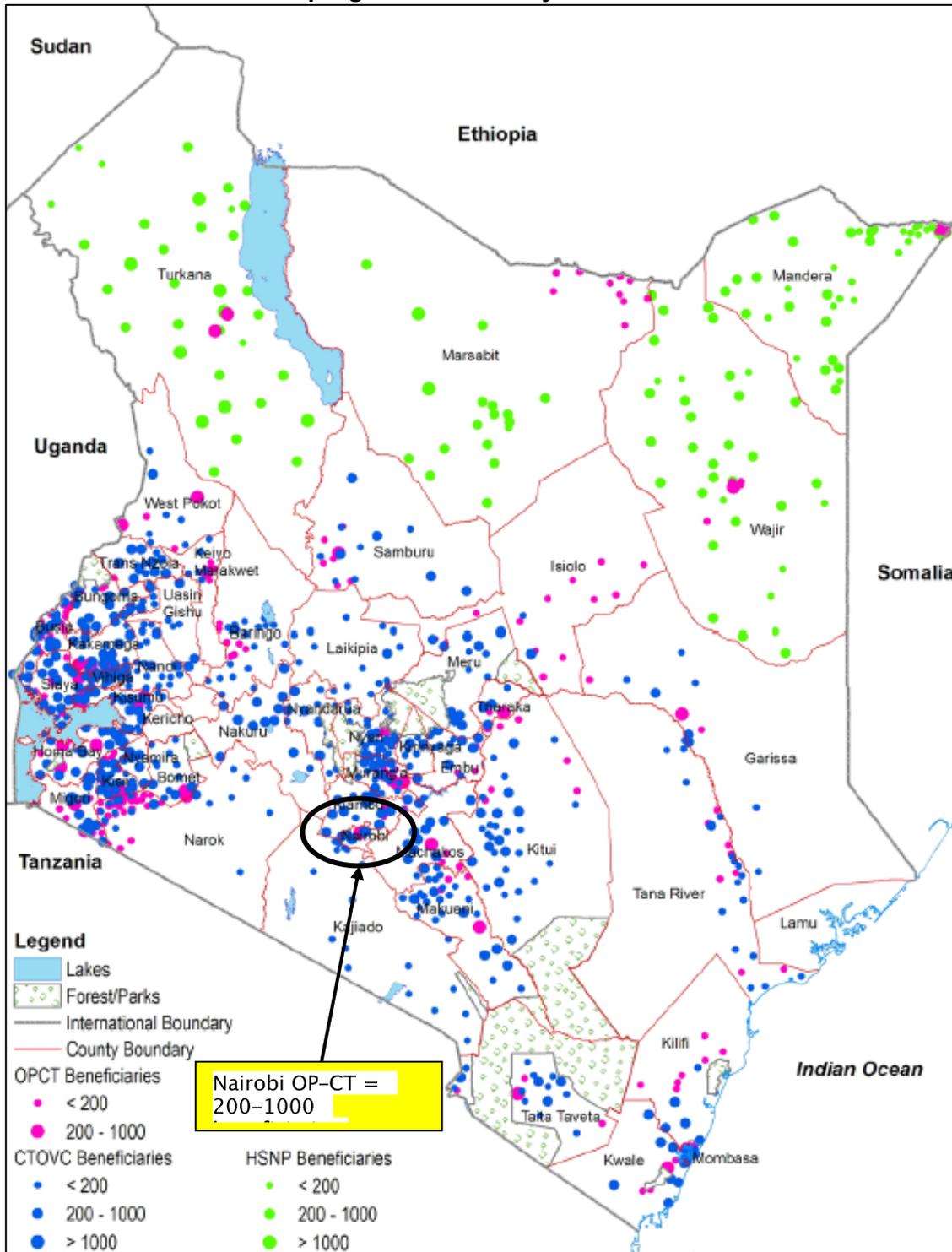
The cash transfer is delivered through the Postal Corporation of Kenya, which has branches spread across the country and is delivered every two months (Republic of Kenya, 2012). The cash transfer to the household can be withdrawn under the following circumstances: when the older person dies (although the household continues to receive the cash for the next three months); if the household situation changes and it is no longer eligible; when the household withdraws voluntarily; if the household has given false information in order to benefit from the programme; if the beneficiary moves out of the program district; and if the beneficiary does not collect their cash for three consecutive payments, that is six months (Gov of Kenya, 2012:online).

There have been some difficulties in the introduction of the OP-CT with complaints of delays in the distribution and payment of the benefit, due to the lengthy approval processes (Republic of Kenya, 2012). In an effort to make the OP-CT programme accountable, there are locational committees to ensure that beneficiaries are paid; these committees have approximately 15 members from organisations such as HelpAge Kenya and the District Official from the MGCSD (Republic of Kenya, 2012:116). These committees also deal with grievances and appeals, as there are no formal appeals processes at the moment; focus groups and other meetings can also be used to ensure that complaints are dealt with. Currently, there is no evaluation programme in place to ensure that the OP-CT scheme is operating efficiently and effectively, which needs to be addressed by the government (Republic of Kenya, 2012).

Figure 4-4 shows the geographic coverage of different social cash transfer programmes in Kenya in 2011. The different coloured and size dots indicate different programmes and different numbers of people covered. The pink dots indicate where the OP-CT programme is implemented. There are 200 to 1000 beneficiaries of the OP-CT programme in Nairobi but it is difficult to distinguish where these beneficiaries are and how many are slum dwellers, like the respondents in this study. The OP-CT is now operational in the two slum research sites used for this thesis, but it was not operational at the time of data collection in 2006. As such, it will not be feasible to

determine whether this cash transfer has had an effect on reducing poverty for the older people in these slums.

Figure 4-4 Map showing the geographic coverage of the social cash transfer programmes in Kenya in 2011



Source: Republic of Kenya, 2012:27

At present, the impact of the OP-CT programme seems minimal. The Kenyan government has explored the coverage of the OP-CT programme compared with the

number of households containing older people which are in absolute poverty (Republic of Kenya, 2012). In 2010, 41.8 per cent of older people over the age of 60 years were in absolute poverty; however, only 0.1 per cent was estimated to be covered by the OP-CT programme (2012:29).

Research conducted by an NGO in Kenya has suggested that the OP-CT has had positive impacts. Knox-Vydmanov and colleagues (2012) suggest that the cash transfer has helped older people ensure better access to food and healthcare, as well as allowing them to provide for their families. It had been highlighted prior to the introduction of the OP-CT that the introduction of a social pension in Kenya would have the added benefit of reducing the overall national poverty rate, as well as reducing the poverty rate of children in Kenya (Kakwani et al, 2006). Although there are benefits of this scheme, the sustainability of the cash transfer programme for older people has been highlighted as an issue of concern, although it is desired by the government (KNCHR, 2009). This programme is part of a wider social protection system in Kenya, which includes a variety of other social assistance programmes which indirectly benefit older people.

4.1.3.4 Other Social Protection Programmes and Informal Support

There are a variety of social protection programmes in Kenya, some of which target older people and others of which they are general beneficiaries, as well as programmes which indirectly benefit them. There are a variety of non-contributory agricultural programmes around the country which aim to improve agricultural skillsets, provide monetary assistance and enable access to agricultural materials (Republic of Kenya, 2012). These programmes do not directly target older people but they can be beneficiaries and these programmes can make a difference to the experience of agricultural poverty among older people. Unfortunately, disaggregated figures are not available for most of these programmes so it is difficult to determine how many older people are benefitting indirectly from the social protection programmes. Numbers are available for the directly targeting programmes and will be discussed later in this section.

The introduction of free education for primary school pupils in Kenya in 2003 has encouraged enrolment rates across the country and this has been especially helpful for poorer households. Of those households composed of older people and children in Kenya, 61 per cent are in poverty (Republic of Kenya, 2012:7). In addition to this, previous research on older people in the research site for this study (two slum

settlements in Nairobi) has shown that older people may be caring for dependent children (Ezeh, et al, 2006; Slum Care Home, 2009). The policy of free primary education for children therefore indirectly benefits older people who are caring for dependent children, as it removes the cost barrier to education that may have prevented them from being able to send these children to school previously.

There are also a number of non-contributory educational programmes which aim to encourage access to education and retention of pupils through the provision of school meals (Republic of Kenya, 2012). In addition to this, there is a programme to support bursaries for disadvantaged and vulnerable children who wish to attend secondary school. These other social protection programmes are also helpful in enabling older people to send dependent children to school. As such, programmes which allow free education and provide food can impact positively on households containing older people and children, who are experiencing poverty.

There is a health and nutrition programme which aims to give social protection to HIV-infected Kenyan people and this can also indirectly benefit older people. This programme provides food for HIV-infected people who are adhering to HIV/AIDS treatment as well as for orphans and vulnerable children in HIV-affected households (Republic of Kenya, 2012). It is estimated that six per cent of the adult population in Kenya (aged 15-49 years) is HIV-infected, with figures on infection among older people unknown (NACC and NASCOP, 2012:6). The Kenyan government has highlighted the impact that HIV/AIDS has on children and estimates that 1.1 million children have lost one or both parents to AIDS in 2011 (NACC and NASCOP, 2012:9). This situation results in grandparents taking on the care of their orphaned and vulnerable grandchildren, as well as their HIV-infected adult children (HelpAge Kenya, 2009). It has also been highlighted that older people can provide care for persons living with HIV/AIDS; in the slum settlements which are the research area for this study, five per cent of older people were found to provide care for someone with HIV/AIDS (Chepngeno-Langat et al, 2010:75). As such, a social protection programme which supports the provision of food for those people affected by HIV/AIDS may also impact on an older person who is burdened with the care of their family members; this provision will be particularly important in circumstances where households are experiencing poverty.

There are a number of non-contributory social cash transfer programmes which can directly and indirectly benefit older people in Kenya. These programmes target vulnerable groups within society, providing cash to enable them to purchase food or

other basic necessities if they are unable to do so (Republic of Kenya, 2012). One programme, the Older Persons Cash Transfer (OP-CT), which directly targets older, poor Kenyans has already been described (see previous section). Another programme which directly targets older people (over the age of 55 years) is the Hunger Safety Net Programme (HSNP) which aims to reduce poverty through cash transfers to pastoral people in Northern Kenya. There were 59,000 beneficiaries in 2010 and the programme specifically targets three groups of people: those identified as poor by their community, older people, and households with a high number of dependent children (MGCSD, 2011:39). The OP-CT and the HSNP are therefore directly targeting older people, one on a national scale and the other in poor, pastoral areas in the north of Kenya.

There are also programmes which indirectly assist older people in Kenya. One focuses on providing a cash transfer for orphans and vulnerable children which may benefit an older person who resides in a household with one of these children. Additionally, disability grants ensure that severely disabled people are able to receive a regular cash payment in order to meet their needs. If an older person is severely disabled or they care for someone who is severely disabled, they will benefit from this cash transfer. There is also a programme which focuses on providing a cash transfer to households which are struggling to access food in urban informal settlements (Republic of Kenya, 2012). The programme may benefit older people if they are eligible recipients in these areas; however, there is no information as to whether older people in the two slum settlements examined in this study are eligible to receive this cash transfer.

In addition to the cash transfer programmes, there are non-contributory schemes which focus on relief and recovery. These mainly focus on providing food for crisis-affected areas in Kenya, particularly pastoralist areas which may be affected by seasonal food shortages (Republic of Kenya, 2012). One programme highlights that elderly people may be able to benefit if they lack cash or assets but it does not directly target them (Republic of Kenya, 2012:106). These programmes will help those older people who are eligible and who are struggling to obtain the money they need to be able to access food.

There are two contributory programmes which form part of the social protection provision of the Kenyan government. As has been highlighted already, the NSSF provides social protection for workers. In addition to this, the National Hospital Insurance Fund (NHIF) is the main provider of health insurance to people in Kenya (both formal and informal sector workers), “who have an income and therefore can

make a financial contribution, voluntarily or involuntarily” (Republic of Kenya, 2012:107). The scheme operates by purchasing health care services from public and private providers. It has been highlighted that the NHIF needs to provide assigned post-retirement healthcare coverage as older people are currently required to make voluntary contributions in order to ensure their continued coverage, which is not affordable for most retirees (MGCSO, 2011). However, the government is currently reforming this scheme to align it with the Constitution (Republic of Kenya, 2012). As such, healthcare coverage for older people could be improved in the future. This scheme will currently cover some older people in Kenya, although there are no disaggregated figures to suggest how many.

The Kenyan government has also highlighted the role played by families and communities in providing social assistance to people; kinship networks provide safety nets and cooperative community associations, such as self-help groups, also provide a range of services that support people (MGCSO, 2011:11). These support systems are limited in scope and have experienced a strain on their resources, especially due to crises such as HIV/AIDS and food shortages. Yet they remain important sources of support for people as they age in Kenya. It is also more likely that these sources of support are relied on by older people in the slum settlements, more so than the formal social security and social assistance programmes which can have limited coverage and may not be easily accessible to older people in this context; the levels of usage of the social security programmes will be explored further in chapter six (data for the social assistance programmes are not available).

4.2 Older People in Nairobi Slums

As highlighted in the introduction, urbanisation in Kenya has increased rapidly in the past decades. Older people now increasingly reside in urban areas, either as people who have aged in situ after migrating at younger ages or as people who have migrated in later life to join family members in these urban areas. The slow development of these urban areas by the Kenyan government has led to increasing numbers of people residing in poverty in very poor living conditions in slum settlements (IMF, 2012; Gov. of Kenya, 2005). Little research has focused on how older people experience poverty in these environments which is the focus of the research questions to be addressed in this thesis. The following sections explore the development of slum settlements in Nairobi to provide context for these research questions. They also explore the

demographics of the two slum settlements which are the research sites for this study and describe the research already conducted on older people in this environment.

4.2.1 The Development of Nairobi Slums

Kenya has one of many urban populations in Africa that have grown tenfold between 1950 and 1990, with much of this growth occurring in slum settlements (Desai and Potter 2002:244). The capital city, Nairobi, has experienced the most rapid influx of migrants and achieved city status in 1950. The 1969 Census showed that only 25 per cent of Nairobi inhabitants were born in the city, indicating large number of migrants settling there (Hake, 1977:77). From this early period, inequalities in residency emerged within the city. The 1962 Census records that Upper Nairobi, which was largely occupied by European settlers, had a population density of 6.1 persons per net acre compared to Eastlands, mainly populated by Africans, which had 125.9 persons per net acre (Hake, 1977:27). These differences in living conditions for people in Nairobi have continued, and deteriorated, since then as more people have moved to the city.

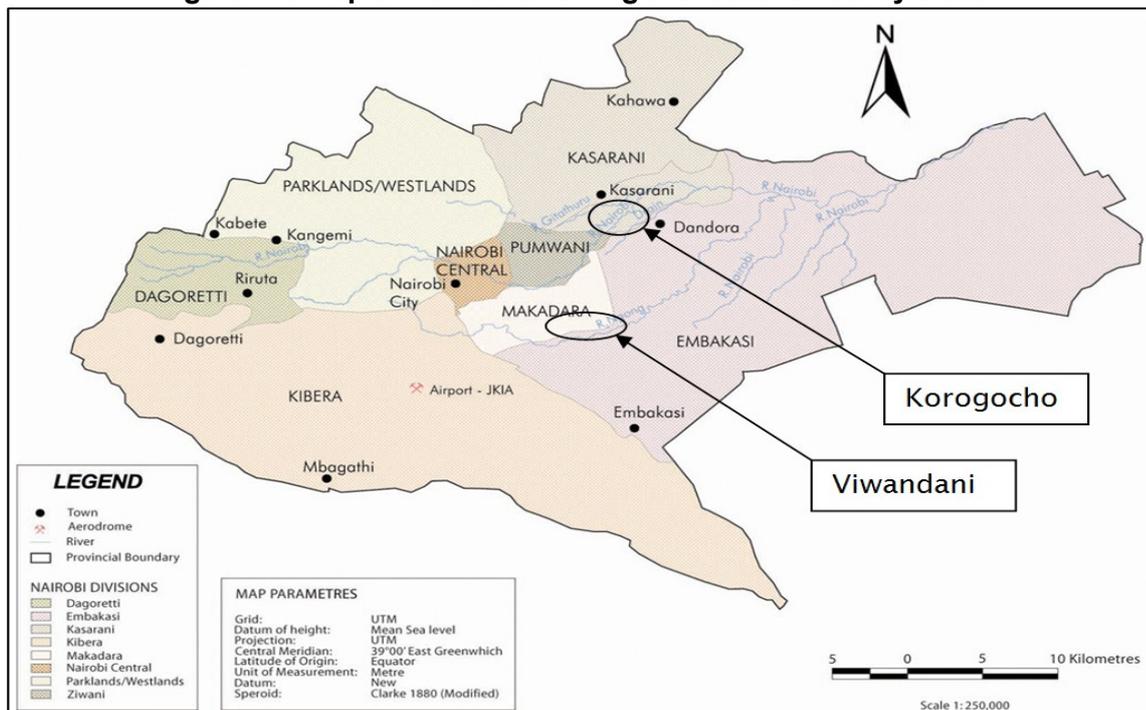
The current population in Nairobi stands at 3.4 million (CIA Kenya Factfile, 2012:online). Nairobi is a prosperous city, and a regional hub in Africa, but the rate of influx of people over the past decades was not matched by developments in infrastructure and housing so many migrants now inhabit the burgeoning slum settlements. The government “recognised the inevitability of slums and informal settlements as early as 1970” (Gov. of Kenya, 2005:28). The city now has approximately over 200 informal settlements contributing to the “extremely high population densities”, with living conditions cited as some of the worst in Africa (UN-HABITAT, 2010:140). The Kenyan government has recognised that improvements in living conditions in urban areas need to be prioritised and that security in informal settlements needs to be improved (IMF, 2012; Gov. of Kenya, 2005). However, progress in developing these informal settlements has been limited and slow, with many people continuing to reside in these places.

4.2.2 Research Sites

The study area for this research covers two slums in Nairobi: Viwandani and Korogocho. Figure 4-5 shows Nairobi and the black circles depict Korogocho and Viwandani. The two slums are located between seven to twelve kilometres from the city centre and occupy an area of 0.45 and 0.52 kilometres squared respectively.

Viwandani was established in 1973 and has a mainly male and a better educated population. Korogocho was developed in 1978 and has a more settled population, with the majority of residents residing there on a longer-term basis. Viwandani is home to mainly industrial workers, whereas Korogocho is more family dominated (Beguy et al. 2010). Korogocho is extremely congested with over 250 dwelling units per hectare (APHRC, 2011).

Figure 4-5 Map of Nairobi showing the research study sites



Source: United Nations Environment Programme Website (2013); Nairobi City Profile;

The informal, and hence non-permanent, nature of the slums settlements means that residents have limited access to basic services. According to the 2006 data, less than six per cent of households had access to piped water in their homes, two per cent relied primarily on a water tank, and 92 per cent had to purchase their water from open taps (Ezeh, *et al.* 2006). Less than three per cent of households had a private latrine and the majority (53%) relied on pit latrines shared with other households, or shared 'other' latrines such as public pit latrines and 'flying-toilets' (WBPA Kenya 2009: 57). Previous research in the study area suggests that:

“Most households live in one-room houses that serve multiple purposes, including sleeping, sitting, and cooking and eating. Over 95 per cent of the households cook in the same room they use for sleeping” (Ezeh et al, 2006:191)

In addition to this, HIV/AIDS related morbidity and mortality are high in these slums; HIV prevalence is estimated at 11.5 per cent (APHRC 2008b) which is higher than the national prevalence (6.7%), and close to 50 per cent of the deaths to the population aged five years and over are due to AIDS and tuberculosis combined (Kyobutungi *et al.* 2008).

Research conducted in the two slum settlements has explored the poverty which exists there. Childhood malnutrition has been found to occur more frequently among children from poorer households and socioeconomic inequalities in childhood malnutrition are more pronounced in this location than in rural areas (Fotso and Kaute-Defo, 2006). Fotso and colleagues (2009) found that vulnerability among children was associated more with poverty and neighbourhood characteristics in the slums and suggested that orphans in the poorest households can have negative outcomes. Food insecurity is persistent among slum residents with only one household in five being food-secure; nearly half of all households are categorized as food-insecure for both adult and child hunger (Faye et al, 2011). Poverty has also been suggested to shape sexual behaviour in the slums with lower household wealth and lower educational attainment being associated with inconsistent condom use (Davidoff-Gore et al, 2011). Women in the slums associate poverty with adverse maternal outcomes due to the heavy workloads during pregnancy, intimate partner violence and inhospitable and unpleasant treatment by service providers (Izugbara and Ngilangwa, 2010). The experience of poverty and the effects poverty can have on various aspects of life are evident from the existing research on the population in the two slums; however, research is needed to explore poverty specifically among older people to generate information on their experience of this.

4.2.3 Older People in Nairobi Slum Settlements

Existing studies on older people in the two slum settlements have focused on health status, health outcomes and the experience of HIV/AIDS. A study exploring the religious and social activities of older people in the slums in relation to their health status found that there was a positive association between self-reported health and increased social interaction (Kodzi et al, 2010). This indicates that older people report being in better health when they are more engaged in social interactions. The study found that women, the oldest individuals, and those in the poorest wealth quartile self-report poorly on health status, while those currently married and currently working have positively rated their health status (Kodzi et al, 2010). This result highlights a

relationship between being in poverty and being in poor health for older people in the slums.

An additional study on the health of older people in the two slum settlements echoed the above findings (Kyobutungi et al, 2010). It found that males had a significantly better quality of life and health status than females, with 'older old' people in the slums having worse health outcomes than 'younger old' people. Education level and marital status were also significantly associated with quality of life. Older people with no education or little education were more likely to report poor quality of life. Older people in some kind of partnership were less likely to report poor quality of life, with separated or widowed respondents reporting significantly poorer quality of life. Slum of residence was significantly associated with health status, with older people in Korogocho reporting significantly worse health outcomes than those in Viwandani.

A study which explored HIV/AIDS among older people in the two slum settlements found that about 18% of respondents reported being affected by HIV/AIDS in at least one way, although less than 1% reported being infected with HIV (Kyobutungi et al, 2009). Older people who were directly or indirectly affected by HIV/AIDS (for example, through care-giving) reported worse health outcomes than those not affected, indicating the health burden placed on older people through interaction with HIV/AIDS. A study exploring older people as HIV care-givers in the slums found that they were more likely to live in larger households with higher numbers of dependent children (Chepnengo-Langat et al, 2010). Interestingly, these older care-givers were also found to be ranked more highly for their wealth status. The authors suggested that this may be because these older people are seen as having the resources needed to provide care for sick family members.

Research on older people in the slum settlements indicates that over a three year period from 2006 to 2009, the annual out-migration of older people from the slum settlements was four per cent (Falkingham et al, 2012:335). The study found that the propensity to migrate out of the slums decreased with time spent living in the slums and future migration intentions among the sample of older people suggest only one in five intend to relocate from the slums (2012:334). This research concurs with analysis undertaken by APHRC in 2006 on all age groups in the slums, which helped provide information for the World Bank Kenya Poverty Assessment in 2009. It showed there was significant mobility into and out of the slums each year but household heads who were older and who had resided in the slum longer were less likely to exit (WBPA Kenya, 2009:119). This result indicates that older people will increasingly be ageing in

situ in the slum settlements and that their needs will need to be met in this environment.

A study looking at life satisfaction among older people in the two slum settlements found that there are a variety of factors associated with it (Kodzi et al, 2011). Various aspects of religiosity were associated with increased life satisfaction, including regular religious service attendance. It also found that extended family support and ties are significantly associated with life satisfaction, as are having close friends and engaging in community activities. The strongest associations were found between health status and life satisfaction as well as financial situation and life satisfaction. The significant associations between these factors and life satisfaction indicate that these are all important dimensions to consider when exploring the life satisfaction of older people in this environment.

Although these studies have provided valuable insights into the health and social participation of older people, the analysis of poverty levels of older people in the slums and the distinction between those older people who are poorer than others has received little attention. A study on socio-economic inequality in health for older people in the slums showed variation in the association of socio-economic status and health based on the measure of socio-economic indicator used and the specific functionality domain for the health measure (Falkingham et al, 2011). This study highlighted the need for the identification of an appropriate socio-economic classification that is “sensitive in identifying poverty and deprivation among older people living in slums” (2011:381).

There are limited welfare provisions from informal sources in the slums, with a small number of religious organisations and charities seeking to provide for older people. A Care Home in Korogocho caters specifically for older people and has often found itself overwhelmed by requests for food (see text box 2-1) (Slum Care Home, 2009). The difficulties facing older people in the slums are highlighted by the nuns who suggest that the older people face extreme poverty, in that they struggle to meet their basic need of food each day without assistance.

Text Box 4-1 Slum Care Home for Older People

Description:

- Religious organisation in Korogocho slum
- Started in the early 1980s
- 34 older residents who are destitute, on the streets or have no family
- Provide clothing, a bed, medical care, food
- Many financial challenges: rely on money raised by the church congregation

Characteristics of residents:

- Majority of the residents are men
- Most aged 65 years and over
- Most residents are in very poor health
- Residents are from all over Kenya and even other countries (e.g. Tanzania)

Activities of the Care Home:

- Tuesday: hold a leprosy group with 80 regular attendees (non-residents)
- Wednesday and Friday: feed non-residents – can feed 120 people or more
- Provide food to orphans who accompany older people to the day sessions
- Give blankets away at Christmas

Problems for Older People in the Slum according to the Care Home:

- Housing rent is expensive and older people struggle to afford it
- Unemployment due to old age: residents are too weak to work
- Poor state of housing: roofs do not work in the wet season leading to illness
- Security in the slums is poor and older people risk attack; older women are particularly vulnerable

Source: Slum Care Home, 2009

Non-Governmental Organisations (NGOs) are notably absent from the two slums studied, indicating that the onus for assistance at older ages may fall on extended family and kinship networks or on the older persons themselves. HelpAge Kenya is a national civil society organisation and has initiated some projects in the slums, directed towards relieving poverty among older people (see text box 2-2) (HelpAge Kenya, 2009).

Text Box 4-2 HelpAge Kenya

Description:

- An NGO focused on addressing the needs of older people in Kenya

Aims of HelpAge Kenya:

- Advocates for older people at the national level
- Advocates strongly for free healthcare for the elderly
- Advocates for universal social pensions
- Advocates for the inclusion of older people into HIV programmes

Activities of HelpAge Kenya:

- Operates throughout the country implementing projects
- Fundraise for church/community organisations managing projects for older people
- ‘Sponsor a Grandparent’ scheme: individual donors can sponsor an older person –supports 29 projects in Kenya (17,000 older persons)
- Work directly with 19,670 older people and indirectly with 40,289 people in other age groups (including orphans)
- Promotes the identification, involvement and management of projects by older people
- Provide training for older people them
- Projects are very community oriented – both in rural and urban areas

Slum Activities of HelpAge Kenya:

- Programmes in the slums have given loans to start businesses
- Health projects involve assisting with hospital and paying bills
- Can give a cash transfer of KSh 1,000 each month to pay rent and buy necessities for those older people in extreme poverty
- Can buy a water storage device to ensure access to clean water

Source: HelpAge Kenya, 2009

They face challenges in obtaining funds for older people as the funds from the international donor community are normally directed at women and children. With little research focused on older people in this context, there is little data to inform policy but the increase in the number of older people in Kenya in the future means organisations like HelpAge Kenya will play an important role in securing the rights of this age group and ensuring support for Kenyans in their later life.

4.3 Summary

This chapter has shown that there will be a sizeable increase in the proportion of people aged over 60 years in the coming decades in Kenya, from four per cent to nine per cent (UNDESA, 2013). The government has highlighted that people in older age groups are at a greater risk of poverty compared to the general population as a whole. The absolute poverty rate for those over 60 years of age is 53 per cent compared to the national poverty rate of 47 per cent (Republic of Kenya, 2012:7). As such, the Kenyan government will need to ensure that it will be able to cater to the needs of increasing numbers of older people, in the form of social protection, healthcare and social care, to ensure that they do not face poverty in old age.

The Kenyan government is attempting to address poverty among older people through social protection mechanisms. The social security programmes revolve around contributory pension schemes (apart from the Civil Service Pension Scheme). However, due to the informal nature of employment in Kenya, as well as the high rates of poverty, most Kenyans do not have the financial resources to provide regular contributions to a pension scheme, resulting in large proportions of the working population remaining uncovered by this social protection mechanism. There are currently reforms taking place to improve coverage and ensure that more people in the future will have access to pension schemes, which can help to prevent future old age poverty.

Despite these moves towards pension reform, there are a large number of older people currently in poverty in Kenya (53%) who will not benefit from changes to pension schemes. They are in need of social protection mechanisms which counter the poverty they are currently experiencing. Numerous social assistance programmes are in place which may indirectly cover older people and provide them with financial and food support, although it is difficult to know how many older people benefit from these as there is no disaggregated information to indicate their efficacy for this age group.

There is a social assistance programme which directly targets older people in Kenya. The Older Persons Cash Transfer (OP-CT) programme was gradually introduced over the past decade, initially starting as a pilot programme, but has been scaled up from 2009 and now covers 48,000 households (Republic of Kenya, 2012:95). This programme currently has limited impact on reducing poverty among households containing older people; however, it is still in its infancy and it is expected to improve the poverty situation among older people as the coverage widens and provision

becomes more efficient (Republic of Kenya, 2012). It is an important social protection mechanism which is directly aimed at older people in Kenya and will help to reduce poverty levels among this age group.

This study focuses on older people in two slum settlements in Nairobi and the poverty rate in these slums is high at 62 per cent (WBPA Kenya, 2009:59). Existing research on older people in the two slum settlements has mainly addressed issues relating to health, migration and the experience of HIV/AIDS (Kodzi et al, 2010; Kyobutungi et al, 2010; Kyobutungi et al, 2009; Chepngeno-Langat et al, 2010; Falkingham et al, 2012; Kodzi et al, 2011). However, no research has sought to explore poverty and wellbeing specifically for older people in this context, to establish what characteristics are associated with poverty and wellbeing.

The data were collected prior to introduction of the NPOPA, the Constitution and the NSPP so it will not be possible to establish how much older people in the slums benefit from the recognition of their needs and rights in law. The data were also collected before the introduction of the OP-CT in the slum settlements so it will not be possible to analyse whether this has had an impact on reducing poverty among older people in the slums. However, levels of pension contribution and receipt have been explored in chapter six and can highlight the impact that this social protection mechanism had on older people at this point in time. The next chapter further explores the data analysed in this study and details the methods used to answer the research questions.

5. Data and Methods

The research aim of this study is to explore poverty among older people in two Nairobi settlements. A secondary quantitative research design was utilised throughout this study. This chapter explores the data and methods used in this study to analyse these research questions. It details the collection process for the data and the sample used for analysis. The different response and explanatory variables used in the analysis are then discussed. The chapter also addresses the quality of the data and the limitations of it. The methods used in the analysis stage are then explained, with a consideration of their advantages and disadvantages.

5.1 Data

This study utilised data collected in two slum settlements in Nairobi. The data were collected using two nested surveys in two routine data collection rounds of the longitudinal Nairobi Urban Health and Demographic Surveillance System (NUHDSS) which operates in the two slum settlements. The two surveys were the Household Amenities and Livelihoods Survey (HALS 2006) (a household survey) which was linked to data from the Survey on Social, Health and Overall Well-being of Older People (SSHOWOP 2006) (an individual survey). For the purposes of this study, data from these surveys were combined with additional information from the NUHDSS (explained in more detail in the following section). Combining these different data files gave much more information on the older people in the slum settlements, as individual level data and household level data could be linked to give a fuller picture of the resources available to older people. The NUHDSS and the two nested surveys will be explained in more detail in the following sections.

5.1.1 Nairobi Urban Health and Demographic Surveillance System (NUHDSS)

The NUHDSS is a member of the International Network of field sites with continuous Demographic Evaluation of Populations and Their Health in developing countries (INDEPTH Network) which is a network of community-based longitudinal demographic surveillance sites in low-income countries. The NUHDSS is a longitudinal framework which aims to look at how urbanisation and poverty will affect demographic indicators and development (APHRC, 2011). It also aims to explore how poverty, health outcomes and slum residence are linked and how these can vary over the life course from childhood to old age.

As discussed in section 4.2, the rapid urbanisation of Kenya has resulted in the development of slum settlements which are characterised by extremely poor living conditions (APHRC, 2002). In order to investigate the causes and consequences of this rapid urbanisation, the African Population Health and Research Centre (APHRC) launched the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) in two slums in Nairobi, Korogocho and Viwandani (refer to map in section 2.2.4 on page 55). The APHRC conducted several research and monitoring projects in the slum settlements from the year 2000 (APHRC, 2002). These slums are demarcated Demographic Surveillance Sites (DSS) and together constitute the Demographic Surveillance Area (DSA) which covers one square kilometre of land, with an annual population of 60,000 people and 28,000 households followed from 2003 to 2007 (APHRC, 2011).

In August and September 2002, an initial census was conducted in order to register the defacto population to be visited in each data collection round. Prior to this census, the rooms and structures in the DSA were individually numbered so as to be able to uniquely identify them (APHRC, 2002). The organisation of the residential arrangements in the slums has been summarised as follows:

- The dwelling units are “rentable rooms (some of which serve as sleeping rooms), within the same structure, for no more than one household” (APHRC, 2006:12)
- Households are the social units within the same structure – social units split over two structures are recorded as two separate households. A household is defined as:

“A group of people (irrespective of how they are related to each other) who share the same dwelling units within a given structure, consume or make some contribution to food and other shared resources” (APHRC, 2006:13)

- The individuals are the residents of the dwelling units and the members of households; “the individuals are the main subject of interest within the NUHDSS” (APHRC, 2006:13). Each individual is assigned a unique identification number which does not change at any time during their residence in the DSA. If they leave and return, they are given the same identification number again, which allows for the tracking of their migration patterns.

All individuals who were usual residents during the initial census of the DSA became Demographic and Surveillance System (DSS) members. After this period, people

become members through in-migration or birth and they exit through out-migration or death. The data are collected on core demographic events (birth, death, immigration and out-migration) by fieldworkers and are updated every three months (APHRC, 2008a). This method creates panels of DSS data over time, called 'rounds', and monitors migration in and out of the slums, with the initial census is numbered round zero and subsequent rounds are numbered one, two and so on. By May 2013, there were 31 rounds which have been collected. This study used data from the thirteenth round which was collected between September and December in 2006; during this period there were 57,080 individuals in the NUHDSS and 23,093 households (NUHDSS Membership File, 2006). This round was chosen because it coincided with the data collection for HALS and SSHOWOP.

The NUHDSS collects a large amount of information using a variety of surveys. There is a main membership file which contains the basic demographic and household information for each individual in the DSS. The NUHDSS information used in this thesis includes socio-demographic indicators which were not collected in the SSHOWOP individual level survey, such as education and ethnicity. In addition to the main membership file, there are other surveys conducted on a regular basis during the year which contribute more detailed information on DSS residents.

A broad programme of work funded by the Wellcome Trust was undertaken by APHRC entitled the Urbanisation, Poverty and Health Dynamics Project (UPHD). This project aimed to investigate consequences of rapid urbanisation urban poverty at different stages of the life course (Zulu et al, 2011). It had five strands focusing on different aspects of migration: migration dynamics and poverty in informal settlements; migration, poverty and child health; migration, poverty and transition to adulthood; migration, poverty and maternal health outcomes; and migration, poverty and the wellbeing of the elderly. This research has resulted in a number of surveys being nested into the NUHDSS to collect information on these five strands. One of these surveys is the Household Amenities and Livelihoods Survey.

5.1.2 Household Amenities and Livelihoods Survey (HALS)

The household level information was collected using the Household Amenities and Livelihoods Survey. The household survey data used for this research were collected from September to December in 2006; this survey is nested within the NUHDSS. The sampling process for this survey was purposive. The households selected for inclusion in the sample were those who had taken part in the substantive surveys for each of the

five strands of the UPHD project. This method was selected as a way of ensuring a greater depth of information could be collected for each household, as it was combined with the research collected from other surveys. A sample of 20,300 households was selected from the NUHDSS membership file, and APHRC fieldworkers conducted the survey. Although the sampling process was purposive for the HALS survey, with households being selected if they had responded to a substantive survey, the sampling process for households containing older people was actually a census. This sample incorporated all households containing older people (aged 50+, this target group is further discussed in section 5.1.4) in the DSA which was 2,771 older people (Chepngeno-Langat, 2008). This decision was taken because there are a relatively small number of older people in the slums and it was felt that gaining as much information as possible about their situation would strengthen the ageing research strand of APHRC's work. As such, the findings are representative of the older population in the two slums.

One member per household responded to the survey, giving details for the amenities and livelihoods of the household as a whole. The HALS collected a variety of information on households in the slums. Topics covered included: information on household income and expenditure; assets; dwelling characteristics; food production and consumption; household shocks experienced (such as fires and floods); and it also included a subjective wealth ranking assessment which enquired as to how the household head thought the household compared to the community as a whole, in terms of wealth (HALS, 2006).

Of the households sampled, 76 per cent of households responded, one per cent refused to be interviewed and 23 per cent could not be contacted (Chepngeno-Langat, 2008). The amenities and livelihoods information was collected for 53,582 individuals and 15,446 households (further summarised in section 5.2). This information has been collected in each round of the NUHDSS since 2006; as a result, it can be linked to NUHDSS information as well as other nested surveys. From September to December 2006, it was collected concurrently with the Survey on Social, Health and Overall Well-being of Older People.

5.1.3 Survey on Social, Health and Overall Wellbeing of Older People (SSHOWOP)

One of the projects connected with the NUHDSS is entitled the Urbanisation, Population and Health Dynamics project (UPHD) which was funded by the Wellcome

Trust. The UPHD project was established with the intention of identifying strategies that can address the deteriorating living conditions of people in poor urban settings. One of the strands of this project focused on ageing. In order to explore the ageing process in the slums, the Survey on Social, Health and Overall Well-being of Older People (SSHOWOP) was nested onto the NUHDSS. It followed all older people over 50 years in the DSS to understand their health status, health seeking behaviour, living arrangements, livelihoods, and migration intentions and the impact of HIV/AIDS on their well-being and social support structures (APHRC 2008a:6).

The NUHDSS provided a sampling frame for identifying older people for this study and all people 50 years and older who were registered as resident members in the NUHDSS during the round preceding the survey, were eligible for interview. As the survey was targeting all people over 50 years old in the DSS, it was a census of all of older people in the two slum settlements (APHRC, 2006). The survey was conducted in round 13 of the DSS and there were 2,771 older people registered as members at the end of round 12 of the DSS.

The data were collected using face-to-face interviews and was collected between November 2006 and January 2007. The data collection process for the SSHOWOP followed the rigorous data collection procedures abided by APHRC. The fieldworkers were recruited from the NUHDSS fieldwork teams and trained for one week. They were trained using a manual which detailed study objectives, the study rationale and a detailed description of the questionnaire content (Chepngeno-Langat, 2008). The guidelines and manual were used to standardise the data collection process and were strictly adhered to by the fieldworkers. They were also given guidance on how to approach respondents.

For the data collection process, there were 28 fieldworkers in five teams which worked in designated areas; each team had five interviewers and one team leader. The fieldworker was given a list of eligible respondents and they were expected to interview three per day on average (Chepngeno-Langat, 2008). In order to identify the respondents, the fieldworkers were given their location, age, sex and the name of the respondent (information acquired from the NUHDSS).

The fieldwork process is explained in table 5-1. The process to design and prepare the questionnaires took a six month period. Once ethical approval had been sought, the questionnaires were translated from English to Kiswahili, which is one of the official languages in Kenya (English is the other) and is spoken widely in the slums

(Chepngeno-Langat, 2008). The data collection period then ran from November 2006 to January 2007 with data entry and editing taking place periodically between December 2006 and March 2007.

Table 5-1 Fieldwork procedures and data collection

<i>Time</i>	<i>Duration</i>	<i>Major activity</i>
January 2006 – June 2006	6 months	Fieldwork preparation and design of questionnaires
August 2006	1 month	Application of ethical approval
September 2006	2 weeks	Translation of questionnaires from English to Kiswahili
October 2006	3 days	Recruitment of field interviewers
	1 week	Training
	1 day	Pre-test of questionnaire
	1 day	Revision of questionnaire
November 2006 – January 2007	12 weeks	Data collection
December 2006 – March 2007	5 weeks	Data entry and editing

Source: Adapted from Chepngeno-Langat, 2008:80 (reproduced with permission of the rights holder)

Questions in the survey were organised into sections; information was gathered on respondents' individual characteristics, living arrangements, health status, economic activities and migration intentions. Questions were also asked regarding the care and support patterns of the older people in these two slums.

A number of measures were employed to minimise non-response among the older people in the two slum settlements. Prior to the commencement of the survey, numerous activities were held in the study areas to raise awareness of the imminent data collection (Chepngeno-Langat, 2008). The training of the interviewers also ensured that they were able to build a rapport with the respondent and use persuasion to obtain answers (APHRC, 2006). Logistically, the interviewers were also flexible in setting convenient appointment times for the interviews. November and December are usually a holiday season in Kenya with people in the slums potentially unavailable as they are visiting relatives elsewhere (Chepngeno-Langat, 2008). As such, the data collection period was also extended for two weeks into January in 2007 to allow for as full a response rate as possible.

The NUHDSS sampling frame indicated that there were 2,771 potential older respondents in the two slum settlements in 2006. The response rate for the survey was 76 per cent, giving 2,100 respondents (table 5-4). The majority of the non-response for the survey was due to no eligible older people being located at home or because the household could not be traced to its last known address or had moved within the slums

(Chepngeno-Langat, 2008). Eight per cent of older people were classed as ‘not specified’ as to why they were not located.

Table 5-2 Sampling frame for the survey on social, health and overall wellbeing of older people

<i>Final result of interview</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Completed interviews	2100	75.8
No competent respondent at home	97	3.5
Entire house absent	17	0.6
Refused to be interviewed	127	4.6
Whereabouts unknown	197	7.1
Access to dwelling unit denied/blocked	3	0.1
Incapacitated	3	0.1
Other reasons	227	8.2
Total	2,771	100

Source: Chepngeno-Langat, 2008:88

5.1.4 Target Population

The target population for the ageing component of the UPHD project was defined as all older people aged 50 and over living in the NUHDSS area. This age cut-off may be viewed as too young; global cut-offs for old age tend to focus on people aged 60 and above (WHO, 2011). However, the allocation of a cut-off determining old age is problematic and will necessarily vary both between societies and within them. Lloyd-Sherlock (2002) highlights that:

“There is no obvious threshold between adulthood and old age, particularly in poorer countries where pension entitlements are limited” (2002:1164)

The result is that the number chosen can be arbitrary and may not reflect reality, even if it does ease comparability between countries and regions (WHO, 2011). However, there are a number of justifications for using the cut-off of 50 years and above to define older people in the slum setting.

The age of 50 years is thought to incorporate the chronological, functional and social definitions of ‘being old’ in Africa and has been adopted by the WHO for its project on global ageing and adult health (WHO 2006a). This age cut-off has also been used in other studies in Africa (WHO 2006b; Ssengonzi, 2009). Evidence from an African research site in a cross-cultural study into functionality at older ages found that “health

and physical capacity are markedly less than average by the 50s” (Fry, 2000:768). Another study conducted in South Africa in a rural demographic surveillance system highlighted that some respondents in their adult age groups, which included people in the fifties and men aged 60-64 years, experienced health and social problems similar to ‘older people’ (Hosegood and Timaeus, 2005:442).

Age can also be viewed as a social construct and it can be associated with changing roles in society. Discussions with older people in South Africa found that:

“Chronological definitions of old age were not viewed as so important in signifying old age as changes in physical and mental capacity” (UNFPA and HAI, 2012:21)

This evidence suggests that defining old age goes beyond the consideration of just one number. However, for the purposes of this study, an age cut-off must be chosen and this should reflect the context studied. Various sources from SSA indicate that ageing can occur from younger ages and as such, 50 would be a useful cut-off range to assess the differences in poverty and wellbeing among people in older age.

It can also be argued that ageing in a slum is not the same as the general ageing patterns in other non-slum urban situations. It can be a more difficult process given the poor access to health services, the extreme poverty endured and the inadequate and dangerously unhealthy living conditions. Slum residents have been shown to suffer greater inequalities, especially in health outcomes, than those in non-slum urban environments (Brockhoff and Brennan 1998; Kyobutungi *et al.* 2010). It has also been suggested that informal urban settings mean weaker social networks for older people and increased vulnerability due to changes in traditional family structures (Kyobutungi, *et al.* 2010). As slum life can potentially make ageing a more difficult process, the age cut-off of 50 years reflects these problems which can be specific to the informal residential setting.

In addition to this, many age cut-offs often reflect the pensionable age of the country being studied. If this was to be reflected in this study, the cut-off point would be 55 years (Kakwani, *et al.* 2006), and it is also possible under the National Social Security Fund (NSSF) pension scheme to take early retirement at 50 years (Olum, 2007). Preliminary analysis of the data for this research study shows that 57 per cent of older people aged 50 to 59 years in the slum settlements have received a pension. This finding indicates that the age cut-off of 50 years may be suitable in incorporating older people in the slums. In defining an older person, the life expectancy of people in Kenya must also be taken into account; life expectancy at birth is 54.5 years for women and

53.7 years for men (UN, 2009c). Given this information, 50 years represents an appropriate age cut-off for defining an older person in terms of the Kenyan population and the respondents' environment within the slums.

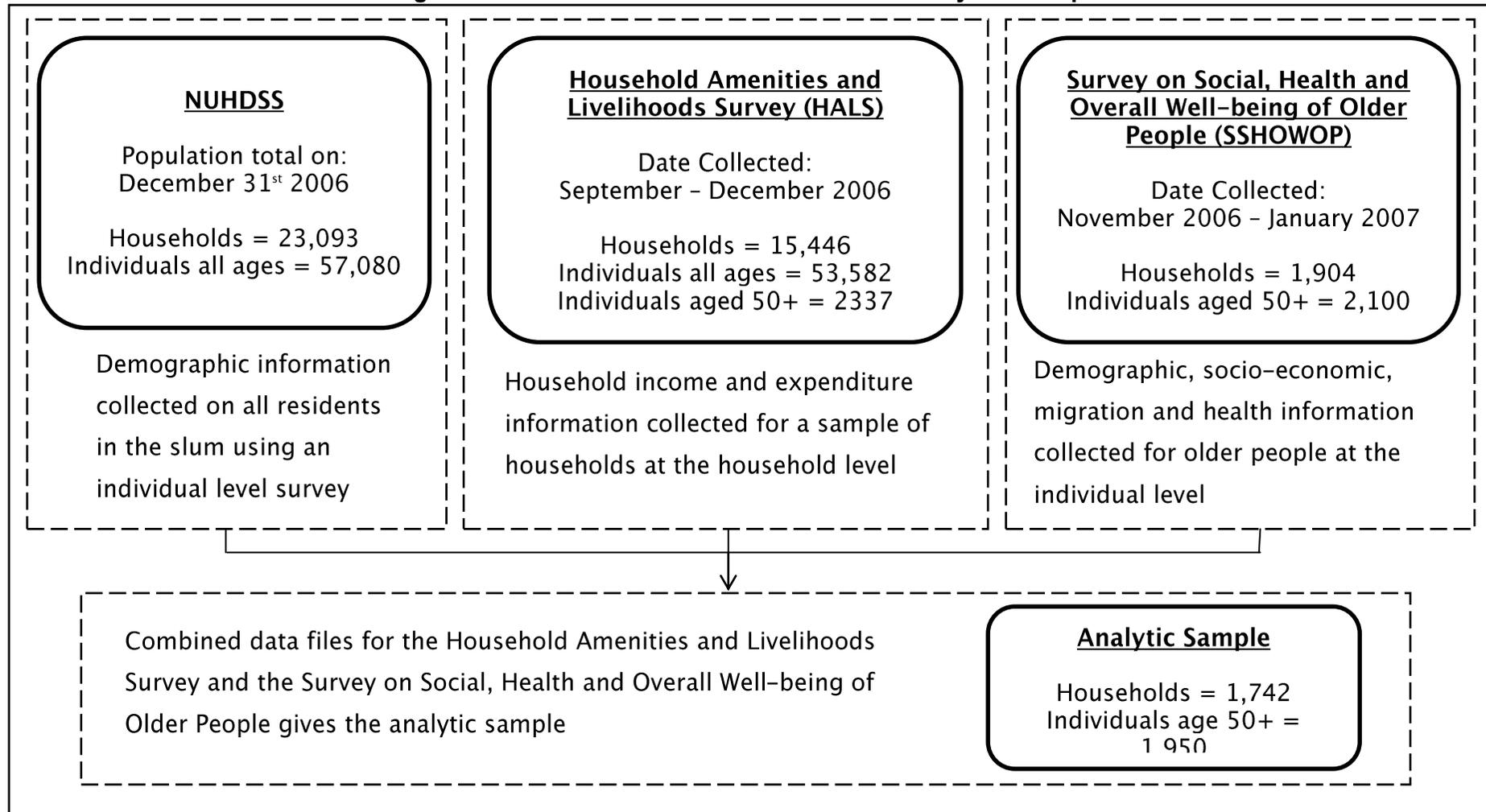
5.1.5 Research Ethical Considerations

In order to collect data in the two slums, it was necessary to have ethical approval. APHRC have a three year research permit from the Ministry of Education, Science and Technology for the NUHDSS. Ethical approval was obtained from the Kenya Medical Research Institute (KEMRI) national ethical review committee (Reference No. KEMRI/RES/7/3/1). As a part of this process, APHRC sought informed consent from the older respondents. The first part of the survey required the participant to give their consent before the substantive part of the questionnaire was begun. As part of this, a participant could refuse to partake in the survey and they could comment on why they refused (Chepngeno-Langat, 2008). The privacy of the respondent was also ensured with coded numbers used in the analysis giving the participant a unique but confidential identifier. The ethics procedures for conducting a thesis at the University of Southampton have also been met (see Ethics Review Checklist in appendix 1).

5.2 Analytical Sample

The process for the construction of the dataset is outlined in figure 5-1. As has been highlighted previously, the NUHDSS served as a baseline for collecting both household and individual data for older people in the two slum settlements. There were just over 57,000 people resident in 23,000 households in the two slums at the end of December 2006. The HALS data were collected using a random sample of NUHDSS members; this gave 53,582 individuals and 15,446 households. The SSHOWOP was collected for all older people in the two slums. With non-response accounted for, there was information for 2,100 individuals and 1,904 households.

Figure 5-1 Process for the construction of the analytical sample



Source: Author's own analysis of NUHDSS Membership File, APHRC 2006; SHAL, APHRC 2006; SSHOWOP, APHRC 2006

The household identification numbers of older people in the SSHOWOP were then matched to their household identifying numbers in the HALS, as well as to the NUHDSS data files, in order to collate all of their individual data with all of their household information. When this information was combined, the analytical sample was 1,950 older people residing in 1,742 households. Of the households containing older people, 1,544 contained only one older person, 188 households had two older people resident and 10 households had three older people resident. Two or more older people who lived in the same household will have the same household income and expenditure information and will thus have the same poverty status, as this is calculated at the household level. There are potential implications of this for statistical analysis. However, as the majority of households contain only one older person, it is unlikely to have a large effect on the results so will not be accounted for in the analysis.

Merging the individual information with the household survey led to a loss of 150 older people. Although the surveys ran concurrently, the interviews for them took place on separate dates. It is possible that the 150 older people may have been resident in the 23 per cent of households where contact could not be established in the household survey. These 150 older people could potentially share common characteristics, as could the 671 older people who were classed as non-respondents for the individual survey. There could be something distinct about these groups which relates to the poverty experienced by older people in the slums but it will not be feasible to explore this information (Groves, 2004). Not having the complete information for the sample could impact on the results of the analysis as well as limit the representativeness of the findings to the total population of the older people in the slum settlements (De Leeuw, et al, 2008).

5.2.1 Demographic Information for the Analytic Sample

Table 5-3 shows the demographic characteristics of the analytic sample, by gender. As noted in the introduction, the analysis in this thesis is disaggregated by gender to further inform policy as to whether older women are more vulnerable. Almost two-thirds of older people in the two slum settlements were male (65%). The larger proportion of males among older respondents reflects the general demographic profile of the slums and the male-dominated nature of migration to urban places for labour (Ezeh et al, 2006).

The majority of older people in the two slums were in the younger age groups (50-69 years) with only 12 per cent aged over 70 years. Larger proportions of women were in

the older age categories (over 70 years) compared to men (18% compared to 8%). Literature has highlighted the greater propensity for women to survive to older ages as opposed to men; women's life expectancy is greater than that of men and their survivorship from age 60 years to older ages is also greater (UNDESA, 2007; UN, 2009b). This feminisation of ageing is important to consider as there can be differences between men and women at older ages in terms of health, income and support networks (UNFPA and HAI, 2012:27). These differences will affect policies to be implemented for older people.

The older people in the slums were mainly of Kikuyu ethnic origin (43%) which reflects the fact that the area surrounding Nairobi is traditionally Kikuyu land (Ezeh et al, 2006; Morgan, 1967). Older people were distributed fairly evenly among the other ethnicities (13-16%). There are gender differences; of older men in the slums, 35 per cent were in the Kikuyu ethnic group whereas 57 per cent of older women were. This gender differential has been highlighted in previous research with the suggestion that, as the Kikuyu ethnic group populates land surrounding Nairobi, poor older women may move to the city "to beg or carry out petty business and therefore more likely to reside in the slums" (Ezeh et al, 2006:195-96).

Just over two-thirds of older people were currently married (69%) with 18 per cent widowed. Of the older men in the slums, 89 per cent were currently married compared to only 33 per cent of older women. A larger proportion of older women in the slums were widowed (41%) compared to only five per cent of older men. These findings indicate a gender difference in marital status for older people. Research suggests that older women are more likely to be widowed due to their tendency to marry older men and to live longer which has implications for women in terms of increased vulnerability to poverty (UN, 2005; UNFPA and HAI, 2012).

The majority of older people had just primary education (54%) with over a quarter (26%) never having attended school. The levels of human capital in the slums are relatively low with only 14 per cent of older people having secondary education. There are gender differentials for older people in the slums according to their education level. Of the older men, 19 per cent had secondary schooling compared to just six per cent of women. A larger proportion of older women (42%) had also never attended school compared to older men (17%). This gender differential has implications for policy. It has been suggested that future cohorts will be better educated, however current older women may benefit from improved literacy as it will improve their welfare as well, as that of their dependents (UNFPA and HAI, 2012).

Table 5-3 Demographic information for the analytic sample

<i>Variable</i>		<i>Freq. (N)</i>	<i>Per cent. (%)</i>	<i>Male (%)</i>	<i>Female (%)</i>
Gender	All	1,950	100	64.6	35.4
	Male	1,261	64.6		
	Female	689	35.4		
Age group	50-54	905	46.4	49.6	40.6
	55-59	421	21.6	23.6	17.8
	60-69	398	20.4	18.7	23.6
	70-79	146	7.5	5.5	11.2
	80+	80	4.1	2.6	6.8
Ethnicity	Kikuyu	839	43.0	35.3	57.0
	Kamba	292	15.0	16.5	12.3
	Luhya	252	12.9	16.6	6.3
	Luo	246	12.6	15.4	7.5
	Other	309	15.9	15.6	16.4
	Missing	12	0.6	0.6	0.5
Marital status	Currently married	1,354	69.4	89.3	32.9
	Divorced/Separated	178	9.1	4.2	18.2
	Widowed	346	17.8	5.3	40.6
	Never married	72	3.7	1.2	8.3
Education level	Never attended school	508	26.0	17.1	42.4
	Primary education	1,055	54.1	60.3	42.8
	Secondary education	280	14.4	18.9	6.0
	Missing	107	5.5	3.7	8.8
Household Size	1	432	22.1	23.6	19.4
	2	334	17.2	17.5	16.5
	3	239	12.3	12.5	11.9
	4	219	11.2	8.9	15.4
	5+	726	37.2	37.5	36.8
Number of surviving children	0	33	1.7	1.3	2.4
	1-2	151	7.7	6.2	10.5
	3-4	416	21.3	20.6	22.7
	5-6	562	28.7	29.9	26.8
	7-9	479	24.5	25.2	23.4
	10+	275	14.1	15.5	11.6
	Never had children	34	1.7	1.3	2.6

Source: Author's own analysis of NUHDSS Membership File, 2006; SHAL, 2006; SSHOWOP, 2006 – referred to from here as combined NUHDSS data file 2006

The most common living arrangement for older people was to reside in households of more than five people (37%). It has been suggested that co-residence with family may amplify the poverty of a household for older people (Barrientos, 2006). Over a fifth lived

alone (22%) and 17 per cent lived in a household with one other person. This is a fairly high number given that findings from previous research indicate that living alone in Africa is rare and that co-residence with families is more common (Barrientos, 2006; Ayad, et al, 1997). Research in developed countries has suggested that separate living implies a certain degree of prosperity (Burch and Matthews, 1987). There is contrasting evidence for developing countries with a suggestion that it signifies less overcrowding, ensuring more privacy and more control over the household (UN, 2005:5).

Alternatively, if older people are not living with their families in developing countries, they may be vulnerable as social support programmes can be limited (UNFPA and HAI, 2012). There were slight differences in household size among older people, according to gender. Of the older men, 24 per cent lived alone compared to 19 per cent of older women. A slightly larger proportion of older women (52%) lived in households of more than four people compared to older men (46%). This finding contrasts to other literature which suggests that older women more commonly live alone (UNFPA and HAI, 2012).

The vast majority of older people had surviving children (97%) with over half having more than five children (67%). There were 1.7 per cent of older people with no surviving children and 1.7 per cent who never had children; this results in 3.4 older people being childless. This childlessness raises questions in regards to which people older respondents can rely on for support (Kreager, 2004). Adult children are of great importance in providing continued support at older ages and in mitigating poverty for older people (Palloni, 2000; HAI 2002; Kreager, 2004). There are thus potential issues in terms of poverty and receipt of support if an older person no longer has surviving children or if they never had children. There is little gender differentiation in number of surviving children for men and women.

The majority of older people lived in Korogocho slum (77%) with relatively few residing in Viwandani (23%) (analysis not shown here; for location, see map in section 4.2.4) . This may reflect the fact that Viwandani tends to attract working-age males looking for employment; these men may only stay temporarily, whereas Korogocho is a more settled slum with a higher number of families (Beguy et al. 2010). Almost three quarters of older people (71%) have resided in the two slums for more than 15 years. As discussed previously, Korogocho was settled in the 1970s so some of the older people may have migrated as young people and aged in place. For the remainder of the thesis, the analysis will be pooled across the two sites.

5.2.2 Data Quality and Limitations

Efforts were made to ensure that the data collected in the SSHOWOP was of a good quality. The APHRC manual for the NUHDSS acted as guidance for this. The fieldworkers who conducted the interviews with older people had to edit their questionnaires before submitting them to their team leaders. Their team leaders then checked for consistency (APHRC, 2002). The team leaders were also tasked with carrying out spot-checks on interviewers to monitor standards and consistency. Each slum had a site supervisor and the field coordinator for the NUHDSS ensured higher levels of consistency checks. These actions sought to ensure that the questionnaires were administered properly, to ensure that the data was of a good quality.

Prior to the survey going out into the field, it was pre-tested. This action was performed to ensure that translations were correct, given the context, that the skip patterns within the questionnaire worked and to allow estimates of the duration of the survey to be ascertained (Chepngeno-Langat, 2008). The opportunity also provided fieldworkers with the chance to familiarise themselves with the interview process for the survey, with each interviewer having to conduct two practice interviews. To improve the quality of the data, interviewers were randomly assigned to respondents in order to reduce interviewer bias that could arise from interviewers selecting their respondents. To encourage maximum participation of respondents, interviewers had to make a minimum of three visits to the respondent to try to locate them (Chepngeno-Langat, 2008).

The duration estimates for the interviews were also useful in being able to inform the older respondent of how long the interview process was expected to take, allowing for clarity in the data collection process. In order to ensure that respondents were comfortable with the interview process, interviews were conducted at their home. Face-to-face interviews have the potential to bias the results as the interviewer could give subconscious clues which lead the respondent in answering their questions (Groves, 2004). However, this method was warranted as postal surveys would not have been feasible in a slum system. Additionally, there are benefits of having an interviewer in that they can help the respondents answer correctly which aids in improving the quality of the data (De Leeuw et al. 2008:201).

A number of measures were employed to minimise non-response among the older people in the two slum settlements. Prior to the commencement of the survey, numerous activities were held in the study areas to raise awareness of the imminent

data collection (Chepngeno-Langat, 2008). The training of the interviewers also ensured that they were able to build a rapport with the respondent and use persuasion to obtain answers (APHRC, 2006). Logistically, the interviewers were also flexible in setting convenient appointment times for the interviews. November and December are usually a holiday season in Kenya with people in the slums potentially unavailable as they are visiting relatives elsewhere (Chepngeno-Langat, 2008). As such, the data collection period was also extended for two weeks into January in 2007 to allow for as full a response rate as possible.

The data entry was done using a Visual Basic as a front-end and with Structured Query Language (SQL) software at the back-end (Chepngeno-Langat, 2008:82). The SPL server can handle large databases and is favoured by APHRC due to the large amount of longitudinal data which has been collected by the centre over the years. This server also allows for all of the information to be linked according to certain identifiers for respondents and household within the slums. The data management team are also tasked with conducting consistency checks and reporting errors (APHRC, 2002). At the data entry stage, about five per cent of the questionnaires were double-entered to check for accuracy (Chepngeno-Langat, 2008:86). Any inconsistent data can then be sent back to the field for validation.

The questionnaire was fairly long and demanded sustained physical and mental energy from the older person, which can be difficult at older ages (Wenger, 2001). The interviewers were asked to assess the comprehension of the older respondent and their level of digression during the interview at the end of the process. Just over five per cent were reported as bad or very bad at comprehending the issues raised by the questionnaire, with 22% digressing to a great or very great extent. This level of digression is problematic and may have prolonged the interview, resulting in poorer quality of answers from the older respondent.

Informed consent was needed from the older person in order for them to respond to the survey. This consent was required for ethical purposes. The purpose of the process was explained to the older person and they were assured of confidentiality and that no harm would come to them (Chepngeno-Langat, 2008). Respondents could also choose not to answer certain questions and this item non-response may potentially impact on the interpretation of results. Respondents were asked to sign a consent form if they agreed to participate, although some respondents were illiterate and could therefore not sign. Of the those older people interviewed, 40 per cent accepted to sign, 42 per

cent were willing to sign but declined due to illiteracy and 18 per cent just refused to sign.

Confidentiality was ensured by removing the names and other identifiers of the older respondents, with coded identifiers used to present results. Confidentiality did prove challenging in some cases, however, due to the nature of the slum environment. As the residential structures are close together, some older people expressed a worry that their answers would be heard by their neighbours (Chepngeno-Langat, 2008). This problem led to respondents terminating interviews on two occasions which led to a loss of information for that respondent; this could impact on the quality of the data.

The overwhelming limitation with the data is research fatigue among respondents. The NUHDSS has been operational in the two slum settlements since 2002 with regular updates to the NUHDSS longitudinal research as well as the conducting of other nested studies among respondents. Other organisations also conduct studies in the slum areas. This saturation of surveys could lead to respondents answering the questions out of boredom or politeness which could affect data quality; this was addressed by emphasising the importance of the questionnaire and highlighting that this was the first time a questionnaire had been conducted specifically aimed at older people (Chepngeno-Langat, 2008). It is possible that this research fatigue is reflected in the large number of older people (22%) who digressed from the questions during the interview progress.

The disadvantage of conducting secondary quantitative data analysis is the potential to overlook the lived experience of poverty for older people in this environment (Bryman, 2008). Quantitative analysis cannot provide in-depth answers as to how older people are in poverty and why this may be the case. However, the analysis of poverty is undertaken in a bid to inform policy. Policy needs rigorous evidence and it is unlikely that this would be generated through the small sample sizes of qualitative data. It is not feasible to ask each older person in turn their exact household income and expenditure and how this is shared within the household. The poverty proxy measure at the household level is the best way to generate this information for a large number of people. A larger number of people gives a greater evidence base on which to base poverty-reduction policies.

Another disadvantage of conducting the secondary quantitative analysis was that, whilst there are documents available on the NUHDSS data collection process, there are limited documents available on the data collection processes for the SSHOWOP

and HALS. The lack of formal documentation for these surveys may be due to their being nested surveys for the NUHDSS; therefore the data collection processes are similar.

5.2.3 Weighting

As highlighted in section 5.1.1, the data collection process for the NUHDSS is on-going as there are rounds of data collected every three months. The SSHOWOP was collected in round 13 and the sampling frame for this was all older people aged over 50 years in the DSS sites in round 12. The highly migratory nature of the slum settlements (Beguy et al, 2010) can make data collection more challenging. The NUHDSS experiences some attrition with its continual data collection as some residents who exit from one place may not be able to be traced. Those people who have exited can move within the DSA; if their new addresses are known, they can be followed up straight away or they can be found in the subsequent rounds. However, sometimes people have not been traced in the DSA several rounds later and these people are called “hanging cases” (Beguy et al, 2010:554). Seven per cent of the non-respondents for the SSHOWOP were hanging cases, as their whereabouts were unknown. Overall, non-respondents made up 24 per cent of the SSHOWOP sample. In addition, non-response for the HALS was 23 per cent with contact unable to be established for these households.

These non-respondents may differ in a number of ways from those people who agree to participate and some of these differences may be significant to the research questions (Bryman, 2008). As such, it is important to consider the effect the non-response of these older people will have. Unfortunately, analysis of non-response on the HALS data was not undertaken meaning that the characteristics of 150 older non-respondents are unknown. However, the non-response for the SSHOWOP was explored in more depth by APHRC as demographic information from the NUHDSS was used to compare non-respondents to respondents. Non-response was found to be particularly characterised by men, Viwandani residents, Somali and ethnic minority groups and single member households (Chepngeno-Langat *et al.* 2010). This meant that any analysis could be underestimating or overestimating the results due to the selection effects of those not interviewed. As a consequence, the descriptive analysis undertaken for the SSHOWOP data uses a weight calculated by APHRC to correct for non-response by gender, age and education. The use of the weight led to only slight changes in the results, which thus corrected for the sample non-response.

5.3 Variable Derivation and the Measurement of Poverty

The following sections consider the different response and explanatory variables used in this study. The first section focuses on the income and expenditure data and how these were calculated at the household level. It also looks at how the expenditure information was compared to the poverty line and how the household quintiles were constructed. The second section focuses on the explanatory variables used to explore poverty and wellbeing in this study, and details how these were derived. Details on variables used as indicators for the dimensions of wellbeing in chapter 8 are discussed in section 8.2 and are not detailed in this section.

5.3.1 Response Variables: Income and Expenditure

For the analysis in chapter 6 on the poverty profile of older people in the slums, the income and expenditure variables from the HALS were utilised (table 5-4). For the income information, the household respondents were asked to give their best estimate of the total income that their household had received in the last thirty days from all sources, in Kenya Shillings. All of the income indicators were then added together for each person to get the household's total monthly income.

For the expenditure information, the respondent was asked to recall how much in total their household had spent on the following items, in Kenya Shillings. Expenditure data has been collected over both a 7 day and a 30 day recall period depending on the type of expenditure measured. Rent and electricity, for example, were measured over a 30 day period as this is the usual payment period for these expenditures. Items consumed on a more regular basis, such as food and water, were recorded for a 7 day period and then calculated to produce expenditure for a 30 day period. The indicators which were measured on a seven day recollection period were multiplied by a factor of 4.34 to produce the expenditure over a 30 day period. All of the monthly expenditure indicators were summed to produce the household's total monthly expenditure. Interestingly, income from financial gifts is measured over a 30 day period whereas expenditure on financial gifts is measured over a seven day period. This difference is methodological and is usual practice in household income and expenditure surveys as income tends to relate to a monthly measure and expenditure is usually a weekly measure. Further detail on the method used to produce the poverty estimates can be found in section 6.2.

Table 5-4 Sources of income and items of expenditure recorded for HALS

Household Money	Source of Income/Item of Expenditure	Recall Period
Income	Salaried/wage employment	Last 30 days
	Business	
	Savings	
	Agriculture	
	Borrowing	
	Financial gift/support from any source	
	Specify any other source of income	
Expenditure	Food	Last 7 days
	Energy (paraffin, charcoal)	
	Water	
	Transport	
	Financial gift/support to others	
	Other	
	Electricity	Last 30 days
	Health care	
	Religious obligations	
	Rent	
	School-related expenses (school fees, scholastic materials)	

Source: Household Amenities and Livelihoods Survey, APHRC 2006

5.3.2 Explanatory Variables

For the analysis in chapter 6, there were a variety of indicators in the SSHOWOP. These focused on the older people as individuals and were used to explore the poverty level (for monthly equivalised expenditure) calculated from the absolute poverty line (see sections 6.4 and 6.5). A summary of the explanatory variables used can be found in appendix 4, table 1. This table details the label of the variable, the survey it is taken from, its number, the type of variable, the variable categories and the description of the variable. These variables cover demographic characteristics of the older person, socio-economic information, health information and their care and support patterns. The choice of these variables as explanatory variables for the outcomes of poverty and wellbeing are based on literature. This literature is summarised in table 6-5 in section 6.5.2.

A number of these explanatory variables were derived. For example, the date of birth of the respondent was converted to produce a continuous age variable. These ages were then categorised into groups. Information on marital status was derived from three variables which asked about partnership; this produced one variable indicating the marital status of the older person. The household size of the respondent was derived

from the household roster of the NUHDSS, as this gave the most recent record of the other members of the older person's household. Deriving this variable produced a continuous variable which was then recoded into categories. A variable for type of employment was also collapsed so that there were fewer categories.

Explanatory variables were also derived from questions asked about care and support patterns among the older people in the slums. The variable for if the respondent received assistance from their children in terms of money, help with household chores or with healthcare was derived from the care and support information and three separate variables were constructed indicating the receipt of each type of support. Whether the older person gave assistance to their children was also constructed into several different variables indicating that they gave each different type of support. Two variables on the care that older people gave to chronically ill people currently or in the last three years were combined to create a new variable on whether the older person had cared for a chronically ill person in the last three years.

Care and support variables were also combined to create two new reciprocity variables. The first one, financial reciprocity was constructed using variables which indicated whether the respondent assisted children with financial support and whether or not the respondent received a monthly cash payment from their children. This variable allowed for four categories to be created to see which older people received and gave support (indicating strong networks), only received support (indicating dependency), only gave support (indicating strong supporting role), and neither gave nor received support (indicating low level of networks). This variable was calculated specifically to explore the absolute monetary poverty of the older person, in order to see the impact of cash transfers between older people and their children. A second reciprocity variable was constructed which focused on familial reciprocity. This variable did not only focus on money but on other types of support. It was also extended more widely to incorporate whether older people received any support from their relatives, as well as their children. This variable was used to explore the wellbeing findings to see how familial support patterns are associated with differing dimensions of wellbeing.

5.4 Methods for Analysis

The methods which will be utilised for this study are varied and centre on the research questions addressed by each analysis chapter. All analyses were conducted using StataIC version 12. The majority of analyses undertaken are descriptive statistics and cross tabulations to determine how variables are related to one another. Pearson's chi-

square tests of significant association between two categorical variables were also used. This test compares the frequencies observed in certain categories to those expected in those categories by chance (Field, 2009). The test statistics for Pearson's chi-square is:

$$X^2 = \sum \frac{(\text{observed}_{ij} - \text{model}_{ij})^2}{\text{model}_{ij}} \quad (\text{Field, 2009:688})$$

The chi-square statistic is compared to a chi-square distribution. Degrees of freedom are calculated. A critical value for the degrees of freedom is found on the distribution and if the test statistic exceeds this critical value, there is a significant relationship between the two variables (Field, 2009). Stata produces the Pearson chi-square statistic as well as the p-value which indicates whether the relationship is significant.

Chapter 6 utilises logistic regression which is used to analyse dichotomous outcome variables. In this instance, the outcome variable is non-linear (respondent is in poverty or is not in poverty) so the logit must be estimated. However for interpretation purposes, it is more logical to convert the odds of the outcome to log odds. The logistic transformation of the success probability p is given by:

$$\text{logit}(p_i) = \log\left(\frac{p_i}{1-p_i}\right) \quad (\text{Powers and Xie, 2008:37})$$

In this instance, logistic regression was used to estimate odds ratios of being in poverty for older people. The odds ratio is a widely used measure of effect which means that it "compares two or more groups in predicting the outcome (dependent) variable" (Kleinbaum et al. 1998:658). The general formula for the odds ratio is:

$$OR_{X_A \text{ vs. } X_B} = e^{\sum_{j=1}^k (X_{Aj} - X_{Bj})\beta_j} \quad (\text{Kleinbaum et al. 2008:608})$$

StataIC version 12 calculates the odds ratios for the logistic regression and displays them in a table for analysis.

In order to choose which logistic regression model to keep, a forward selection modelling technique was used. Variables that theory showed to be relevant, or which the bivariate analysis had shown to be associated with the outcome variable, were added into the model. The summary of literature informing the choice of variables is shown in table 6-5 in section 6.5.2. The forward selection modelling technique, using

variables highlighted as important by other studies, ensured that the modelling process was strongly embedded within existing literature.

The variables were added into the model individually for the first stage of analysis. The variable which had the biggest difference in the log-likelihood test statistic in comparison to the constant was then retained. The other variables were then tested again with the first variable retained in the model and the next variable was again chosen by comparing the new model to the previous one to see which variable had yielded the biggest significant change in log-likelihood. Each model has a log likelihood statistic and the difference between the statistics for two models “has an approximate chi-square distribution in large samples” (Kleinbaum 1994:130). The formula for the likelihood ratio test is:

$$-2(\log L_1 - \log L_2)$$

(Powers and Xie, 2008:51)

Again, StataIC version 12 yields the log likelihood test statistic. This is the forward selection hierarchical modelling process with each variable added in based on its significant change in the log-likelihood ratio. A hierarchically well-formulated model operates on the premise that:

“Given any variable in the model, all lower-order components of the variable must also be contained in the model” (Kleinbaum, 1994:171)

The modelling process was finished when the addition of variables was no longer significant or if they yielded a very small change in the log-likelihood ratio. In this case, the more parsimonious model would be favoured (Acock, 2006).

The next chapter utilises these methods to investigate how the level of money-metric poverty among older people in the Nairobi slum areas varies by demographic and socio-economic characteristics

6. A Profile of Poverty among Older People Living in Nairobi Slum Settlements

This chapter explores the first four research questions for this thesis. It utilises monetary information for households containing older people to explore income and expenditure. An absolute measure of poverty is then calculated using household expenditure information. The demographic and socio-economic characteristics of those in absolute poverty are then explored. Finally, a relative approach to measurement is used to explore the different characteristics of the poorest 20 per cent of older people in the slums compared to the least poor 20 per cent.

6.1 Introduction

Poverty has been commonly associated with old age due to lack of income earning opportunities and healthcare problems that people can encounter as they age (Zaidi, 2008). Certain traits are also associated with poverty in older age including being female, being a widow (which can be associated with being female) and poor health (UN, 2005). The investigation of poverty at older ages is therefore important to ascertain which older people are in poverty and to direct initiatives towards them so that they are supported. Little is known about the profile of older people in poverty in poor urban in sub-Saharan Africa and even less in settings in Nairobi slum settlements. This chapter aims to address this gap in the literature by exploring the research questions:

- What are the main sources and levels of income and expenditure for households containing an older person in the two slum settlements?
- What is the prevalence of absolute poverty for older people in the slums, by gender?
- How does this absolute prevalence vary by demographic and socio-economic characteristics?
- How do the characteristics of older people living in the poorest 20 per cent of households differ from those living in the least poor 20 per cent of households?

The chapter firstly explores the income and expenditure patterns of households containing older people in the two slum study sites, Korogocho and Viwandani. The

chapter then moves on to determine the proportion of older people in absolute poverty before profiling their socio-demographic and employment characteristics. A logistic regression analysis is then conducted to determine what factors are associated with the risk of being in absolute poverty in these two slums. Given the poor environment of the slums, it would be expected that there would be a high proportion of older people defined as in poverty in the slums; as such, this analysis then explores the differentiation of the poorest of the poor by looking at the relative poverty of the older people and the distribution of monthly expenditure for households containing older people, focusing particularly on the top and bottom 20 per cent (the poorest and least poor quintiles). The final section of the chapter gives an overview of the results of the analysis and considers how these results may impact on policy at the local level.

6.2 Method

In order to explore the financial situation of the older people in the slums, it is necessary to calculate the monthly income and expenditure for each household. Income has been measured over a period of 30 days which allows for a household to incorporate all of the different sources of income into their total. These different sources can then be summed to produce the total monthly income for that household. Expenditure data has been collected over both a 7 day and a 30 day recall period depending on what type of expenditure was measured. Rent and electricity, for example, are measured over a 30 day period as this is the usual payment period for these expenditures. Items consumed on a more regular basis, such as food and water, are recorded for a 7 day period and then multiplied by a factor of 4.34 to produce expenditure for a 30 day period. The various expenditure items are summed to produce the total monthly expenditure for the household.

In order to calculate the income and expenditure for each person in the household, an equivalence scale is used. As the data were collected at the household level, we do not know direct information about who gets what within the household. Equivalence scales can adjust for economies of scale as well as differential needs of individuals of different ages and gender. They do not reflect allocation of resources but rather assume equal sharing (equivalence scales will be further discussed in section 7.2). For this chapter, I used an adult equivalence scale which views all adults as equalling one person with children counting as half a person. This equivalence scale is used by APHRC and has been deemed to reflect the household composition of households in the research site. Utilising the adult equivalence scale allows for the comparison of the poverty estimates

of older people in the two slums with the estimates of all people in the slums, as calculated by APHRC, allows for consistency in reporting of poverty estimates. Chapter 7 will further investigate whether this is an appropriate equivalence scale to use.

Once the equivalence scale has been computed, the monthly income and expenditure for the household is divided by this equivalence scale. This calculation then shows the monthly income and expenditure for each older person. Although both monthly income and expenditure for households have been calculated, income can tend to be unreliable as a poverty measure due to its tendency to fluctuate especially in urban areas (Haughton and Khandker, 2009; Baker and Schuler, 2004). This can make it difficult to ascertain precisely how much a household has to spend on resources. As such, expenditure is deemed to be a better proxy of what a household can afford and therefore the resources available to them (Alcock, 2006). Section 6.3 will compare the income and expenditure of households containing older people but from section 6.4 onwards, expenditure only will be used to analyse poverty levels.

Both absolute and relative poverty measures are produced for older people, using the expenditure information. In order to measure absolute poverty, a poverty line has to be used (as detailed in section 3.2.3). For this research, the poverty line used by Kenya National Bureau of Statistics will be utilised. This poverty line was developed from household surveys that sample a representative subset of the population and which are implemented by the Government of Kenya, such as the Kenya Integrated Household Budget Survey (discussed in more detail in section 3.2.3). These surveys collect detailed information on consumption expenditures.

In constructing the monthly expenditure to set the poverty line, prices were adjusted to differentiate between urban and rural areas which resulted in two different poverty lines to reflect the higher prices in urban places. The urban poverty line in 2005/06 was KSh 2,913 per person per month (about US\$1.40 per person per day):

“This poverty line was determined on the basis of the expenditure required to purchase a food basket that provides minimum nutritional requirements set at 2,250 calories per adult equivalent per day, in addition to the costs of basic non-food requirements” (KIHBS, 2007:10)

The non-food requirements include expenditures on schooling, health, transportation and rent, among others. Once the poverty line has been established, the expenditure of the older people can be compared against it. If their expenditure falls under the poverty line value of KSh 2,913, then the older person will be considered to be in poverty.

The Kenya poverty line is applied to all parts of the country and there are substantial differences in poverty levels within and between regions (KIHBS, 2007:11).

Heterogeneity in poverty levels in urban areas is to be particularly expected as there are vast inequalities in income and expenditures in this context. Given that the Kenya poverty line does not vary within urban contexts, it would be expected that absolute poverty levels in the slums would be higher than the absolute poverty levels for urban areas as a whole.

In order to consider the distribution of expenditure among older people in the slums (in section 6.6), the monthly expenditure is separated into quintiles to distinguish between the poorest and the least poor older people in the slums. Calculating quintiles involves dividing the expenditure distribution for all households into five equal groups; so the 20 per cent of households with the lowest monthly expenditures would be in the bottom (or first) quintile and the 20 per cent of households with the highest monthly expenditures would be in the top (or fifth) quintile. When the quintiles are applied to the older people, they will not be precisely split into 20 per cent quintiles. The quintiles are calculated at the household level and then applied to the individual level of the older people. This method allows us to see how the older people are distributed across household expenditure in the slums. These quintiles are compared with socio-demographic indicators to compare which older people fall into the poorest or least poor quintiles.

6.3 Household Income and Expenditure in Later Life in the Slums

The income and expenditure of an older person's household is important to explore as it will determine their poverty status. This section aims to answer the research question:

What are the main sources and levels of income and expenditure for households containing an older person in the two slum settlements?

The descriptive information for monthly household income for older people is shown in table 6-1. There is a range of earnings for older people. It is important to note that these categories are not mutually exclusive so an older person's household could receive income from both business and agriculture, for example. Salaried and wage employment has the maximum income at 90,000 Kenya shillings (KSh); the other sources of incomes have substantially lower maximum earnings. In terms of the mean amount of income, business has the largest mean earning. However, the standard

deviations for both the business income and the wages are also high which suggests there is much variability for these income sources. It also indicates the precarious nature of income in the slums.

Wage employment and business are the main sources of household income in the slums, which is to be expected; agriculture would be a main source of income in rural areas but is less likely to contribute much to the household in urban areas (KIHBS, 2007). Only four per cent of households are in receipt of income from agriculture. Agriculture is also a seasonal pursuit so to ensure the correct income was determined for it, it would need to be accounted for over the period of a year.

Savings, agriculture, borrowing, financial gifts and other sources of income all have smaller ranges and lower means which demonstrates that these are less significant, in terms of absolute value, for households in the two slum settlements. However, the percentage of older people in households receiving income from these sources is small in comparison to those who also receive income from wage employment and business. As such, these smaller amounts of income could be more significant for the people who receive them.

In terms of the 'other' income source, three-quarters of the 4.8 per cent did not want to specify their incomes from other sources. Two older people had received money through housework and one had received money from a merry-go-round organisation. These are organisations which allow people to save weekly or monthly amounts of money and the money is then allocated to one person in the group each month or week (depending on how often the money is collected). This system allows people to save and then obtain a lump sum of money at one specific point. It is interesting in terms of considering the debt aspect of the income and expenditure relationship in the slums and may be a way that people ensure they can get themselves out of debt. Almost 20 per cent of households containing older people had obtained income from collecting rent. This result is interesting as the household does not class this as a 'business' income.

The second from right column indicates the mean amount of income from all sources only for households that actually received this income. The results are substantially larger than the mean amounts for all households indicating the households receiving these income sources are better off than they appear to be for the analysis which includes all households.

Table 6-1 Descriptive statistics for monthly income for households containing older people, in Kenya Shillings (KSh)

Income from various sources in the last 30 days (N=1,950)		Mean amount in KSh for all households	SD for all households mean	Max	Per cent. of older people living in households which receive income from sources (%)	Mean amount in KSh for households which receive income from source (KSh)	SD for households which receive income from source
Total Mean Equivalised Income for all households	All	2650.14	2761.09				
	Male	2833.03	2879.12				
	Female	2312.04	2495.31				
Median Equivalised Income	All	1818.18					
	Male	2000.00					
	Female	1550.89					
Salaried/wage employment		2851.68	4832.01	90000	44.7	6214.48	5476.46
Business		2929.33	4115.79	50000	56.1	5319.08	4248.37
Savings		155.00	814.33	10000	7.1	2184.32	2223.24
Agriculture		61.02	449.43	7000	3.6	1692.81	1696.75
Borrowing		37.01	279.29	7000	3.7	982.65	1075.42
Financial gift/support from any source		282.27	1347.05	20000	12.4	2356.57	3208.53
Any other source of income		127.33	825.62	15000	4.8	2667.89	2752.64

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: percentages do not sum to 100 as respondents can have more than one income; GBP (£) was equivalent to 133-137 Kenya shillings at time of survey

Of the households with an older person, only one counted a pension among their other sources of income. At the time of the survey, the social pension was not yet in operation so no households will record receipt of this. However, it is interesting that more households are not recording pensions as a form of income. Analysis in section 9.2.3 indicates that there are a number of older people who state that they are in receipt of a pension yet these are not recorded among the household income. It is important to bear in mind that the income data comes from the household survey and the difference may reflect the fact that the respondent for the household survey is not aware of the receipt of a pension within the household. Other sources of income would seem a likely place to record the receipt of pensions for older people in the household. It may be that pensions are being recorded elsewhere, for example in the savings category or as a financial gift. The way the survey has been collected is problematic as the household information was not collected with a specific focus on older people so there is little consideration of how their income and expenditure can impact on the overall household resources.

Descriptive information for monthly expenditure for households with older people is shown in table 6-2. The mean amount of money spent on food each month is KSh 4,232.29 which indicates that a large amount of monthly expenditure is allocated to food; this echoes evidence from other studies in this context (KIHBS, 2007). Expenditure on food, energy and water is common for all households with older people (90-97%). However, not all of them spend money on other items. Only 21 per cent of households with older people spent money on healthcare in the last 30 days, which could reflect that they did not need healthcare or that they could not afford it. Those households that spent money on 'other' items mostly refused to detail what these items were (75.4%). Other expenditure that was identified included: mobile phone credit, cigarettes, clothes and police extortion.

The categories for household expenditure are, however, unlikely to apply to every household. For example, households which own their own house will not have to allocate monthly expenditure for rent. Households which do not need healthcare will not have to allocate resources for this. The fact that these items are not necessarily needed makes the task of analysing expenditure information more challenging, as it is difficult to separate out what each household will need. As such, the mean calculations in table 6-2 may not be reliable as not all households would have a need for the item. For example, the mean of school-related expenses may be a lot higher for those that incur them as fewer households will spend money on them, as not all households will contain children.

Table 6-2 Descriptive statistics for monthly expenditure on items for households containing older people, in Kenya Shilling (KSh)

Expenditure on following items in the last 30 days (N=1,950)		Mean amount in KSh for all households (KSh)	SD	Max	Per cent. of older people living in households which spend on different items (%)	Mean amount in KSh for households which spend on different items (KSh)	SD for households which spend on different items
Total Mean Equivalised Expenditure	All	3144.06	3731.38				
	Male	3351.49	3981.42				
	Female	2762.30	3185.89				
Median Equivalised Expenditure	All	2090.83					
	Male	2224.00					
	Female	1864.76					
Food		4232.29	3242.48	43324.67	97.3	4356.83	3206.29
Energy		822.72	1462.59	60727.33	96.3	856.32	1482.50
Water		258.66	639.84	17333.33	89.7	288.63	669.48
Transport		794.70	1768.50	43324.67	39.6	1982.47	2334.62
Financial gift/support to others		697.16	2750.34	47666.67	15.5	4415.47	5618.61
Electricity		95.59	239.20	7000	32.3	299.59	343.95
Healthcare		95.85	385.11	6000	20.7	462.23	739.50
Religious obligations		59.15	229.01	5000	25.5	229.64	405.82
Rent		380.05	407.83	3200	58.8	637.63	338.78
School-related expenses		257.57	1166.55	25000	17.1	1474.73	2451.61
Other		132.59	893.72	13000	4.4	2834.65	3085.00

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: GBP (£) was equivalent to 133-137 Kenya shillings at the time of this survey; categories for food to other are unequivalised as they are only equivalised when they are combined into one monthly expenditure measure – these figures reflect the mean for the total household expenditure for each category

The second from right column indicates the mean monthly expenditures for households which are spending money on that item. For food, energy and water, the difference in means between the households that spend money on it and all households is not great as most households purchase these things. However, there are marked differences in the mean expenditures for the other categories.

The need for any of these particular items will have a huge impact on the way that expenditure is allocated. Households can be at risk of either falling into poverty, if they are not already in poverty, or they can fall further into poverty through the expense of an item they may not usually require. For example, healthcare may not be needed for the majority of the time but when it is needed, the cost may be substantial and could cause poverty or amplify existing poverty. Only 17 per cent of households in the slums spent money on school-related expenses yet the mean amount spent was considerable (KSh 1474.73). The addition of this expenditure type to overall monthly expenditure may suggest that the household is not poor; however, households incurring this type of expenditure may still be at risk of poverty.

The equivalised total monthly income and expenditure for older people can be seen in tables 6-1 and 6-2. The mean income is slightly less than the mean expenditure. This result is not unusual and it has been highlighted that expenditure is often reported to be higher than income (KIHBS, 2007). The medians for both income and expenditure are substantially lower than the means which indicates that there are some large positive values for income and expenditure. These extreme values are inflating the means and are thus not reflective of the true average income and expenditure for older people. When interpreting monetary information, it is often better to use the median as opposed to the mean precisely for this reason. The median monthly equivalised expenditure for older people in the two slums is KSh 2090.83 which is below the KSh 2,913 poverty line for Kenya. This difference suggests that more than half of the older people will be in absolute poverty according to their monthly expenditure. There is also a gender differential in monthly income and expenditure. The total mean equivalised income and expenditure as well as the median equivalised income and expenditure are lower for households containing older women as opposed to men.

In terms of comparing household income and expenditure for older people, 41.3 per cent have a monthly household income which exceeds their expenditure. These people would traditionally be classed in the 'saving' category. Only 2.6 per cent of older people have an income which is equal to what they spend each month. Whereas over half of older people (56.1%) have monthly expenditure which exceeds what they receive in

income. This group would traditionally be viewed as the 'debt' category. These differences between income and expenditure could be due to data collection issues as it has been highlighted that household expenditures are usually reported to be higher than income (KIHBS, 2007:113).

Those households containing older people which fall into the debt category may also be a reflection of the limitations of the data collection process. No questions were asked on household debt. This subject can be a sensitive one so it is difficult to determine the level of detail to go into. It may also be the case that people may not want to report certain income sources (Rutstein and Johnson, 2004); as such, we may not be seeing the accurate calculation of monthly income. The lack of information regarding household debt is certainly a shortcoming of the dataset as it raises questions as to how households get by each month if their expenditure outstrips their income.

In addition, it must be highlighted that the collection of income and expenditure information more generally can result in a false perspective of household wealth. It is widely recognised in developing countries that the informal nature of employment results in intermittent, fluctuating income (Rutstein and Johnson, 2004). Expenditure on the other hand is "smoothed" over time as it more accurately reflects the direct living standards a household needs to survive (Haughton and Khandker, 2009). It could therefore be suggested that if household income was collected over a year, it would more accurately mirror the expenditure of the household over that year. The limit of a month for recollection of income sources may ignore the fact that the household may earn more in the next month to cover the previous expenditure.

As discussed in the literature review for the conceptualisation and measurement of poverty, income can be difficult to rely on in terms of generating a poverty estimate, especially in the context of the slum settlements. As such, this section has offered an overview of the income and expenditure for households containing older people in the slums. However, further analysis will focus solely on poverty measures generated using the monthly expenditure of households.

6.4 What is the Prevalence of Poverty among Older People in the Slum Settlements?

This section analyses the different forms of poverty among older people in the two slum settlements in order to answer the second research question. The analysis of poverty

for older people in the slums compares adult equivalent expenditure for the older people to the Kenya poverty line for absolute poverty. The key research question that this section aims to address is:

- What is the prevalence of poverty among older people in the slum settlements by gender?

Different poverty measures for older people are shown in table 6-3. Of the older people who live in the two slum settlements, 66 per cent of older people are in absolute poverty meaning their monthly expenditure falls below the national absolute poverty line for Kenya of KSh 2913. As indicated by the median summary statistic in table 6-2, the monthly expenditure for the majority of older people in the two slums falls below this line so it is unsurprising that more than half of older people in the slums are in absolute poverty. The prevalence of poverty among older people in the slum settlements is also higher than the prevalence of poverty among older people at the national level (66% to 53%); this reflects the higher rates of poverty in the slum settlements.

There are some interesting demographic differences between those older people in absolute poverty and those who are not. A higher proportion of older females are in absolute poverty compared to older males (71% and 63%, respectively). The difference between males and females is statistically significant. The literature has highlighted that older women are particularly vulnerable to poverty and these results support this evidence (UNFPA and HAI, 2012; UN, 2002).

There are other indicators of poverty as well as the absolute poverty prevalence. The poverty gap index, as shown in table 6-3, shows the depth of poverty. It is the average distance separating the older people from the poverty line, if the non-poor are given a distance of zero (UNDG, 2003:9). It indicates that the poverty deficit of all of the older people in the slum settlements is 31.5 per cent of the poverty line. The poverty gap index differs for men and women with older women falling further from the poverty line than men (35% to 30%). Connected to this measure is the aggregate poverty gap (not shown in table 6-3) which indicates how far households are from the poverty line. It can be interpreted as showing the total average amount by which the expenditures of poor households need to be raised each month to bring all households up to the poverty line and thus out of poverty (World Bank website, 2012). In order to eradicate poverty among older people in the slum settlements, Ksh916.77 per person would need to be

transferred to those older people in poverty; with each poor older person getting the exact amount they needed to be lifted out of poverty.

Table 6-3 Prevalence of different indicators of poverty for older people at the national level and in the two slum settlements, by gender

<i>Poverty Measure</i>		<i>All</i> (%)	<i>Gender</i>	
			Male (%)	Female (%)
Headcount Poverty	National Level	53.2	-	-
	Slum Settlements	65.6	62.9	70.7
Poverty Gap Index	Slum Settlements	31.5	29.6	34.9
Squared poverty gap index		19.0	17.7	21.3

Source: Author's own analysis of combined NUHDSS data file, 2006; national poverty figures for people over 60 in Kenya are taken from Republic of Kenya, 2012:7

Note: GBP (£) was equivalent to 133-137 Kenya shillings at the time of this survey; - indicates that the national poverty levels for older people disaggregated by sex are not available

The squared poverty gap index focuses on the severity of poverty by looking at the inequality among the poor, which is the weighted sum of poverty gaps as a proportion of the poverty line (Haughton and Khandker, 2009:71). These poverty gaps are used as the weights for this. The process of squaring the poverty gap index means that more weight is put onto "observations that fall well below the poverty line" (Haughton and Khandker, 2009:71); thereby indicating those people in greatest poverty. The squared poverty gap index for older people in the slums is 19 per cent with women experiencing more severe poverty than men (21% to 18%).

The distinction between the prevalence of poverty and the poverty gap is important to make as the prevalence could be high but the poverty gap low, meaning that lots of people are just below the poverty line. This situation can be addressed in terms of policies to eradicate poverty by lifting those who are just in poverty, out of it. When the poverty gap is large, a different strategy is needed to eradicate poverty as the levels of income and expenditure in this situation are extremely low (World Bank website, 2012).

Around 34 per cent of people in all urban areas in Kenya are thought to be in absolute poverty, according to figures from the Kenya National Bureau for Statistics (KIHBS, 2007:11) so it is unsurprising that the slum settlements figure is higher. The estimate of 34 per cent for urban areas is also accounting for the wealth of richer urban dwellers.

However, slums areas are extremely poor places so it would be expected that numbers of people in absolute poverty would be higher here. It has been highlighted previously that urban poverty has been downplayed and underestimated (Townsend, 1993; Satterthwaite, 2004). The figure of 66 percent of absolute poverty among older people in the two slum settlements suggests that generalisation about wealth in urban areas needs to be adjusted to reflect the reality of pockets of absolute poverty within these areas.

The percentage of older people in absolute poverty is slightly more than the percentage of all people in poverty in the two slums, which has been calculated by APHRC in analysis undertaken for the World Bank Kenya Poverty Assessment. This analysis put absolute poverty at 62 per cent in the two slums² (WBPA Kenya, 2009:59) which suggests that older people are slightly worse off in terms of their monthly expenditure compared to the slums as a whole. This result is supported by literature from developed countries which suggests that poverty is higher among the elderly compared to the non-elderly (Zaidi, 2008:249).

6.5 Demographic and Socio-economic Characteristics of the Poorer Older Population

This section further explores those older people in absolute poverty, focusing on their demographic and socio-economic characteristics. It addresses the fourth research question:

How does this absolute prevalence vary by demographic and socio-economic characteristics?

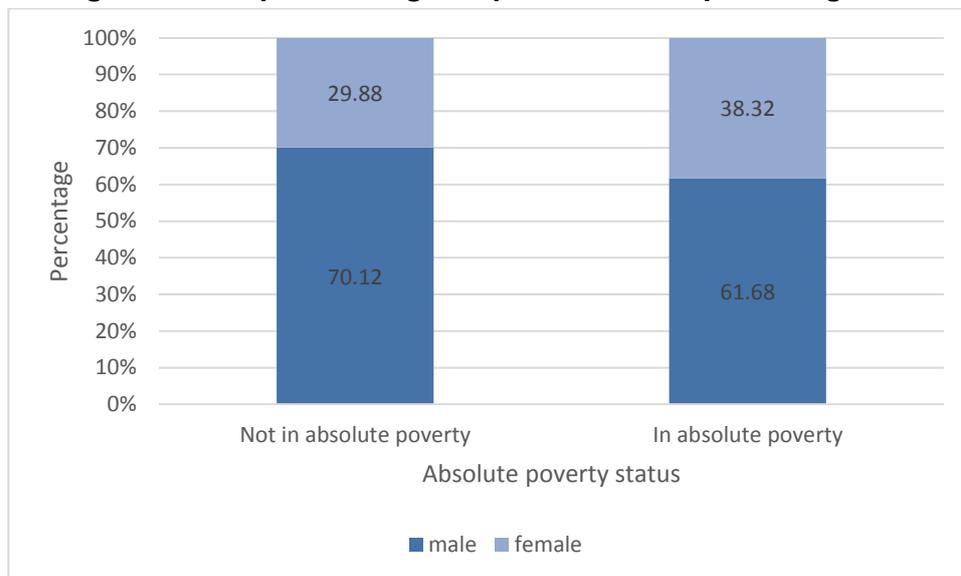
To answer this research question, bivariate analysis is firstly conducted to explore the composition of the poor. The following sub-section then explores the risk of poverty using bivariate analysis and multivariate analysis. A logistic regression analysis is conducted to examine the demographic and socio-economic factors which are associated with being in absolute poverty.

² The APHRC analysis in the Kenya Poverty Assessment was conducted on data collected in 2006, in the same year that the data was collected for the Household and Individual surveys which makes the figure of 62% comparable to the analysis conducted here.

6.5.1 Composition of the Poor

The following graphs demonstrate the socio-demographic characteristics of older people in absolute poverty. The graph in figure 6-1 indicates the column percentages for absolute poverty and gender. Of those older people who are in absolute poverty, there is a larger proportion of males than females reflecting the gender composition of the slums. However, the proportion of older people in poverty who are female is larger than the proportion of older people not in poverty who are female (38% compared to 30%). This result is reversed for males.

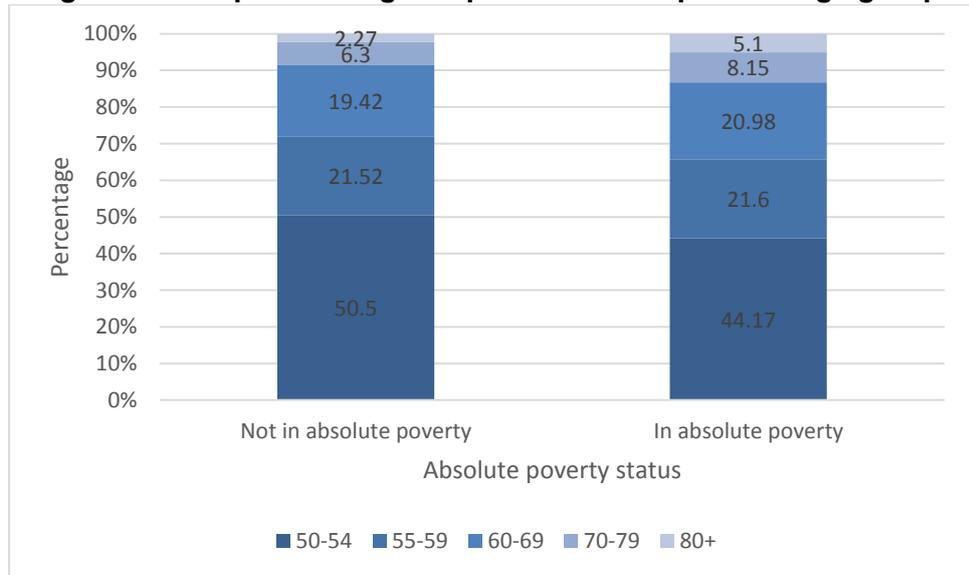
Figure 6-1 Graph showing composition of the poor for gender



Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 6-2 shows column percentages for the relationship between age and absolute poverty status. Of those older people in absolute poverty, 44 per cent are aged 50-54 years. However, this reflects that the majority of the older people in the slums are in this age group (46%, in table 5-3 page 99). It is interesting to note that of those older people not in absolute poverty, a smaller proportion are aged in the 80 plus category compared to those in absolute poverty (2.3% to 5.1%).

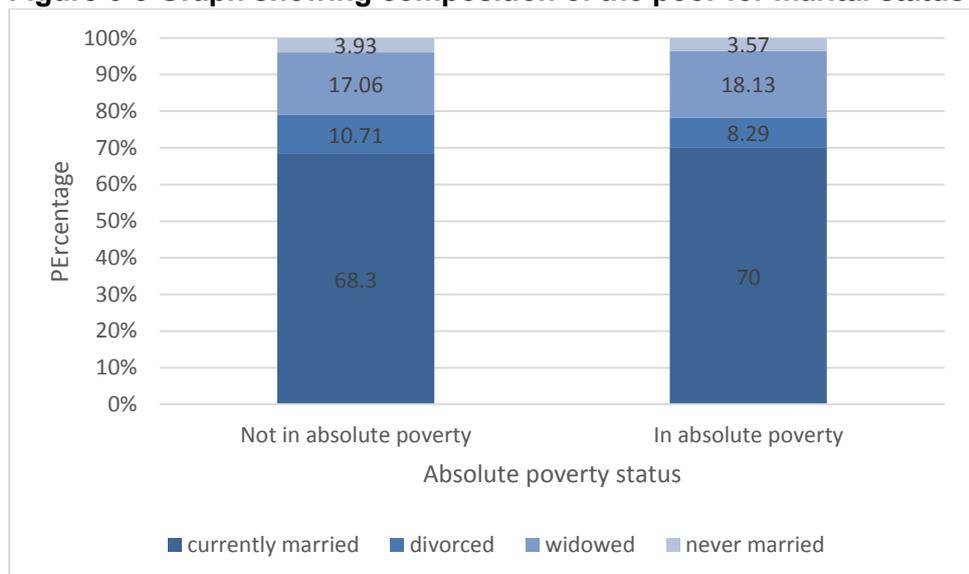
Figure 6-2 Graph showing composition of the poor for age group



Source: Author's own analysis of combined NUHDSS data file, 2006

Of those older people in absolute poverty, there is a slightly larger proportion who are currently married compared to those not in poverty (70% to 68%) (figure 6-3). This relationship is the same for those older people who have been widowed. This group constitutes 18 per cent of the poor in the slums compared to 17 per cent of the non-poor. These relationships reverse for those older people who are divorced or separated and those older people who have not been married. These groups make up lower proportions of the poor compared to the non-poor.

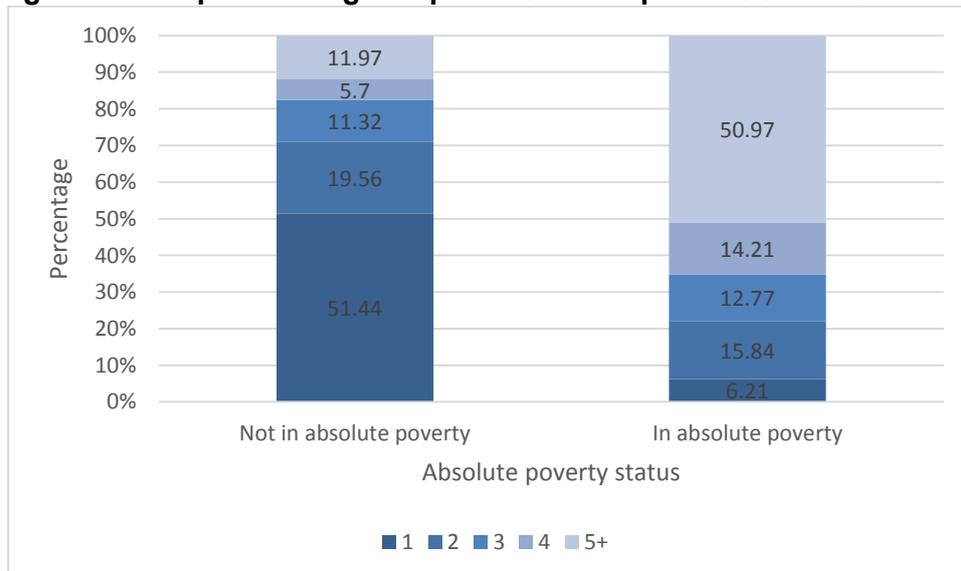
Figure 6-3 Graph showing composition of the poor for marital status



Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 6-4 shows the column percentages for absolute poverty and household size. Of those older people in absolute poverty, half of them live in households of more than five people (51%) compared to 12 per cent for those older people not in absolute poverty and living in households of more than five people. This relationship reverses for one person households with only six per cent of poor older people living in one person households compared to 51 per cent of non-poor older people. This result may be affected by the equivalence scale used to calculate the expenditure measure. Equivalence scales are affected by household size and composition so different equivalence scales will find different levels of poverty, based on counting the number of people in the household as well as the composition of the household. This is investigated further in chapter 7 which explores whether there are further differences in the proportion of the poorest who reside in large households according to how these households are defined by the equivalence scales used.

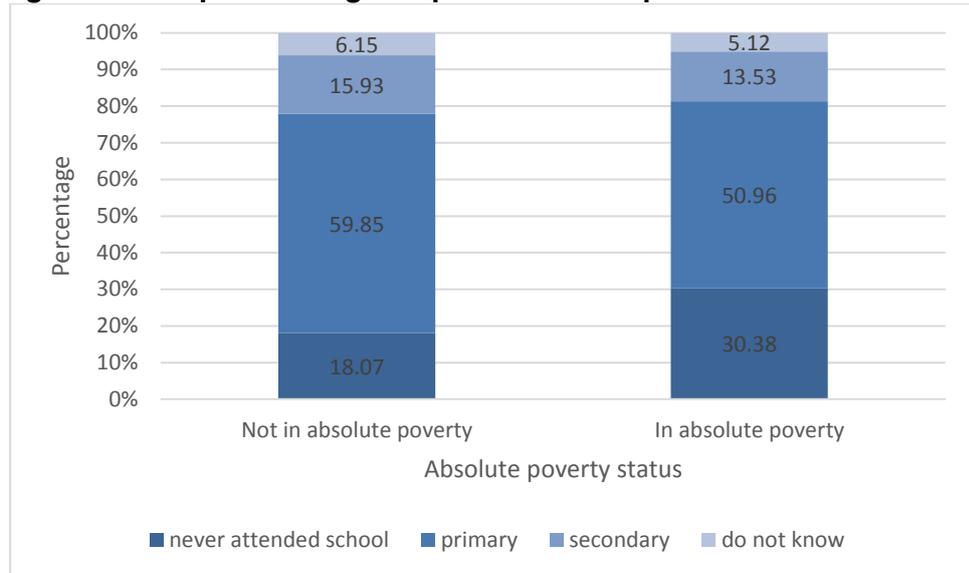
Figure 6-4 Graph showing composition of the poor for household size



Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 6-5 shows the column percentages for the relationship between education level and absolute poverty status. Of those older people in absolute poverty, a slightly smaller proportion has secondary education compared to those older people not in poverty. Of those older people who are absolutely poor, there is a larger proportion which has never attended school compared to those older people not in poverty.

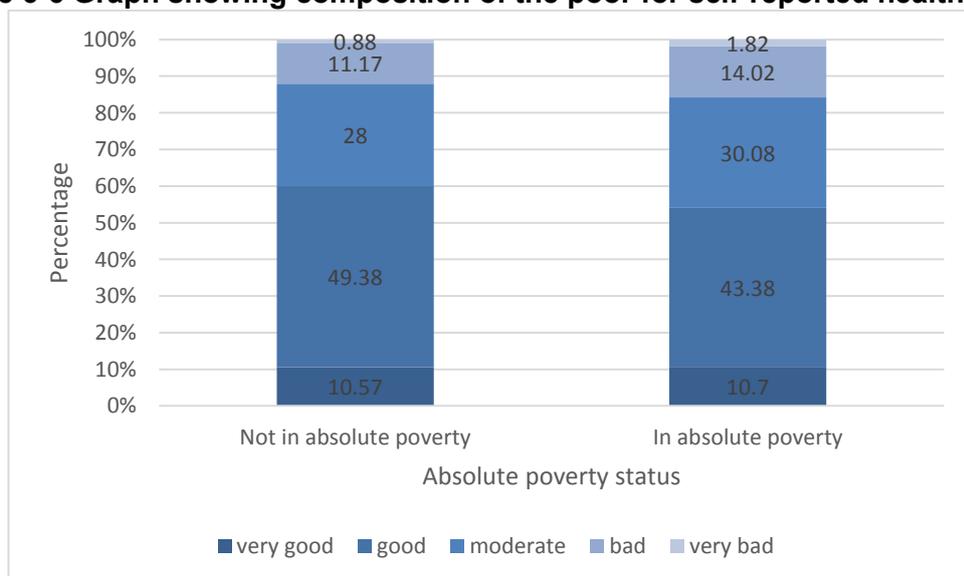
Figure 6-5 Graph showing composition of the poor for education level



Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 6-6 shows the column percentages for the relationship between poverty status and self-rated health status. It shows the composition of those older people in poverty and shows that there are minimal differences in the composition of the poor and non-poor older people within the slums, according to health status. Of those older people in poverty, there are slightly larger proportions who class their health as 'bad' or 'very bad' compared to those who are not poor (bad: 14% compared to 11%; very bad: 1.8% to 0.8%).

Figure 6-6 Graph showing composition of the poor for self-reported health status

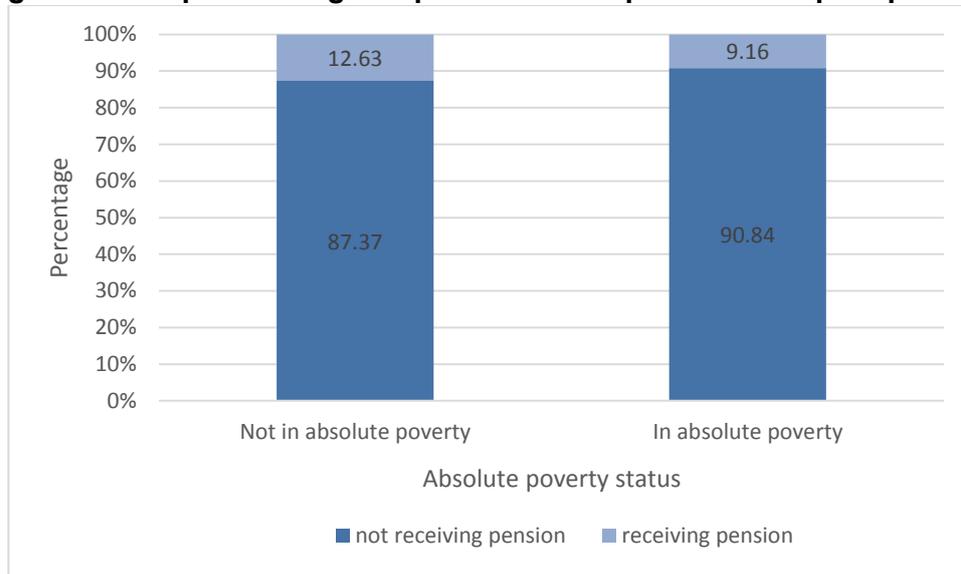


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 6-7 shows the column percentages for the relationship between absolute poverty and receipt of pension. For those older people who are not in poverty, thirteen

per cent are in receipt of a pension compared to just under ten per cent for those older people who are in poverty (12.6% compared to 9.2%).

Figure 6-7 Graph showing composition of the poor for receipt of pension



Source: Author's own analysis of combined NUHDSS data file, 2006

6.5.2 What Factors Correlate with being in Poverty?

This section examines the risk of being in poverty for older people in the slums. It is important to refer back to the literature review in order to have a thorough understanding of the demographic and socio-economic variables which are associated with being in poverty at older ages. Table 6-4 summarises the different variables and lists them in order of theoretical importance. It also describes the relationships previously found between the variables and being in poverty at older ages as well as the studies which have highlighted these relationships. This table was used to guide the choice of demographic and socio-economic variables used in the bivariate and multivariate analyses of the risk of poverty at old age in the slums.

Table 6-4 Reasoning and evidence for inclusion of variables in the multivariate analysis

Variable	Description	Evidence
Gender	Older females have been shown to be more likely to experience poverty than males	Saunders and Lujun (2006); UN (2005)
Age	The 'oldest old' (those over 80 years of age) are the most deprived	Najjumba-Mulindwa (2003)
Household Size	A larger household size has been associated with a higher probability of experiencing poverty for older people	Barrientos and Mase (2010)
Household composition	Households containing only older people and children have been highlighted as more likely to be in poverty	Najjumba-Mulindwa (2003); Kakwani and Subbarao (2007)
Marital Status	Those older people who are widowed, separated, divorced or never married have been shown to be more likely to be in poverty	Najjumba-Mulindwa (2003)
Education Level	The prevalence of poverty among older people has been linked to education levels, due to the differing levels of literacy	Kakwani et al (2006)
Pension Receipt	Receipt of pension is seen as a source of support which lifts people out of poverty	Barrientos and de la Vega (2011); Kakwani et al (2006)
Employment	Working or engaging in income generating activity has been associated with lower levels of poverty	Najjumba-Mulindwa (2003); Ondigi and Ondigi (2012)
Health status	Poorer health has been associated with poverty in old age	Mwanyangala et al (2010); Najjumba-Mulindwa (2003)
Providing care to an ill person or a child	Caring responsibilities have been connected to increased risk of poverty	Chepngeno-Langat (2012); WBPA Zambia 2007)

Source: Author's analysis of literature sources

Table 6-5 uses row percentages to demonstrate the risk of being in poverty according to the socio-demographic characteristics of older people. Of all older females, a significantly larger proportion is in absolute poverty compared with the older males

(Chi2=12.4; $p < 0.001$). This is unsurprising as poverty is gendered in old age with females more likely to be in poverty as opposed to males (UN, 2005; Saunders and Lujun, 2006). For the age group variable, the proportion of older people in poverty increases with each age group increase. There are more people in absolute poverty in the oldest age group compared to the younger age group (81% to 62%). Poverty prevalence is closely connected to being in the oldest age categories, which is statistically significant (Chi2=12.6; $p < 0.01$). This result reflects existing evidence of a link between being in poverty and being in older age groups (Najjumba-Mulindwa, 2003; Zaidi, 2008).

As household size increases, poverty prevalence also increases (statistically significant: $\chi^2=615.4$; $p < 0.001$). Of all older people living in households of more than five people, almost 90 per cent are in absolute poverty (89%) whereas less than 20 per cent of those older people in one person households are in absolute poverty (18%). For the household composition containing an older person as well as children and adults aged less than 50 years, a large proportion were in poverty (86%) compared to households containing only an older person or older people (36%) (statistically significant: $\chi^2=406.6$; $p < 0.001$). Interestingly, just over half of households containing an older person and only children were in poverty (56%), which is a smaller proportion than households containing an older person and only adults aged less than 50 years (73%). This result contradicts existing evidence which has highlighted the increased poverty risk for households containing only older people and children (Kakwani and Subbarao (2007).

Of those older people who are widowed, a slightly larger proportion is in absolute poverty compared to the other marital status categories (66%). The levels in absolute poverty for each of these categories of marital status are fairly similar, ranging between 60-70 per cent (there was not a significant association between marital status and absolute poverty status). For those older people who have never been married or who have been divorced or separated, the proportion in absolute poverty is slightly lower compared to those who have been widowed or are currently married. The marital status of those older people in absolute poverty is interesting as the results do not fit the pattern found in existing literature. Those older people who are widowed, separated, divorced or never married have been shown to be more likely to be in poverty in other contexts (Zaidi, 2008). Additionally, separation and divorce have a social stigma attached to them which can make it difficult to access sources of support and can amplify poverty (Schroder-Butterfill, 2004).

Table 6-5 Risk of poverty among older people in the slums according to different demographic and socio-economic variables

Variable		Not in absolute poverty (%)	In absolute poverty (%)	N
ALL		34.4	65.6	1,950
Gender***	Male	38.2	61.8	1,261
	Female	29.8	70.2	689
Age group**	50-54	38.3	61.7	905
	55-59	35.1	64.9	421
	60-69	33.5	66.5	398
	70-79	29.6	70.4	146
	80+	19.4	80.6	80
Household size***	1	81.8	18.2	432
	2	40.2	59.8	334
	3	32.5	67.5	239
	4	17.9	82.1	219
	5+	11.3	88.7	726
Household composition***	No children or adults<50 in household	64.3	35.7	647
	Has children in household	43.6	56.4	90
	Had adults<50 in household	26.7	73.3	449
	Has children & adults<50 in household	14.0	86.0	764
Marital status	Currently married	34.7	65.4	1,354
	Divorced/separated	41.2	58.8	178
	Widowed	33.8	66.2	346
	Never married	37.4	62.6	72
Education level***	Never attended School	24.4	75.6	508
	Primary	39.0	61.1	1,055
	Secondary	39.0	61.0	280
	Don't Know	39.5	60.5	107
Receives pension*	No	34.3	65.7	1,748
	Yes	42.8	57.2	202
Currently employed***	No	27.7	72.3	434
	Yes	37.4	62.6	1,516
Health status	Very good	34.9	65.1	208
	Good	38.2	61.8	887
	Moderate	33.6	66.4	572
	Bad	30.2	69.8	254
	Very bad	20.9	79.1	29
Cared for ill person	No	34.8	65.2	1,724
	Yes	38.7	61.3	226
Caring for child in household***	No	46.1	53.9	764
	Yes	29.2	71.8	1,186

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: * p<0.05; ** p<0.01; *** p<0.001

The relationship between education level and absolute poverty status is statistically significant ($\chi^2=34.1$; $p<0.001$). For those older people who have primary or secondary schooling or who have not said their education level, the percentages in poverty are fairly similar (61%). However, three-quarters of those older people with no schooling are in poverty. The relationship between absolute poverty and receipt of pension is also statistically significant ($\chi^2=5.5$; $p<0.05$). A larger proportion of older people not in receipt of a pension are in poverty compared to those receiving a pension (66% to 57%). This result supports existing evidence that pensions can lift older people out of poverty (Kakwani et al, 2006; Barrientos and de la Vega, 2011). Previous research has shown that retirement is rarely an option for older people in less developed countries and especially in Africa which has the highest proportion of economically active people over 65 years of age (UN, 2009b:39; Ramashala, 2001). The results show that of those older people who are not in employment, 72 per cent are in poverty compared to 63 per cent of those who are currently employed; this was statistically significant ($\chi^2=14.0$; $p<0.001$).

The relationship between poverty status and self-rated health status is not statistically significant. Larger proportions of older people in poverty have bad or very bad health (70% and 70%) compared to having moderate or good health (66% and 62%). However, this relationship does not hold for being in very good health where the proportion of older people in poverty is 65 per cent. Having a caring role has also been associated with being in poverty (Chepngeno-Langat, 2012; WBPA Zambia, 2007). A smaller proportion of those older people who had cared for a chronically ill person in the last three years were in poverty compared to those older people who had not (61% to 65%). However this difference was not statistically significant. Of those older people who were caring for a child living with them, 72 per cent were in absolute poverty compared to those who were not caring for a child living with them (54%). This difference was statistically significant ($\chi^2=69.3$; $p<0.001$).

This bivariate analysis has highlighted that there are a number of characteristics associated with older people being in absolute poverty in the two slum settlements. Being a woman and being in the oldest age group are significantly positively associated with being in absolute poverty. Being in a larger household size is also significantly associated with being in absolute poverty. A variety of socio-economic variables are also significantly associated with being in poverty: having no employment; and not being in receipt of a pension. To further investigate these relationships, a multivariate analysis was conducted. The dependent variable 'absolute poverty status' is a binary

variable as the older person is either in absolute poverty or they are not. As such, a logistic regression is the best choice for this multivariate analysis.

The model building process is summarised in table 6-6. A forward selection procedure was utilised which started with the simple constant model, with no explanatory variables included. Explanatory variables were then added to the model based on their theoretical importance within the literature. Gender, age group and household size of the older person were included in the regression model. Household composition was a significant addition to the model, after household size. However, a look at the correlation matrix of explanatory variables showed that this variable was highly positively correlated with household size (0.82) and its inclusion led to a large inflation of the standard errors. As this correlation may affect the interpretation of the effects of the model, the household composition variable was removed. It made a minimal difference in explaining the variation in the data; R² with household composition was 0.286, R² without household composition was 0.277. The correlation among the three initial explanatory variables was minimal, ranging from -0.106 to 0.157; as such, these variables were retained in the model.

Further variables found to be important in existing studies were added to the model to determine their effects on the poverty outcome. In order of theoretical importance, these variables were: marital status; education level; whether the older person received a pension; whether the older person worked; self-rated health status of the older person; whether the older person cared for a chronically ill person; and whether there was a child in the household. The slum of residence was tested to see if it had a significant effect on the risk of poverty in the two slums. The duration that the older person had resided in the slum was also tested to see if there was a difference in poverty risk between long-term residents and recent migrants. Existing studies looking at health among older people in the slums have looked at the effect of ethnic group (Kyobutungi et al, 2009; Falkingham et al, 2011); this was also tested to see if ethnicity had an effect on poverty risk. On the inclusion of these variables into the model, there was a significant change in the chi-square statistics for the difference between -2 log likelihoods (using the likelihood ratio test) of the reduced model and the model with the additional variable included. However, the variables themselves did not have significant effects in the model and were thus excluded from the final model. Importantly, the none-significance of the slum residence variable indicates that there is not a significant difference in being in poverty for older people between the two slums. As such, combining both slum populations is acceptable for the analysis.

Table 6-6 Model building process for logistic regression

<i>Variable</i>	<i>Model fitting criteria -2 log likelihood of reduced model</i>	<i>Likelihood ratio tests</i>		
		Chi-square	Degrees of freedom	Significance
Constant	-1237.41	.	0	.
Gender	-1230.55	14.11	1	0.00
Age group	-1224.54	25.10	5	0.00
Household size	-895.22	473.37	9	0.00
Household composition	-877.46	475.02	12	0.00

Source: Author's own analysis of combined NUHDSS data file, 2006

The results of the logistic regression are summarised in table 6-7. It is also important to note that any correlations do not depict causation; this can only be established if poverty is measured over time, to determine what causes people to move into or out of poverty. The results show that being female is significantly associated with being in poverty for older people in the slum settlements (at the 5% level); this finding supports existing literature on poverty at older ages in developing countries which have also found that older women are more likely to be in poverty than older men (Saunders and Lujun, 2006).

There is a strong significant correlation between age and absolute poverty status from the age of 55 years, with poverty being highly correlated with being at the older end of the age spectrum (1.41 for 55-59, 1.82 for 60-69; 2.72 for 70-79; 4.40 for 80 and over), relative to the reference category of 50-54 years. This result is unsurprising as the oldest old are often more likely to be in poverty due to their inability to secure income and the expense of their poor health (Zaidi, 2008; UN, 2005). Research in developed countries has found that wealth declines as people age (Disney and Whitehouse, 2003).

Being in a larger household is significantly highly correlated with being in absolute poverty for older people. This may be due to the equivalence scale used which does not account for economies of scale in the household (this will be explored further in chapter 7). The Kenya Poverty Assessment found that there was a strong significant correlation between large households and being in poverty (WBPA Kenya, 2009). Other evidence from households containing older people has also highlighted that a

larger household is associated with a higher probability of experiencing poverty for older people (Barrientos and Mase, 2010).

Table 6-7 Logistic regression results of factors correlating with being in poverty

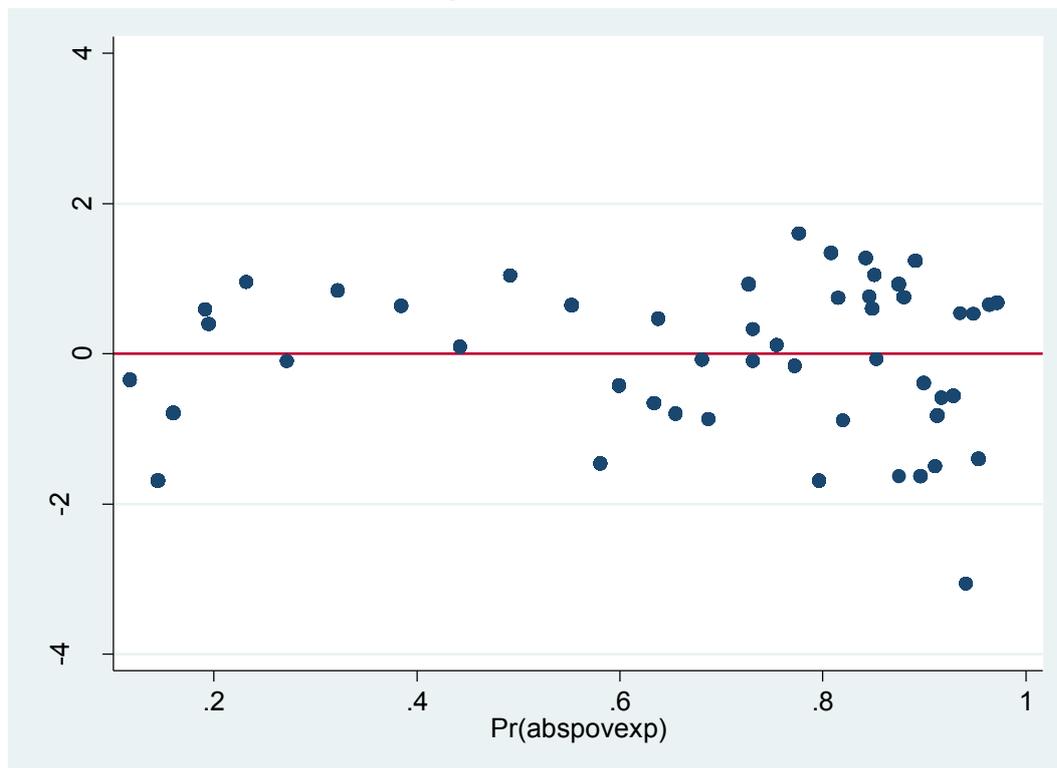
Variables		Odds ratio	P-value	95% CI	
				Lower	Upper
Gender	Male	Ref.	-	-	-
	Female	1.28	0.05*	0.10	1.63
Age group	50-54	Ref.	-	-	-
	55-59	1.41	0.02*	1.05	1.89
	60-69	1.82	0.00***	1.32	2.52
	70-79	2.72	0.00***	1.64	4.51
	80+	4.40	0.00***	2.23	8.68
Household size	1	Ref.	-	-	-
	2	7.10	0.00***	5.06	9.95
	3	10.81	0.00***	7.42	15.75
	4	22.75	0.00***	14.76	35.06
	5+	42.01	0.00***	29.45	59.92
Number of observed cases		1950			
Model χ^2		473.37			
Degrees of freedom		9			
P-value		0.000			
R^2 value		0.277			

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

The R^2 value is 0.277 suggesting that the model is explaining 28 per cent of the variation in the data, which is an acceptable amount (table 6-7). A further model fitting test was conducted; the Pearson chi-squared goodness-of-fit test statistic is 41.61 and the P -value is 0.40, indicating that the model fits the data well (not shown in the table). The scatter plot in figure 6-8 shows the predicted values scattered against the standardised Pearson residuals. Ideally, the points should not form a pattern and the figure shows that the points are scattered fairly evenly around the line; there is only a slight pattern, with more points on the right-hand side of the graph. However, the spread is still adequate to suggest that the model fits well. It is also desirable for the values to fall within the 3 to -3 range. In this case, there is only one point which lies just outside of this, suggesting that there are no large values influencing the data.

Figure 6-8 Scatterplot of predicted probabilities against residuals for logistic regression model



Source: Author's own analysis of combined NUHDSS data file, 2006

6.6 Relative Poverty among Older People in the Slums

This section focuses on how poverty is distributed across the older people in the two slum settlements. It uses quintiles to explore the poorest older people and what characterises them. The absolute poverty measure has shown that almost two thirds of older people are in poverty, which is unsurprising as the slums are poor places. Within the slums, however, there is likely to be further variation in poverty rates with some older people being significantly poorer than others. Utilising expenditure quintiles allows us to see who is the poorest relative to everyone else so it gives an idea of inequality among older people in the slums. It also highlights who could be targeted by policy interventions.

The quintiles are five equal-sized categories calculated using the household level data from the Amenities and Livelihoods survey. They are calculated for all of the households in this dataset. When looking at the individual level data for the older people, these quintiles will thus not be five equal-sized quintiles but will reflect how households containing older people are distributed across the two slum settlements.

The households containing older people are distributed fairly evenly among the quintiles as shown in table 6-8.

It is interesting to compare the accumulated monthly expenditure of older people in the least poor and poorest quintiles and to determine how this comparison answers the research question:

- How do the characteristics of older people living in the poorest 20 per cent of households differ from those living in the least poor 20 per cent of households?

A ratio of the average expenditure of the least poor quintile to the poorest quintile is 9.6:1 which indicates that the average expenditure of the better off quintile is 9.6 times that of the poorest quintile. This shows that although the slums are poor places to live, with almost two thirds of older people deemed to be poor according to the Kenya absolute poverty line, there considerable differences in terms of the relative prevalence of poverty.

In particular, there are differences in the distribution of relative poverty among older people in relation to their gender and age. Of older males in the slums, there is a higher proportion in the least poor quintile (30%) compared to the poorest quintile (19%). Conversely, of older females, there is a slightly higher proportion of in the poorest quintile (25%) compared to the least poor quintile (24%). This gender difference is statistically significant and further supports existing evidence on gender differentials and poverty in old age (Saunders and Lujun, 2006; Evans et al, 2005).

Table 6-8 Distribution of older people across expenditure quintiles

Quintile of Household Expenditure	Frequency All	All (%)	Male (%)	Female (%)	Youngest old (%)	Oldest old (%)
1	370	19.0	18.9	24.6	20.3	25.6
2	347	17.8	16.7	18.6	17.3	18.0
3	321	16.5	16.0	16.3	15.7	18.7
4	360	18.4	18.7	16.7	17.8	19.2
5	552	28.3	29.7	23.9	28.9	18.5
Total	1,950	100	100	100	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006

The results of the logistic regression in section 6.5.2 highlighted age as correlating with absolute poverty status, with people in the oldest age groups being more likely to be in poverty than those in the youngest age category. International reports have also

indicated the oldest older people as facing a greater risk of poverty (UNFPA and HAI, 2012; UN, 2002). As such, differentiating between the youngest and oldest age groups can help to highlight if the oldest older people are more vulnerable, thereby helping to focus policy recommendations. The age disaggregation takes the form of a binary variable; the younger group incorporates those older people aged between 50 and 69 years (87.4%). The older group incorporates those aged over 70 years (12%). Existing research has disaggregated older people using 80 years of age as a cut-off (UNFPA and HAI, 2012; UN, 2009b; UNDESA, 2007). However, there are only a small number of people aged over 80 in the slums (4.6%), which would not give an adequate cell count for analysis. When considering the context, it is also important to note that few people in Kenya reach the age of 80 years and they constitute a very small proportion of the population (0.4% in 2010; see figure 4-1 in section 4.1.1). Those people in the oldest age groups are therefore aged 70 and above, which is why this cut-off has been chosen. The results in table 6-8 show that of those older people age between 50 and 69, a fifth was in the poorest quintile (20%) whilst more than a quarter (29%) was in the least poor quintile. Conversely, of those older people aged over 70 years, 26 per cent were in the poorest quintile whilst only 19 per cent were in the least poor quintile. This result highlights the importance of age in poverty measures and indicates that those people in the later stages of old age can face a greater risk of poverty.

Of the total number of older people, 28 per cent are in the least poor quintile, which is a fairly large figure. The older people who make up this quintile are distinctive in that more of them are in formal employment compared to the poorest quintile (20% to 9%) (analysis shown in table 2 in appendix 5). They are also male dominated in that 70 per cent of the older people in the least poor quintile are male compared to 57 per cent in the poorest quintile. There is also a difference in receipt of pension with 13 per cent of older people receiving a pension in the least poor quintile compared to five per cent in the poorest quintile. There is also a slight difference between them in terms of their spending on schooling children with only eight per cent of older people in the least poor quintile spending on this compared to ten per cent in the poorest. There is also a difference in terms of their health with 56 per cent of the least poor quintile seeking healthcare in the last three months compared to 61 per cent of the poorest.

Household size also makes a difference with 75 per cent of the least poor quintile residing in one or two person households whereas only eight per cent of the poorest quintile lives in smaller households. This finding suggests that the choice of equivalence scale could be having an effect on the poverty expenditure quintiles; the sensitivity of the results to the choice of equivalence scale will be further investigated in

chapter seven. The findings for the differences in demographic characteristics for older people in the least poor quintile compared to the poorest quintile suggest that the absolute poverty measure can be critiqued. As it simply dichotomises into poor and not poor, it hides older people in the slums who are significantly better or worse off. This is important for policy implications as it demonstrates that not all older people will have need of external policy support in the slums.

The difference in the distribution of relative poverty among older people in the slums is reflected in the quintile share of total expenditure (table 6-9). The poorest quintile constitutes five per cent of the total expenditure whereas the least poor 20 per cent of the older people are spending 61 per cent of the total expenditure. This disparity indicates that there is significant inequality among older people within the slums.

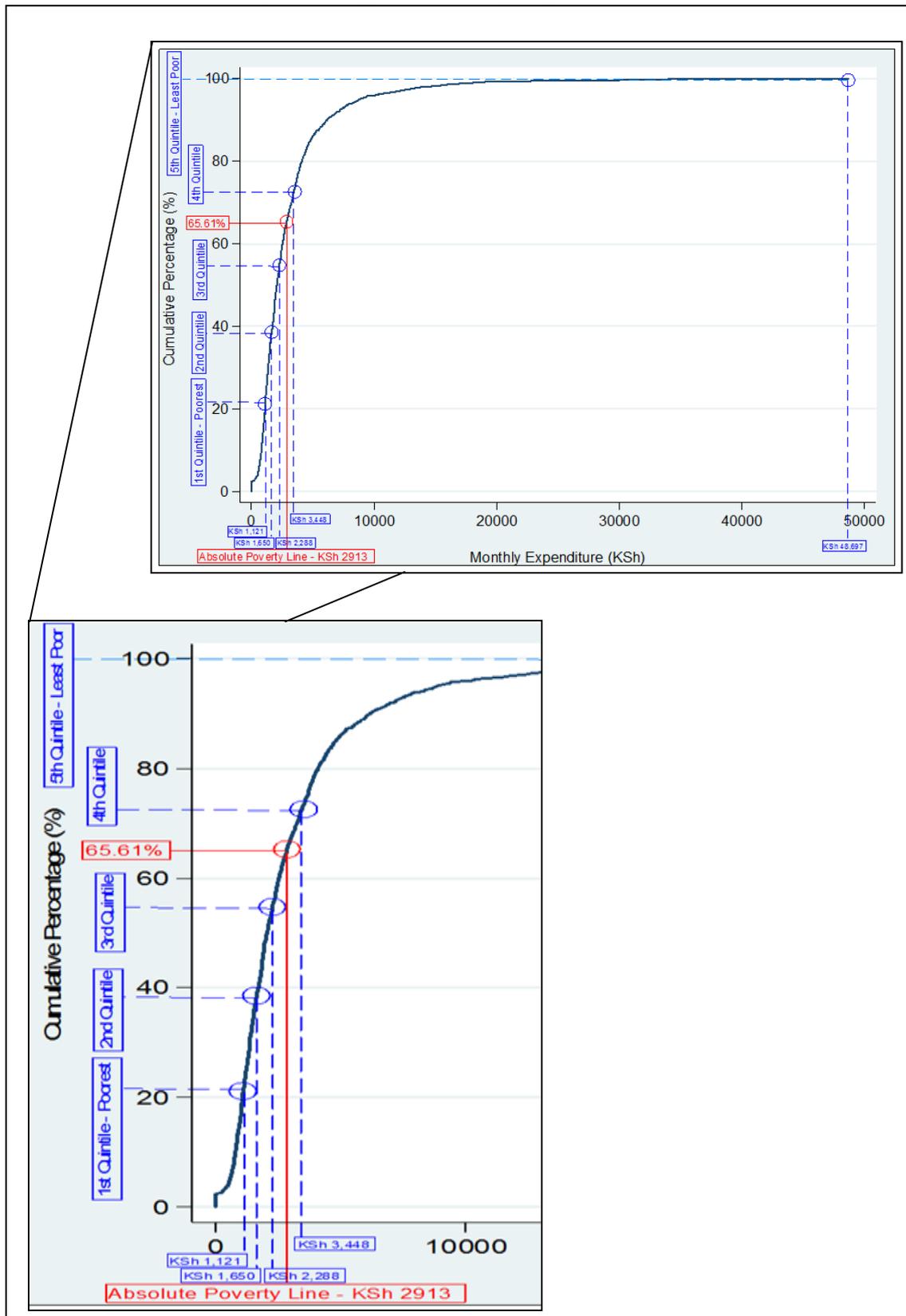
Table 6-9 Total accumulated monthly expenditure per quintile for older people (adult equivalised)

Quintile	Total expenditure per quintile (KSh)	Percentage of total expenditure (%)
1 – Poorest	307,375.40	4.9
2	481,115.10	7.7
3	627,809.30	10.1
4	990,240.00	15.9
5 – Least Poor	3,808,656.00	61.3
Total	6,215,195.80	100

Source: Author's own analysis of combined NUHDSS data file, 2006
 Note: GBP (£) was equivalent to 133-137 Kenya shillings at the time of this survey

The top graph in figure 6-9 highlights the relationship between an absolute poverty measure and the distribution of expenditure within the slums; the bottom graph is a zoomed-in version of the top graph, giving a clearer picture of the interaction of absolute poverty and the distribution of expenditure. The absolute poverty measure has a cut-off for monthly expenditure, which is KSh 2913 for a household – this is shown by the red line on the graph. Alternatively, there can be difficulties with solely focusing on one cut-off as a poverty measure. Those older people living in households with a monthly expenditure just below KSh 2913 will likely experience poverty differently to those older people in households with a substantially lower monthly expenditure. The use of a more relative approach allows for the exploration of how monthly household expenditure is distributed across older people in the slums.

Figure 6-9 Cumulative percentage distribution graph showing cumulative percentage of monthly expenditure



Source: Author's own analysis of combined NUHDSS data file, 2006

An absolute poverty measure of KSh 2913, as has already been shown in section 6.4, shows that 66 per cent of older people are in households in absolute poverty. The five dashed blue lines indicate the quintiles for monthly household expenditure. As has been highlighted, they do not quite replicate the 20 per cent for all households, as these calculations are just for households containing older people. There are slightly more households containing older people in both the poorest and least poor quintiles. It is also interesting to note that the absolute poverty cut-off falls within the fourth quintile which highlights that there is a substantial amount of poverty in the slums and emphasises the importance of considering the way expenditure is distributed among households containing older people. A closer look at the least poor quintile highlights that there is a huge range of expenditures within it – from KSh 3,448 to KSh 48,697. However, very few households containing older people have a monthly expenditure of more than KSh 15,000.

6.7 Conclusion

This chapter has mainly focused on measuring monetary poverty prevalence in its various forms. The Millennium Development Goals have highlighted how the reduction of poverty is an important development goal. In order to monitor whether this is being achieved, there is a need to collect information on poverty levels for different populations so that policies to alleviate poverty can be implemented at the international, the national and the local level. This chapter has aimed to address the dearth in knowledge surrounding poverty among older people in an urban slum environment.

There are a variety of income and expenditure sources for households containing older people in the two slum settlements. Household income comes mainly from business and salary employment. The majority of older people also work in business or in salary employment, whether formal or informal. Of those households containing older people, 12.4 per cent received a financial gift as a source of income. Pensions were not recorded as income in the household survey; however one household listed their pension as a source of 'other' income.

There were a variety of items that households containing an older person spent money on. Almost all households spend money each month on food, energy and water (90-97%). Over half of households spent money on rent each month. Lesser monthly expenditures included transport, electricity and religious obligations. Of all households containing an older person, 16 per cent spent money on financial gifts. There was

limited information on pensions for older people and it was unclear where this was allocated for the household income and expenditure.

This chapter has highlighted that 66 per cent of older people in the two slum settlements were living in absolute poverty. This represents a substantial number of older people and reflects the poorer context of the slums as well as the increased likelihood of being in poverty at the later stages of the life course. The bivariate analysis demonstrated that older people in absolute poverty were more likely to be female and those who constitute the oldest old. These groups are widely associated with being in poverty in the literature (UNFPA and HAI, 2012; UN, 2009b; Zaidi, 2008; UNFPA, 2002). This reflects the limited employment opportunities and discrimination faced by women over the life course (UN, 2005). Being female and being in older age groups was significantly correlated with being in poverty, as shown in the logistic regression in table 6-8. This result highlights the feminisation of poverty at older ages (UN, 2002) as well as the lack of income earning opportunities at older ages and the associated health problems which may hinder earning potential, thus increasing the risk of poverty (Zaidi, 2008; UN, 2010).

A larger proportion of older people in absolute poverty lived in households of five people or more. This result was reflected in the logistic regression which showed there was a particularly strong association between being in poverty and being in larger households. Research on poverty in developing countries has highlighted that larger households are frequently associated with poverty as the increased number of people further strains limited resources (WBPA Kenya, 2009; Barrientos and Mase, 2010). Older people in larger households therefore face greater risks of poverty as limited resources must be allocated between more people. If there is increased competition for resources, older people may be placed further down the pecking order in terms of what they receive, as working-age adults and children may be given a larger share of resources.

The relative poverty measure showed that there was a large variation in terms of the poverty prevalence experienced by older people within the slums. The average expenditure for older people in the least poor quintile was 9.6 times the average expenditure of older people in the poorest quintile, indicating that wealth is distributed unequally across households containing an older person in the slum settlements. There is also a very wide range in the least poor quintile for households containing older people with monthly expenditures going from KSh 3,448 to KSh 48,697. This range is a huge differentiation to have in one expenditure quintile and highlights that a small

number of households containing older people in the slums are much better off. Alternatively, the very poorest households containing older people have up to only KSh 1,121 expenditure per month. This figure is well below the poverty line of KSh 2,913 and indicates that older people in these households may be suffering particularly extreme poverty.

The equivalence scale used to estimate poverty levels can be problematic and relies on the normative judgement of the researcher; different equivalence scales may produce different poverty estimates. As such, the next chapter will explore further whether the adult equivalence scale is the best scale to use in the context of the slums or if another equivalence scale would give a more appropriate poverty estimate. The analysis conducted in this chapter also focuses solely on the monetary poverty of older people in two slum settlements. It has been highlighted, however, that poverty in this context does not simply centre on monetary resources (Lloyd-Sherlock, 2010; Baker and Schuler, 2004). Other aspects of wealth accumulation should be incorporated into the analysis in order to provide a clearer picture of what households have available to them. Additionally, subjective measures of poverty must be considered and this has been suggested as very important in terms of analysing poverty among older people; it has been suggested that poverty can take the form of a lack of connection with family members or being house-bound (Lloyd-Sherlock, 2010). As such, subjective measures can highlight how people feel about their own situation of poverty and help to establish how poverty really manifests itself for older people. A multidimensional conceptualisation of poverty will be explored further in chapter 8.

7. Exploring the Sensitivity of Poverty Estimates

This chapter focuses on a methodological aspect of the measurement of poverty. It explores the different ways that household expenditure can be adjusted to account for differences in household consumption and how the choice made by the researcher in deciding the types and extent of adjustments can alter the poverty estimates produced.

7.1 Introduction

Chapter three explored the operationalisation of poverty concepts and highlighted that there are issues associated with the use of equivalence scales. The equivalence scales utilised throughout poverty research range from weakly justified figures to values with a more theoretical grounding. As such, there is an inherent risk that the poverty result may be under or overestimated (Lanjouw, et al, 2004). There is little discussion in APHRC documents as to their equivalence scale and why this is chosen as the appropriate method of adjusting for differences in household consumption in the slum settlements. The method favoured is the adult equivalent approach where adults are counted as one person and children are counted as half of an adult, with no economies of scale assumed; the justification for this scale is that it is the method commonly used in poverty measurements (APHRC email correspondence, 2012). This lack of clarification raises questions as to whether this is the most appropriate equivalence scale to use in this context.

A way of testing the validity of the poverty estimate produced, as well as the associations with the estimate and other demographic characteristics, is to conduct sensitivity analyses. This method involves producing a variety of poverty estimates based on different assumptions regarding adjustments made for household composition and economies of scale. A study looked at the sensitivity of poverty rates in 1997 in the United States of America (Short et al, 1999). The authors used a variety of equivalence scales to test whether the poverty rate changed; they found that different assumptions altered the rate but that the differences between the scales were small, indicating that the choice of equivalence scale may not hugely matter. It has also been shown that when the correlation coefficient for unadjusted expenditure data has been compared to adult equivalent adjusted expenditure data, it can be high suggesting there is little difference between using a per capita measure and an adult equivalence scale (Visaria, 1980). However, despite this close correlation, the different measures may still classify people in different ways (Haughton and Khandker, 2009).

For example, the positive, significant relationship as shown in chapter 6 between absolute poverty and household size can be found when using per capita measures, with the identification of “large households as being disproportionately poor” (Haughton and Khandker, 2009:92). However, the measure does not account for economies of scale or compositional needs and could therefore overestimate this level of poverty in larger households.

The same idea could apply to the equivalence scale selected for use in this study. The adult equivalence scale, as used by APHRC, accounts for compositional needs of the household through counting children as half an adult, reflecting their assumed lesser needs. However, these assumptions of compositional needs may not be correct. Also, no account is taken of economies of scale within households which could mean that the expenditure data needs to be further adjusted to incorporate these. Accounting for different compositional needs and economies of scale within households to those assumed for this study may result in a different poverty estimate for the older people in the slums. More importantly, it could alter the relationship established in chapter 6 that older people in larger households have a higher likelihood of being in poverty. If this finding was altered, there would be implications for the policy recommendations (Lanjouw et al, 2004); namely, that poverty-reduction initiatives should target older people in larger households. As such, sensitivity analyses which test a variety of different equivalence scales will indicate if the results found in chapter 6 are robust or if alternative assumptions for compositional needs and economies of scale within households should be adjusted for. The discussion in this chapter centres on the research questions:

- How does the prevalence of poverty vary according to the equivalence scales used in the measurement process?
- How do the adjustments made for household composition and economies of scale affect the relationship (established in chapter 6) that larger households have a higher likelihood of being in poverty compared to one person households?

The chapter aims to explore how the choice of equivalence scale that is incorporated into the measurement process may alter the resulting poverty estimate, depending on the way these scales are specified by the researcher. This chapter seeks not to propose one definite method for constructing equivalence scales within poverty measures. Instead, it aims to discuss the options available to account for differences in household size and composition, as well as the potential sharing of public goods by

household members. In addition, based on existing studies and the consideration of the types of households within the sample, it suggests which method may be suitable for obtaining poverty estimates in the two slum settlements.

The chapter is structured to allow the exploration of the different ways in which the analytical process can account for differences in household consumption between members. It begins by outlining how different methods of adjusting for compositional needs and economies of scale have been utilised in studies of poverty among older people. It then moves on to the analytical exploration of these methods in relation to the data used in this study. The analysis explores the role of equivalence scales and how the different methods of accounting for household composition and economies of scale can alter poverty estimates. It then moves on to discuss whether differences in adjustments impacts on the relationship between poverty and household size for older people. The chapter concludes with a discussion on the most appropriate method of accounting for differences in the consumption of household members when measuring poverty in the two slum settlements in Nairobi.

7.2 Equivalence Scales and Older People

As noted in chapter six, expenditure information was used to calculate poverty rates. It is necessary to calculate the amount of expenditure for a household, usually over the period of a month. When this total expenditure is obtained, it is divided by the number of people in the household to allocate the monthly expenditure at the individual level; this is the per capita method of allocating household resources (World Bank, 2004). However, it is unlikely that each household member consumes the same amount. Different sized households will also have different compositional needs and will share resources within them in different ways (Deaton and Zaidi, 2002). In order to reflect this, equivalence scales are used to try to adjust for differences in consumption between household members. There are three things to consider for equivalence scales; (i) equal allocation of resources, (ii) economies of scale and (iii) differential needs of household members. These are explored in this section, followed by a discussion of equivalence scales used in producing poverty estimates for older people in different contexts.

(i) **Allocation of resources.** It is frequently assumed that resources in households are equally allocated, as there are limited methods for incorporating differences in intra-household resource allocation into the measurement of poverty. It has been suggested that it is unlikely that resources will be allocated equally within households and further

work on this has focused on the inequalities surrounding equal allocation of household resources (Falkingham and Baschieri, 2009; Haddad et al, 1997). In reality, one member of the household may have greater needs or may utilise more of the expenditure than another although it is difficult to know this (Dreze and Srinivasan, 1997). Resource allocation may not reflect the need of each household member but instead may be indicative of power relations, particularly in relation to gender. Research that has focused on gender and household resource allocation has suggested that if intra-household inequalities in resource allocation were found, the poverty estimates for males and females could alter dramatically (Falkingham and Baschieri, 2009:46).

This idea can be further expanded to consider how differences in household members' characteristics, other than gender, can impact on equality of resource allocation. For example, evidence shows that older people in Ghana find that resources from their adult children are often concentrated on their grandchildren (or the adult's children) as opposed to being shared with them (Aboderin, 2004b). If these older people live in the same households as their adult children, they may find that they are being discriminated against in household resource allocation, receiving less than other household members. This situation indicates that if household resources are unequally allocated, older people may lose out in the distribution of resources, meaning that their estimates of poverty could be higher than other household members. Other work has highlighted this as a problem with the suggestion that diversity in intra-household allocation of resources can lead to the receipt of a non-contributory pension for older people not effectively improving their wellbeing (Barrientos and de la Vega, 2011).

Although it is important to address this problem, the data are often limited in the provision of information, as in this study, meaning that determining allocation of household resources is too difficult. As such, it is not possible to establish in this study whether older people face discrimination in household resource allocation and are thus at a greater risk of poverty, so the assumption of the unitary household can be used. However, this problem does need to be addressed and could be considered for future work. As an alternative method of adjusting for household differences in consumption, equivalence scales incorporating compositional needs and economies of scale are utilised to determine household poverty rates.

(ii) **Economies of scale.** This term refers to the effect of the cost advantages a household can gain due to size, with bigger households benefitting more than smaller households. Economies of scale can be accounted for because additional household

members, whether adults or children, can share some household resources which decreases their overall cost of living (Lanjouw and Ravallion, 1994). Public goods, such as water taps, cooking utensils and housing, result in a household member's consumption not impacting on another member; as such, "two people can live together more cheaply than living apart" (White and Masset, 2003:111). These are not necessarily shared resources in that people are pooling income but the use of some resources is necessarily 'shared' through the process of living together. This notion highlights that there are economies of scale within households which can be accounted for, according to the level of public goods available in the context.

It is important to consider the context when incorporating economies of scale into adjustments for household expenditure. Deaton and Zaidi (2002) suggest that:

"In very poor economies with a high share of the budget devoted to food – which is almost entirely private – the scope for economies of scale is likely to be small (2002:48)

The authors argue that as economies of scale may be limited in these countries, they need not be accounted for or can be incorporated into an equivalence scale in a small way. The expenditure information for households containing older people in the slums (section 6.3, table 6-2) indicates that food is a large proportion of monthly expenditure. This finding may support the use of limited economies of scale in the slum context. However, other research highlights that although food is a private good, economies of scale can still operate as it can be bought in bulk (White and Masset, 2003). This point highlights the complexities of incorporating economies of scale into equivalence scales. As such, it should be carefully considered as to whether economies of scale should be incorporated into the measurement process, and if so, to what extent.

Older people can benefit from these shared costs if they live in a larger household but if they live alone or in smaller households, as research has suggested in a variety of contexts (Dreze and Srinivasan, 1997; Deaton and Paxson, 1997), they will not be able to share these costs of public goods. As such, the poverty estimates of older people living alone or in smaller households may be underestimated if economies of scale are not taken into account. This underestimation may be particularly problematic when the poverty of older people is being compared to the general population. Studies investigating the effect of adjusting for economies of scale for older people have found that estimates of poverty using per capita methods can portray older people as richer than the average population but that incorporating economies of scale can reverse this

relationship (Falkingham et al, 2009; Lanjouw et al, 2004). This finding underlines the importance of considering economies of scale in adjustments for household consumption.

(iii) **Differential needs.** Household expenditure can be adjusted for the differing needs of household members, which relates to the composition of the household. As has been highlighted, it is not frequently possible to determine the individual needs of household members and incorporate these into expenditure adjustments. As such, an alternative method ascribes perceived differing needs based on certain characteristics of household members. Most commonly, this assumption centres on the age of the household member with a distinction made between adults and the assumed lesser consumption needs of children, who may cost less in terms of overall household consumption (Coulter, 1992; Lanjouw and Ravallion, 1994). Spending on children can vary greatly depending on the location being studied. It has been suggested that children can be expensive in developed countries where there are many items to buy for them but they cost less in developing countries (Dreze and Srinivasan, 1997; Deaton and Zaidi, 2002). As such, it is possible to allow children to be worth fractions of adults to reflect their lesser needs.

Although there are differences between the needs of an adult and a child, there are also differing needs between adults; this is more challenging to reflect in equivalence scales. Differentiating the needs of older people from working age adults has been highlighted as a particularly difficult, with most studies taking no account of the specific needs of older people within equivalence scales (Nicholson, 1976; Pal and Palacios, 2006). Yet if equivalence scales can incorporate the assumed lesser needs of a child, a similar fraction could be argued for older people. For example, older people could be differentiated on their different calorific needs in later life, reflecting amounts spent on food within the household. Additionally, they may have increased healthcare needs so their household consumption may be higher than an adult's (Kakwani et al, 2006). Deaton (1997) has highlighted that older people may have specific needs in comparison to other household members:

“Old people may need more of some things – health services or warmth in cold countries – and less of others – food or work-related consumption” (1997:223)

However, it would be very difficult to determine what this fraction would be and to incorporate the specific needs of older people into equivalence scales, as they are a heterogeneous group with differing needs and consumption patterns. In addition to this,

their individual needs will be hard to disentangle from the needs of other household members and it would be difficult to disengage the allocation of resources at the household level from those at the individual level (Deaton and Paxson, 1997; World Bank, 2004). Achieving a method to describe the different scales of consumption for older people within the household will not be feasible. However, the construction of a poverty profile can still take into account variations in economies of scale and the difference in compositional needs of children.

7.2.1 Different Equivalence Scales in Studies of Poverty among Older People

A study on old age poverty in Vietnam calculated poverty rates using the per capita measure (Evans et al, 2005). This study looked at different household compositions of older people: elderly and working age; elderly only; elderly, working age and children; and elderly and children. The authors found that the elderly-only households were ranked second-highest for per capita income but that when economies of scale were accounted for, by dividing household income by the square root of household size, the elderly-only households were ranked third. There was no justification put forward for the use of this level of economies of scale. However, in the final poverty profile, the authors chose to use the per capita estimate, in line with “the standard Vietnamese practice in policy discussion of using (non-equivalised) per-capita income” (Evans et al, 2005:21). This decision is questionable as although this approach is consistent with national policy, there may be implications for the resulting targeting strategies of policies. It suggests that equivalence scales should be more closely considered when producing poverty estimates.

Another study looking at whether or not a social pension would reduce poverty among older people in Vietnam utilised two equivalence scales (Giang and Pfau, 2009). The authors incorporated the official per capita equivalence scale but recognised the limitations with this, in that it could under or overestimate poverty rates. As an additional scale, they utilised Barrientos’ (2005) scale which assumes children are 0.5 of an adult and economies of scale are 0.75 (2009:338); again, no justification was given for this choice of equivalence scale. The authors tested simulations of social pensions. They found that the different pension schemes they proposed would have greater impacts on poverty reduction according to the alternative equivalence scale as opposed to the official per capita equivalence scale and highlighted that: “precision in poverty measurements is crucial in evaluating social programme impacts” (Giang and Pfau, 2009:345). This finding indicates the importance of considering the equivalence scale used in calculating poverty rates. It also underlines the importance of using

sensitivity analyses to ensure any policy recommendations derived from the estimates are valid.

The importance of adjusting household expenditure has been highlighted by a working paper that looked at poverty among older people in Kenya (Kakwani et al, 2006). The authors suggested that household composition should be incorporated into the calculation of poverty rates. They used a scale developed by Anzagi and Bernard (1977) which incorporates weights for the differential needs of children: children 0 to 4 years old are 0.24 equivalence of an adult; children aged 5 to 14 years are 0.65 of an adult; all persons over 15 years are counted as an adult (2006:9). They also accounted for moderate economies of scale, setting this at a value of 0.75. The authors argued that this value can be considered “reasonable for developing countries” (2006:10) but there was no further justification for the economies of scale assumed or the adjustments made for compositional needs. Other research from developing countries suggests that economies of scale are minimal in households and that a figure of 0.9 is preferred (Deaton and Zaidi, 2002). The estimate of 0.75 from Kakwani and colleagues (2006) covered a national sample in Kenya, thus the higher economies of scale assumed may reflect greater cost advantages within larger households, on a national scale. Analysis of mean expenditure on different items in the slums (section 6.3) showed that the vast majority of expenditure was on private goods, particularly food, suggesting that lower economies of scale, if any, should be assumed.

A study looking at poverty among older people in SSA compared poverty rates in 15 countries (Kakwani and Subbarao, 2007). In calculating these rates, the authors accounted for the different needs of household members through calculating their calorie requirements according to their age and sex and comparing these to a national average. This national average was converted into a poverty line, using a consumer price index, thereby stating whether the household was in poverty. The authors further adjusted for economies of scale assuming these at 0.7 (2007:989); again the reasoning for this choice of economies of scale was not made clear. These economies of scale could be argued to be fairly generous for SSA contexts. The complexity of this method in adjusting for compositional needs and economies of scale contrasts with the limited consideration given to the adult equivalent scale used by APHRC. Kakwani and Subbarao (2007) were simulating whether social pensions would reduce poverty for older people in 15 SSA countries. The focus was less on ensuring the poverty estimate was correct and was more on measuring whether a change in poverty rate was achieved through the simulated introduction of a social pension. As such, sensitivity

analysis was not conducted to test the validity of assumptions for the equivalence scale used.

The consideration of equivalence scales for older people has developed further in recent years with a study examining the disability costs and equivalence scales in the older population (Morciano et al, 2012). The study found that the additional costs of living with a disability were large, in terms of adapting the home, getting about on a daily basis and receiving assistance with daily tasks. The authors suggested that disability-related living costs need to be accounted for when investigating poverty among older people as this group can experience higher rates of poverty. This study echoed other research on the same topic which found that assumptions for household consumption should account for the increased cost incurred for disability within a household (Zaidi and Burchardt, 2005). There is an issue with this type of analysis in that it is difficult to accurately determine when a disability incurs an extra cost; there are a variety of different ways that this can happen and it can be to differing amounts. The Morciano study (2012) also used data from Britain which was more detailed for older people. This level of detail regarding disabilities among older people is rare in SSA contexts, and is not contained in the dataset used for this study. Although it would be useful to try to incorporate the disability costs of living among older people in Nairobi slums, it is not currently feasible.

These studies of poverty among older people have utilised different methods of accounting for compositional needs and economies of scale, with the last study (Morciano et al, 2012) even considering disability costs within the household. There is a common theme throughout them; that there is a range of equivalence scale available for use in poverty analysis. However, little justification has been shown for the use of each of these scales and this raises questions as to their applicability for the contexts studied. For example, economies of scale of 0.5, as used in the Evans study (2005), may be particularly high for Vietnam, where the extent of economies of scale in households may not be as much as the authors assumed. In addition to this, the Kakwani and Subbarao (2007) and the Kakwani and colleagues study (2006) both focus on SSA countries; firstly, 15 countries and then Kenya specifically. The economies of scale assumed in these studies could again be argued to be high. With limited evidence existing on poverty among older people in SSA contexts, it is difficult to determine the extent of compositional needs and economies of scale in calculating poverty estimates. The choice of equivalence scale should be carefully considered due to its implications for altering poverty estimates and thus varying policy recommendations. The best method for justifying the equivalence scale used is to test

a variety of scales in order to see how sensitive the poverty estimates are to a change in assumptions, whilst bearing in mind the context studied; which is what this chapter seeks to do.

7.3 Method

The analysis will be conducted to find out how sensitive the poverty estimates from chapter 6 are to different assumptions of compositional needs and economies of scale; this will centre on seven equivalence scales. The choice of these scales is intended to give an overview of the different scales that can be utilised in constructing poverty estimates and will show the variation in estimates produced. They cover scales which are in common usage by international organisations whose central remit revolves around calculating poverty estimates, such as the World Bank and the OECD. There are some scales which will be less applicable for the context I am studying but which it will be useful to make a comparison for, to underline that they are not suitable.

It should also be noted that there are a variety of other equivalence scales which can be used but which will not be covered in these sensitivity analyses (for further information, consult Atkinson et al, 1995). These equivalence scales incorporate economies of scale and compositional needs. They can also incorporate region being studied, location, and age of adults and children within the household (Atkinson et al, 1995). However, the scales analysed in these sensitivity analyses do not consider these other factors which can be more complex to incorporate. They focus on the more commonly considered factors; household size and composition as well as economies of scale. Many of these scales have been developed within countries for poverty analysis at the national level and are thus not applicable for analysis in the Nairobi slum context.

The two equations used to frame the seven equivalence scales in this section are suggested by Deaton and Zaidi (2002). The first is the equation to calculate the equivalence scale for composition and economies of scale:

$$AE = (A + \alpha K)^\theta$$

(Deaton and Zaidi, 2002:51)

Where AE is the number of adult equivalents in the household, A is the number of adults, K is the number of children, α is the cost of a child relative to that of an adult (between 0 and 1) and θ is the extent of economies of scale (between 0 and 1)

(Deaton and Zaidi, 2002:51). A variation on this equation calculates the equivalence scale for adult equivalents and composition:

$$AE = ((1 + \beta(A - 1)) + \alpha K)$$

(Deaton and Zaidi, 2002:51)

For the first equation, economies of scale were accounted for by raising the equivalised household size to the power of theta (θ); between 0 and 1. The second equation, however, does not raise the equivalised household size to theta as it takes economies of scale into account by allowing additional adults in the households to count for a fraction of the first adult.

The seven equivalence scales are detailed in text box 7-1. The Per Capita measure does not account for any economies of scale or differences in compositional needs of the household; all household members represent one person. This method was the traditional way of analysing household poverty and focuses solely on household size; however it does not incorporate any differences in household consumption based on economies of scale or compositional needs (Atkinson et al, 1995). As such, equivalence scales have been developed to incorporate these adjustments.

The Adult Equivalence Scale assumes that there are no economies of scale because additional adults are not fractions of the first adult and theta (θ) is set at unity. Composition is accounted for by counting children as half of an adult. This method is utilised by APHRC in calculating poverty rates for different groups within the slums (Faye et al, 2011). It is the method I have used to calculate poverty rates among older people in chapter 6. The assumptions in this equivalence scale could result in either the under or over estimation of poverty, but more likely the overestimation of poverty as economies of scale are not accounted for.

Deaton and Zaidi (2002) propose an equivalence scale for poorer economies which accounts for the lesser needs of children as well as economies of scale. They argue that if economies of scale are thought of as relating to public goods, the economies of scale within households in developing countries will be limited as there are fewer public goods; as such the economies of scale are set at 0.9. The authors also suggest that the costs of children in developing countries are less and this is reflected in the suggestion that α is set at either 0.33 or 0.25. Deaton and Zaidi Scale A has α set at 0.33 and Scale B has α set at 0.25; the economies of scale are assumed to be the same for both.

Text Box 7-1 Description of equivalence scales used for sensitivity analysis

Per Capita:

$$AE = (A + K)^1$$

All adults and children are counted as 1; there are no economies of scale

Adult Equivalence Scale (used by APHRC):

$$AE = (A + 0.5K)^1$$

All adults count as 1; children count for half of an adult; no economies of scale

Deaton and Zaidi Scale A:

$$AE = (A + 0.33K)^{0.9}$$

All adults are 1; children count for 0.33 of an adult; economies of scale are set at 0.9

Deaton and Zaidi Scale B:

$$AE = (A + 0.25K)^{0.9}$$

All adults are 1; children count for 0.25 of an adult; economies of scale are set at 0.9

OECD-equivalence Scale:

$$AE = ((1 + 0.7(A - 1)) + 0.5K)$$

First adult is 1; additional adults are 0.7; children count for 0.5 of an adult

OECD-modified Scale:

$$AE = ((1 + 0.5(A - 1)) + 0.3K)$$

First adult is 1; additional adults are 0.5; children count for 0.3 of an adult

OECD-square root Scale:

$$AE = (A + K)^{0.5}$$

Adults and children are summed in household; economies of scale are 0.5; this implies that a household of four people has needs twice the size of a one-person household

Source: OECD, 2011; Deaton and Zaidi, 2002; APHRC email correspondence, 2012

The OECD have highlighted two other scales, along with the square root scale as discussed in section 1.4, which have been used in the work undertaken by their

organisation (2011). Both the OECD-equivalence scale and the OECD-modified scale forego raising the equivalised household size to the power of theta in order to account for economies of scale. Instead, they incorporate economies of scale in to the composition calculation by allowing additional adults to count for fractions of the first adults. In both scales, the first adult counts for one person. In the OECD-equivalence scale each additional adult counts for 0.7 and each child counts for 0.5. In the OECD-modified scale each additional adult counts for 0.5 and each child counts for 0.3.

The OECD-modified scale assumes that there are strong economies of scale in a household and that the more people there are, the smaller the amount needed per person to meet expenditure needs. It also determines the needs of a child to be very small in comparison to an adult (OECD, 2011). The problem with this scale is that poverty could be underestimated as the economies of scale may not be as large as assumed by the fractions and thus monthly expenditure may be divided by the adult equivalent figure which is actually too small.

The OECD-modified scale revised the OECD-equivalence scale which was developed in the 1980s and was mentioned for possible use by the OECD in countries which had not developed their own scales (OECD, 2011). The OECD-modified scale assumed stronger economies of scale within households. The OECD-equivalence scale may also underestimate poverty as the economies of scale assumed are still fairly small. Alternatively, if there are large economies of scale – akin to those represented by the OECD-modified scale – it may be that the OECD-equivalence scale overestimates poverty.

The OECD-square root scale has been utilised in recent OECD publications and it “divides household income by the square root of household size” (OECD, 2011:1); this is the same as calculating household size to the power of 0.5, as is shown in text box 7-1. This scale assumes much stronger economies of scale overall than the other equivalence scales. There are questions as to whether the OECD scales are applicable for use in developing countries, such as in SSA. The economies of scale assumed are very low for the modified and square root scales whereas economies of scale in developing countries have been suggested as limited (Deaton and Zaidi, 2002). As such, it may not be an appropriate reflection of adjustments for household consumption for this data, as it may underestimate poverty.

7.4 Analysis of Different Assumptions of Economies of Scale, Household Composition and Needs

Table 7-1 shows how the different equivalence scales are calculated for different household compositions. It shows how large economies of scale and small consideration for composition assume that a household constitutes less people. There are also quite substantial differences in the equivalised household size when different equivalence scales are used; an eight person household can range from a weighting of 2.8 to eight. This difference will impact on the poverty measures produced, as larger households are associated with higher levels of poverty and these estimates will be sensitive to the equivalised composition and thus the equivalence scale used. The per capita and adult equivalence scales will therefore give a higher estimate of poverty compared to the OECD-modified and OECD-square root equivalence scale.

Table 7-1 Examples of equivalised household size by different equivalence scales

Equivalence Scale	1 Adult	2 Adults	2 Adults, 1 Child	2 Adults, 3 Children	4 Adults, 4 Children
<i>Per Capita</i>	1	2	3	5	8
<i>Adult Scale (used by APHRC)</i>	1	2	2.5	3.5	6
<i>Deaton and Zaidi Scale A</i>	1	1.9	2.1	2.7	4.5
<i>OECD-equivalence</i>	1	1.7	2.2	3.2	5.1
<i>Deaton and Zaidi Scale B</i>	1	1.9	2.1	2.5	4.3
<i>OECD-modified Scale</i>	1	1.5	1.8	2.4	3.7
<i>OECD-square root Scale</i>	1	1.4	1.7	2.2	2.8

Source: Author's own calculations of equivalised household sizes using different equivalence scales

In relation to older people, literature suggests that they have a tendency to reside in smaller household (Dreze and Srinivasan, 1997; Falkingham et al, 2009). As table 7-1 shows, if an older person lives in a one person household, they will always have an equivalised household size of one. All of the costs of the household are theirs and there is no sharing of resources to bring these down. Accounting for how households

share resources between large numbers of people is thus important. If there are stronger levels of economies of scale within large households, as well as households with different levels of need, the different equivalence scales demonstrate how the incorrect assumptions could result in older people living in one person households being penalised (Deaton and Zaidi, 2002). The adult equivalence scale would be comparing a lone older person household with an equivalised household of six whereas the strong assumptions of economies of scale in the OECD-square root scale would be comparing the lone older person household with an equivalised household of 2.8. The difference between these equivalence scales demonstrates the huge disparity between the assumptions that a researcher can potentially employ when constructing poverty profiles. It also highlights the importance of considering the households that are being analysed within the sample when choosing an equivalence scale.

Table 7-2 shows how the absolute measures of poverty alter according to the equivalence scale used. The poverty prevalence decreases as larger economies of scale and greater weight for compositional needs are assumed. This finding indicates that assumptions of large economies of scale, which are not representative of the context studied, may underestimate poverty, and vice versa. There is quite a large discrepancy between poverty estimates with 28 per cent more older people being classed as in poverty according to the per capita measure, compared to the OECD-square root equivalence scale. The OECD-modified and the OECD-square root poverty rates are substantially lower than the other poverty estimates; this suggests that these scales may underestimate poverty levels for older people in the slums.

Both of the Deaton and Zaidi scales, as well as the OECD-equivalence scale, produce similar levels of poverty, almost within one percentage of each other. In particular, the Deaton and Zaidi Scale A and the OECD-Equivalence scale are especially close in value; this reflects the similarity between the two scales in terms of the assumptions they make regarding economies of scale and compositional needs. Deaton and Zaidi's scale A has α set at 0.33 and the economies of scale set at 0.9 whereas the OECD-equivalence scale has α set at 0.5, a slightly higher number, and additional adults set at 0.7, a slightly lower number than scale A (Deaton and Zaidi, 2002; OECD, 2011). These settings roughly equal out to give similar equivalised household sizes, hence the similar poverty rates. This result demonstrates that although equivalence scales can be allocated differing numbers for different considerations, they may give similar results.

Table 7-2 Poverty rates for older people according to different equivalence scales

Equivalence Scale	Poverty Rate Headcount (%)
<i>Per Capita</i>	68.40
<i>Adult Equivalence (used by APHRC)</i>	65.66
<i>Deaton and Zaidi Scale A</i>	59.80
<i>OECD-equivalence</i>	59.42
<i>Deaton and Zaidi Scale B</i>	58.76
<i>OECD – Modified</i>	48.71
<i>OECD-Square Root Scale</i>	40.11

Source: Author's own analysis of combined NUHDSS data file, 2006

The choice of equivalence scale has an effect on the absolute poverty measures produced for older people in the two slum settlements. The differences in the levels of absolute poverty depend on how household composition influences the poverty measure. This difference is indicated by comparing the absolute poverty rate for the seven equivalence scales, focusing on how those in absolute poverty are distributed across different household sizes. Table 7-3 shows the percentage of older people living in poverty in each household size category, for each equivalence scale. There is not a particular effect of changing the equivalence scale on the proportion of people in absolute poverty living in households of more than five people (47% to 52%). However, there is a difference for the OECD-square root scale which shows 46.9 per cent of older people in poverty are living in households of more than five people, which is a slightly lower estimate and accounts for the assumed larger economies of scale. As has been highlighted, it is questionable as to whether this level of economies of scale could be assumed in this context.

The larger economies of scale and lower needs of children assumed by the OECD-modified scale have the effect of slightly increasing the proportion of older people in poverty who live in one person households; from seven per cent under the adult equivalence scale to 9.5 per cent. The OECD-square root scale with the fairly large economies of scale also has the effect of increasing the proportion of older people in poverty who live in one person households, whilst reducing the proportion of those older people in poverty who are living in households or more than five people.

Table 7-3 Among older people in poverty, the percentage living in different household sizes for each equivalence scale

	HH = 1 %	HH = 2 %	HH = 3 %	HH = 4 %	HH = 5+ %	Total
<i>Per Capita</i>	6.76	16.05	12.89	14.33	49.97	100
<i>Adult Equivalence (used by APHRC)</i>	7.04	16.12	12.98	13.86	49.99	100
<i>Deaton and Zaidi Scale A</i>	7.74	15.97	13.18	13.38	49.74	100
<i>OECD-Equivalence</i>	7.78	15.35	11.25	13.63	51.99	100
<i>Deaton and Zaidi Scale B</i>	7.87	16.25	13.14	13.22	49.52	100
<i>OECD - Modified</i>	9.50	14.69	10.84	13.11	51.87	100
<i>OECD-Square Root</i>	11.53	16.48	11.58	13.54	46.87	100

Source: Author's own analysis of combined NUHDSS data file, 2006

When exploring how the percentage of older people living in poverty varies across household size, it is important to note that the absolute number living in poverty remains the same for each equivalence scale poverty estimate. The changes in proportion occur because the different assumptions for the equivalence scale may take larger households out of poverty while smaller households account for a higher percentage of the poor. It is the way these older people in poverty are distributed across household sizes which changes; the poverty estimate for each equivalence scale remains the same. Despite these small changes in the proportions of older people in poverty living in smaller and larger household sizes, the general pattern remains the same. The largest proportions of older people in absolute poverty are found in the largest household size, of more than five people.

Table 7-4 shows the percentages of older people in absolute poverty within each category of household size for each equivalence scale. The same proportion of older people are in absolute poverty who live in one person households, for all equivalence scales, as their adult equivalent household expenditure does not change. Interestingly, household size of two or larger results show interesting patterns. For the APHRC adult equivalence scale, the proportion of older people in absolute poverty increases from 61 per cent of older people in two-person households to 89 per cent for older people in households of more than five people. The proportions in poverty in each household

size from two to five or more people get smaller as we look down the table. This result reflects the lower poverty rates produced through the alternative equivalence scales, which are particularly low for the OECD-modified and OECD-square root scales.

Table 7-4 Percentages of older people in absolute poverty within household size, according to different equivalence scales

	HH = 1	HH = 2	HH = 3	HH = 4	HH = 5+
	%	%	%	%	%
<i>Per Capita</i>	20.71	63.46	72.25	87.33	92.52
<i>Adult Equivalence (used by APHRC)</i>	20.71	61.17	69.84	81.10	88.85
<i>Deaton and Zaidi Scale A</i>	20.71	55.20	64.56	71.28	80.52
<i>OECD-Equivalence</i>	20.71	52.74	54.80	72.19	83.67
<i>Deaton and Zaidi Scale B</i>	20.71	55.20	63.25	69.23	78.77
<i>OECD - Modified</i>	20.71	41.35	43.25	56.92	68.40
<i>OECD-Square Root Scale</i>	20.71	38.20	38.06	48.36	50.89

Source: Author's own analysis of combined NUHDSS data file, 2006

More importantly, the use of the seven equivalence scales does not alter the conclusion given through the use of the adult equivalent scale; that greater proportions of those older people living in larger households of more than five people are in absolute poverty. Chi-square tests also show the positive relationship between being in absolute poverty and residing in larger households remains statistically significant for all seven equivalence scales. Additional analyses looking at poverty estimates within gender and age group of the older person, according to different equivalence scales, are shown in appendix six (tables 3 and 4). These results suggest that the same pattern remains for both gender and age for each equivalence scale; that greater proportions of older women and the oldest old are in absolute poverty. These gender and age differences are also statistically significant for all seven scales. These results support the findings from chapter 6 which suggests there is a significant positive association between living in absolute poverty and living in a larger household, being an older woman and being in the oldest age groups; these differences remain regardless of the assumptions made in relation to the adjustments for compositional needs and economies of scale.

7.5 Conclusion

This research explored how poverty estimates can differ among a sample of older people in slum settlements in Nairobi, based on the assumptions made by the researcher through the use of different equivalence scales. The prevalence of poverty is sensitive to changes in the assumptions of both the needs of household members and economies of scale operating within the household. The equivalence scale used in chapter 6 assumes that composition of the household, in relation to the proportional needs of children to adults, is the only consideration required when calculating an equivalised household size. The sensitivity analysis which tested five other equivalence scales considered how composition and economies of scale could differ within households and thus affect poverty estimates. Various assumptions showed that poverty estimates could alter depending on the level of assumed lesser needs of children in relation to adults and the extent to which economies of scale operate within households.

It is important to consider the context when choosing an equivalence scale, although it is still not possible to give a definite assessment as to the 'correct' equivalence scale to use. Compositional needs should be incorporated into the equivalence scale as their needs are less than those of an adult (Coulter, 1992; Lanjouw and Ravallion, 1994). Of households containing older people in the slum settlements, 40 per cent are in one or two person households and almost half (48%) contain four or more people. There is likely to be a composition effect, especially in terms of the cheaper cost of children in developing countries. Deaton and Zaidi (2002) suggest that children can account for as low an amount as 0.33 or 0.25 in this setting (with economies of scale set to 0.9). Both of the estimates from Deaton and Zaidi (2002) of the cost of a child, as well as the OECD-equivalence scale estimate, resulted in very similar poverty estimates. There is a slight disparity between the poverty rate that the APHRC adult equivalence scale produced (66%) and those produced using Deaton and Zaidi's (2002) method (59% or 60%). These estimates are slightly lower than the chapter 6 estimate, which suggests that the adult equivalence scale may be over-estimating poverty among older people in the slums, based on assumptions relating to the cost of the needs of children and the lack of adjustments for economies of scale. The sensitivity analyses I have calculated cannot definitively inform me as to the correct measure to use. However, in the slum setting, children could thus be perceived to range anywhere between 0.25 and 0.5 of an adult, depending on the household compositional needs accounted for.

No economies of scale are accounted for in the chapter 6 analyses – all adults count as one person each. An argument could be made that no economies of scale, or only small economies of scale, should be incorporated into the equivalence scale. As has been highlighted, food can be argued to be a private good that is not shared within households (Deaton and Zaidi, 2002). As food accounts for a sizeable proportion of household expenditure in the slum setting (table 6-2, section 6.3), and there are few public goods within these households, economies of scale could be argued to be limited. However, this line of reasoning ignores that food consumption can be shared among household members, such as through buying in bulk. In addition to this, more than half of older people live in households that are renting (table 6-2, section 6.3); renting can be seen as a shared good in that the rent for the property is the same regardless of the number of people living there, although this could be problematic if overcrowding was experienced (White and Masset, 2003). This discussion highlights that there may need to be some consideration of economies of scale for households in the slum settlements, even if only slight. However, the equivalence scale used for this analysis remains consistent with the APHRC poverty estimates.

When considering the technicalities of measuring poverty, it is important to reflect on the purpose of equivalising household expenditure and what the aim of the analysis is. There have been suggestions that it is more important to consider equivalence scales when cross-national comparisons are being made (Buhmann et al, 1988) or when comparisons are being made between different population groups, such as children and older people (Deaton and Zaidi, 2002). This analysis is not addressing either of these comparisons; it focuses on the poverty of older people in one context only. The aim of the analysis is policy-related; to inform and provide an evidence base.

There may be policy contexts in which the correct assumptions for equivalence scales will be very important. For example, if a means-tested benefit was available for people below a poverty line and the government wanted to determine the exact number of people below this poverty, the equivalence scale would have to precisely capture the households in poverty. However, this analysis is not determining exact poverty rates with the effect that the respondents could benefit from a means-tested benefit. It is establishing an estimate of the older people in poverty in two slum settlements in Nairobi, as well as their characteristics, which can be used as a tool by local government and NGOs to direct their resources. Utilising an alternative equivalence scale which slightly adjusts for economies of scale and gives children a lesser cost may produce a slightly lower estimate of poverty to the one presented in chapter 6. However, the sensitivity analysis shows that there is stability between poverty

estimates and household size, gender and age as people do not move around on the different measures; larger households, older women and the oldest old are still more likely to be in poverty than smaller ones. This is the main finding for poverty-reduction policies and remains robust. The evidence can be used to determine where resources should be targeted; these results show that efforts should be made to direct resources to larger households and households containing older women or the oldest old, in order to reduce poverty for older people.

There is great complexity involved in the generation of poverty rates in any setting. There is a need to better measure how household resources are allocated as it is important to establish correct patterns of household consumption, particularly in relation to older people who may have unequal access to resources within the household. This issue should be a priority for future research. This chapter has attempted to explore how the different underlying assumptions made by the researcher can influence the poverty rates produced and the relationships between these and an older person's household size. In moving forward with this research, the methodology behind investigating poverty among older people is further explored. Chapter 8 focuses on the different dimensions of poverty on which an older person can be poor and profiles which older people are poor across all dimensions.

8. Wellbeing among Older People in Nairobi Slum Settlements

This chapter explores the broader concept of wellbeing among older people in the two Nairobi slum settlements. The study moves away from the traditional monetary measure of poverty and focuses on non-monetary dimensions of wellbeing. The first section gives the introduction to the chapter and the research questions to be addressed. This is followed by a section detailing how this study measures wellbeing for older people in the slum settlements. The results of this analysis are then presented followed by a section summarising how the results answer the research questions.

8.1 Introduction

This third analysis chapter of my thesis further explores issues that I first discussed in chapters two and three concerning the conceptualisation and measurement of poverty, especially among older people residing in a resource-poor setting. The previous work in this study has focused on poverty measured using monetary information, and the technicalities involved in producing these measures. However, this information, although useful, gives an incomplete picture in terms of the poverty experienced by older people in the slum settlements. This chapter aims to take a more complete approach to exploring poverty in later life by measuring wellbeing among older people in this context using non-monetary indicators. However, as it is difficult to discuss how well people are doing in terms of these dimensions, analysis will be conducted on these dimensions to measure deprivation. Indicators within dimensions will be analysed to indicate how deprived the older person is, and this then aids the discussion of their wellbeing.

Wellbeing and poverty are concepts that are often used interchangeably when exploring an individual's living standards. Traditionally poverty refers to monetary resources available to people. However, a multidimensional approach to measuring wellbeing is more suited to this study as that the context of this research means that sole reliance on monetary measures can be misguided. There is an irregular and fluctuating nature of income and expenditure for households in the slum settlements, due to insecure employment and limited ability to save (Faye et al, 2011). Monetary poverty may not always accurately reflect the true poverty situation for older people. At this age, it can be argued that other dimensions may become important to measure to

find out whether an older person faces deprivation across a variety of dimensions. In this context, it is more useful to analyse a combination of wellbeing indicators which cover a variety of dimensions.

Each dimension that is measured indicates a different part of the older person's life. It demonstrates that a lack of other things, apart from money, can make someone poor as well or can affect their wellbeing in an adverse way (UNDP, 1995). The multidimensional approach is also important in that it adds more diversity to the measure of poverty for the older person. If a variety of dimensions of wellbeing are being compared, being deprived on one but not deprived on another will allow the researcher to gain a better understanding of the living standards of the older person. The range of dimensions explored can heighten the complexity of the wellbeing measure and allow the researcher to better explore the concept and how this manifests itself among older people living in the slum settlements in Nairobi.

Little research has sought to analyse wellbeing across multiple dimensions for older people and none has addressed the wellbeing experienced by older people in slum settlements in Kenya; this chapter aims to fill this gap. It aims to address the research questions:

- How does wellbeing vary according to the dimension it is measured on?
- How do dimensions of wellbeing vary according to gender and age?
- How do dimensions of wellbeing overlap?

This chapter will next explain the methods used to answer these research questions. Each of the following sections then corresponds to the results of each research question. The chapter concludes with a summary of the results.

8.2 Measuring Wellbeing in this Study

When contemplating the method used for analysis in this chapter, it is important to consider what the study is aiming to measure. The concept of wellbeing and the various concepts connected to it were explored in chapter 2 (section 2.3). The measurement of wellbeing can be closely linked to the capabilities approach, to multidimensional poverty, deprivation and social exclusion (Barrientos and de la Vega, 2011; Haughton and Khandker, 2009; Scharf et al, 2005; Schroder-Butterfill and Marianti 2006; Sen, 1983; Saunders and Lujun, 2006). It encompasses the notion that there are a variety of areas of life where the deprivation of older people can be

measured and evaluated on separate dimensions, as well as in comparison to one another to give an overall picture of wellbeing. This section explains how the dimensions of wellbeing analysed in this study were chosen. It then outlines how these dimensions will be defined and measured, both separately and together, to develop an understanding of wellbeing among older people. The section then outlines the analysis to be conducted for this chapter.

8.2.1 Informing the Choice of Dimensions

There are a variety of different dimensions that it is possible to use when measuring wellbeing. It is important to note that there is no set list. There are varying conceptualisations of wellbeing which results in a myriad number of dimensions on which one can measure this concept, and there are a variety of indicators within these dimensions which can be used for measurement purposes. When selecting the dimensions and indicators to be used to measure wellbeing, the context being studied must be borne in mind. The slum settlements of Nairobi generate a specific locale for research; as such, dimensions and indicators used in developed countries, or even within other African countries, have been considered carefully before being included in the measurement of wellbeing for this study.

It is important to justify the choice of the dimensions which have been applied in this study. Alkire (2007) proposes that there are five methods to validate the dimensions selected when measuring multidimensional poverty and that a combination of these five is usually employed to justify the use of certain dimensions. These selection methods are: existing data or convention, assumptions, public 'consensus', on-going deliberative participatory processes and empirical evidence regarding people's values (Alkire, 2007:7). This thesis study has drawn on two of these selection methods to inform the choice of wellbeing dimensions. Discussions with stakeholders from the Slum Care Home and the programme officer from HelpAge Kenya are regarded as on-going deliberative participatory processes. They offer expert analyses of older people's wellbeing and therefore strong validation of the dimensions chosen. In addition to this, existing data or convention, as outlined in other studies on wellbeing among older people both in the slums and more widely in other geographical locations, is used to justify the selection of wellbeing dimensions for older people. These two selection methods give a strong evidence base to justify the choice of dimensions used in this study.

The choice of dimensions for this study is informed by discussions with stakeholders in Kenya. There were discussions with nursing sisters at a Slum Care Home, which is on the outskirts of Korogocho slum and cares for destitute older people (see text box 1, section 4.2.3). The sisters interact with older people on a daily basis, not only in their care home but also within the wider community (Slum Care Home, 2009). As such, they have informed views as to what constitutes wellbeing for older people in the slum environment. These views have helped to inform the dimensions which will be investigated in this study.

This study has also based the choice of dimensions on the views of another stakeholder which does not operate in the slum, but at the national level. HelpAge Kenya advocates for older people within Kenya and has worked to improve their recognition in law as well as through the generation and financial support of numerous community projects aimed at helping older people (see text box 2, section 4.2.3). There are many aspects of wellbeing among older people in Kenya which were touched upon by the programme officer in the discussion and have subsequently been adopted as dimensions to represent wellbeing among older people living in the two slums in Nairobi (HelpAge Kenya, 2009). The work that HelpAge Kenya has previously done involving projects for older people in other slums in Nairobi has also highlighted other dimensions which correspond to those suggested by the nursing sisters from the Slum Care Home, such as having enough money and difficulties finding employment (HelpAge Kenya, 2009).

The evidence for the dimensions provided by the nursing staff at the Slum Care Home and the programme officer at HelpAge Kenya is valuable and establishes dimensions of wellbeing that would be relevant to older people in the slum settlements. However, it is important to note that the views of the Slum Care Home sisters and of the programme office at HelpAge Kenya are not representative of all stakeholders, particularly not of the older people themselves within the slums. The lack of consultation with older people in the slums regarding their own views as to the dimensions of their wellbeing is a limitation of this study; this will be addressed in the discussion chapter (section 10.3).

To inform the choice of dimensions further, research on previous literature has also been used as evidence that the dimensions chosen are applicable to the study of wellbeing. Existing studies investigating health and social interaction among older people in the research sites indicate that these are important aspects of wellbeing for older people in the slums (Kodzi et al, 2010; Kyobutungi et al 2009; Kyobutungi et al,

2010; Falkingham et al, 2011). The existing studies within the slums demonstrate that there has already been consideration of the issues affecting older people. In addition to the dimensions generated from the study site literature, existing studies which investigate poverty and wellbeing among older people in other locations have also been used to inform the dimensions chosen for this study (Barrientos and de la Vega, 2011; Gasparini et al; 2010; Kaneda et al, 2011) (see section 2.4 for a discussion on the various potential dimensions).

8.2.2 Choosing the Dimensions and Indicators

Four dimensions of wellbeing were selected for analysis in this chapter – economic, dwelling, health and community participation – with three indicators combined to produce each dimension. The choice of the dimensions, along with the indicators used to measure them, will be detailed in this section. The first dimension is **economic wellbeing** which was selected as a dimension based on a range of evidence. Different forms of economic wellbeing have been highlighted as being important for studying wellbeing among older people such as expenditure patterns, employment status and wealth indices (Barrientos and de la Vega, 2010; Saunders and Lujun, 2006; Kaneda, 2011).

The indicators for the economic dimension are shown in table 8-1. Discussions with the Slum Care Home sisters highlighted that older people can struggle to meet their cost of living, especially in terms of paying their rent (2009). Household expenditure has also been used as an indicator of multidimensional wellbeing in a study comparing older people in South Africa and Brazil (Barrientos and de la Vega, 2010). The percentage of older people not in absolute poverty is also used as an indicator for the Index of Wellbeing in Older Populations (Kaneda et al, 2011) but can be reversed to reflect economic deprivation. As such, the absolute poverty status of the older person was included as an indicator of the economic dimension; this is taken from the analysis conducted in chapter 6.

The second indicator is a subjective assessment by the older person as to whether they feel they have enough money to meet their basic needs. The interview with the programme officer at HelpAge Kenya (2009) highlighted that they operate programmes to give cash transfers to older people who are struggling to buy basic necessities so having enough money to meet basic needs is an indicator of economic deprivation. In addition to this, other work highlights the discrepancy that can exist between objective indicators and subjective indicators in measuring deprivation (Barrientos and de la

Vega, 2010). Using absolute poverty status (an objective measure) and having enough money to meet basic needs (a subjective measure) as indicators of economic deprivation allows for the analysis of overlap between the two and allows the wellbeing of older people to be reflected through both. Those older people who only had a little money or no money at all to meet their basic needs were considered to be deprived.

Table 8-1 Description of indicators for the economic wellbeing dimension

<i>Economic Dimension Indicators</i>	<i>Description</i>	<i>Values</i>	<i>Deprivation</i>
Absolute expenditure poverty	Household level survey: Expenditure information from different sources summed at the household level and equivalence scale used to calculate expenditure per person within household	0 if equivalised expenditure is above or equal to the Kenya national urban poverty line 1 if equivalised expenditure is below the Kenya national urban poverty line	1
Subjective assessment of basic needs	Individual level survey: 'Do you have enough money to meet your basic needs?'	1 Completely 2 Mostly 3 Moderately 4 A little 5 None at all	4, 5
Employment	Individual level survey: 'As you know, some people take jobs for which they are paid in cash or kind. Other people sell things, have a small business, or work on the family farm or family business. Are you currently working or doing any of these activities (not including housework)?'	0 No 1 Yes	0

Source: Author's own analysis of combined NUHDSS data file, 2006

The third indicator of economic wellbeing is whether the older person has employment. Being in employment at older age can be viewed negatively in that it is indicative of poverty or deprivation. However, in countries in SSA, it could be indicative of a lack of formal social protection schemes within the country in that people would like to retire but they do not have the option. A study from South Africa has found that the introduction of the social pension affected labour market participation among older adults in that they would have participated more in the labour market had they not had

the pension (Burger et al, 2010). This finding supports another study which indicates that there is a sharp increase in the hazard rate of leaving employment for South Africans around the age of eligibility for the old age pension (Lam, 2006). Interestingly, this increase is not as great as experienced in many European countries. It suggests that working at older ages is connected to the need to generate an income. Alternatively, a study found that many older people in rural China continue to work but that there is no evidence that this was due to the lack of formal pension system (Pang et al, 2004).

The idea that an older person works because they face poverty if they do not makes conceptual sense. However, analysis of a survey of older persons in Thailand found that those older people whose family income was relatively low were less likely to participate in the labour force than those whose family income was relatively high (Adhikari et al, 2011). This finding suggests that working at older ages is not always indicative of being poor.

A study from South Africa contrasted to existing results and linked the preference to continue working to the concept of active ageing (Tati, 2011). This term has thus far been used more in developed countries, particularly in Europe where 2012 was celebrated as the year of active ageing. The Active Ageing Framework (WHO, 2002) has highlighted the importance of older people staying active and engaged in meaningful and productive activities as they age. The active ageing concept promotes longer active lives, part of which is achieved through working longer, retiring later and volunteering after withdrawal from the labour market (Zaidi and Zolyomi, 2011). Working in relation to active ageing implies that an older person is capable and also empowered in making a choice to continue working. It can be applied to the South Africa context where older people are delaying their withdrawal from the labour market, despite being in receipt of a generous pension benefit from the state. Tati (2011) argues that employment can be seen as productive through the use of the active ageing framework. As such, having a job is indicative of active ageing and productivity whereas not having a job indicates a lack of economic wellbeing, in that the older person is not ageing actively.

Lam and colleagues have highlighted that older people in South Africa make decisions about their employment and retirement in a “complex set of circumstances” (2006:214). Their economic contribution to the household can be an important aspect of combined resources. This point may be particularly relevant to the older people in the Nairobi slums as the majority of the sample is aged 50 to 54 years. Retirement age for the

NSSF in Kenya in 2006 was 55 years and thus the majority of the sample of older people would expect to continue working. As such, it makes conceptual sense to have economic deprivation indicated by a lack of a job.

It was highlighted that older people in the slum settlements struggled to find employment and that this could add to their deprivation (Slum Care Home, 2009). This was reaffirmed as a problem for older people more widely in Kenya as well (HelpAge Kenya 2009). It may be that being employed at older ages is indicative of poverty, in that an older person is continuing to work and as they cannot afford to retire. Although this may be the case for older people in the slums, there are few formal mechanisms in place which mean that people are provided for in their old age; section 9.2.3 highlights that only ten per cent are receiving a pension. In the absence of a formal safety net, older people need to continue to work to ensure they have money in old age; as such, employment becomes an important indicator of economic wellbeing.

In order to understand the relationship between poverty and employment, it is useful to refer back to the bivariate test of association detailed in section 6.5.2. A cross-tabulation of poverty and employment shows that the risk of being in poverty is higher for those who are not working (see table 6-5, page 135). This finding suggests that those older people who were not engaged in some kind of income generating activity should be viewed as being economically deprived. If they have a job, they are less economically vulnerable than if they do not have a job. It is difficult with the data available to establish this exact relationship. Although it is recognised that a job at older ages may indicate poverty due to the need to continue working, it implies that without the job, the older person would be more vulnerable. As such, not having a job could impact on an older person's wellbeing. This was echoed by the Slum Care Home (2009) who suggested that unemployment among older people was problematic in relation to their wellbeing.

The **dwelling dimension** was selected as the second dimension of wellbeing. It covers the respondent's state of housing as well as their local environment (table 8-2). The dwelling dimension includes an indicator on how safe the older person feels in their community. It has been highlighted that older people in the two slum settlements can feel insecure and at risk of attack (Slum Care Home, 2009). Narayan's (2000) work on perceptions of poverty among the poor found that safe and secure environments were important in counteracting poverty. A multidimensional study into deprivation among older people in South Africa and Brazil also found that perception of safety was an important indicator of deprivation, especially for older people in poor urban areas

(Barrientos and de la Vega, 2011). The safety indicator for the dwelling dimension suggests deprivation if the older person feels unsafe or very unsafe when walking down a road in the community after dark.

The second indicator for the dwelling dimension describes the quality of the older person's dwelling. It has been highlighted that older people in the slum settlements can reside in houses in poor states of repair (Slum Care Home, 2009). Quality of the dwelling has also been used in analysing poverty among older people in Latin American countries (Gasparini, 2010). The quality of dwelling indicator is an objective indicator. The fieldworkers conducting the questionnaires would have verified the state of various aspects of the dwelling and noted them down. It was possible to construct a dwelling index to condense the different variables for the quality of the dwelling into one indicator. However, due to limited cell counts for some of these variables, and to avoid overcomplicating the analysis by having a constructed measure within a constructed measure, the decision was made to use one variable to indicate the quality of the dwelling.

The type of floor material was selected as the cell counts were acceptable and it reflects the quality of the dwelling in that the respondent has either a natural floor or has constructed a floor, the former indicating deprivation for the dwelling dimension. The choice for splitting the floor variable to denote deprivation is based on existing research from the slum settlements which indicates that a natural floor indicates poorer quality (Langat, 2008). To support the use of this variable, correlations of the floor variable with other indicators of poor dwelling quality were calculated and showed that having a natural floor was significantly associated with having to buy water, as opposed to having piped water into the structure. It was also significantly associated with having poorer quality materials for the walls and using cooking fuel that creates smoke in the structure (analysis shown in appendix 7, table 5). This analysis indicates the variable is reliable in reflecting poor quality in other aspects of the household dwelling.

Table 8-2 Description of indicators for the dwelling wellbeing dimension

Dwelling Dimension Indicators	Description	Values	Deprivation
Safety in community	Individual level survey: 'How safe do you feel when walking down a road in the community alone after dark?'	1 Very safe 2 Safe 3 Neither safe nor unsafe 4 Unsafe 5 Very unsafe	4, 5

Quality of dwelling	Household level survey: Collated information on the state of the dwelling, specifically the material of the floor	11 Natural floor (earth/mud/dung/sand) 21 Rudimentary floor (wood planks) 31 Finished floor (vinyl, PVC) 32 Finished floor (cement) 33 Finished floor (polished wood/tiles/carpet)	11
Living conditions	Individual level survey: 'How satisfied are you with the conditions of your living place'	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	4, 5

Source: Author's own analysis of combined NUHDSS data file, 2006

The third indicator for the dwelling dimension is a subjective measure of how satisfied older people are with the conditions of their living place. This variable reflects a subjective assessment of the quality of their dwelling which will be comparable with the objective indicator of the quality of the dwelling. For the living conditions indicator, older people are experiencing dwelling deprivation if they are dissatisfied or very dissatisfied with their living conditions.

The third dimension of wellbeing is **health** and the indicators for this are shown in table 8-3. Poor health was highlighted as a problem for older people in the two slum settlements (Slum Care Home, 2009; Falkingham et al, 2011; Kyobutungi et al, 2009; Kyobutungi et al, 2010; Kodzi et al, 2010). It has also been highlighted as an important aspect of wellbeing for older people in Kenya as a whole (HelpAge Kenya, 2009). Kaneda and colleagues (2011) also include it in their Index of Wellbeing on Older Populations. The indicator in this study is based on self-rated health status with deprivation defined as experiencing bad to very bad health. Previous research on health among older people in the slum settlements has created a binary variable from self-rated health status by having the cut-off point at bad and very bad health (Kyobutungi et al, 2009).

The use of self-rated health as a measure reflecting the health of the individual has been debated within the literature with some evidence to suggest its merits as indicative of objective health (Abdulrahim and Asmar, 2012; Jylha et al, 2006). There are four variables within the dataset which reflect the diagnosed physical health of the older people. These variables centre on diagnoses for arthritis, rheumatism or osteoarthritis (referred to as arthritis); diabetes or high blood sugar levels (referred to

as diabetes); chronic lung disease; and high blood pressure or hypertension (referred to as hypertension). Incorporating all of these separate health variables into the measure for this dimension would have led to complexity in how the dimension was constructed. As such, self-rated health status was chosen as the measure to reflect physical health of the older individual.

It should be noted, however, that a bivariate tabulation of self-rated health status and the diagnosed medical conditions demonstrated that there were increased percentages of older people diagnosed with each health condition as the self-rated health status worsened (see appendix 7, table 6). In addition to this, there was also a significant correlation between each of the diagnosed medical condition variables and the self-rated health status variable, indicating that the subjective measure adequately reflects health conditions (see appendix 7, table 7). As the subjective measure of health reflects the diagnosed conditions, this will be used as an indicator for the health dimension as it is simpler to have one variable reflecting health, as opposed to combining several variables.

The second indicator for the health dimension centres on whether the older person had enough food to eat in the preceding 30 days. The sisters at the Slum Care Home (2009) suggested that access to food was particularly problematic for older people in the two slum settlements and that many of them were deprived of it. Narayan's (2000) research also indicates that access to food is also viewed as an important issue related to poverty. Older people were viewed to experience deprivation for this indicator if their household sometimes did not have enough food to eat or if they often did not have enough to eat.

Table 8-3 Description of indicators of wellbeing for the health dimension

Health Dimension Indicators	Description	Values	Deprivation
Health status	Individual level survey: 'In general, how would you rate your health today, would you say your health is...'	1 Very good 2 Good 3 Moderate 4 Bad 5 Very bad	4, 5

Enough food	Household level survey: 'Which of these statements best describes the food eaten by your household during the last 30 days?'	1 Your household had enough of the kinds of food it wanted to eat 2 Your household had enough food, but not always the kinds of food it wanted 3 Sometimes your household did not have enough food to eat 4 Your household often did not have enough food to eat 8 Don't know	3, 4
Mobility	Individual level survey: Overall in the last 30 days how much difficulty did you have with moving around?'	1 None 2 Mild 3 Moderate 4 Severe 5 Extreme/can't do	4, 5

Source: Author's own analysis of combined NUHDSS data file, 2006

The third indicator of the health dimension reflects the mobility of the older person. This variable is part of a larger assessment of the older respondent's day-to-day functionality or disability, using the WHODAS multidimensional measure which was embedded in SSHOWOP. This measure covers six domains and can be converted into a score; this measure has already been used in studies of older people in the slums (Langat et al, 2011). However, to avoid overcomplicating the analysis through utilising a composite score within a dimension, it was decided to focus solely on an older person's mobility. This variable reflects how much difficulty the older person had with moving around in the last 30 days, with deprivation indicated by severe or extreme difficulty in moving around. To analyse the validity of using this one variable, correlations were conducted of mobility with functionality indicators utilised in the WHODAS-12 measure (analysis shown in appendix 7, table 8). Mobility was found to be significantly positively associated with the other functionality variables, suggesting that it was a good indicator of wider functionality for older people in the slums.

The final dimension for wellbeing is **community participation**. This dimension reflects how involved an older person is in their community (table 8-4). Involvement in community was highlighted as an important aspect of wellbeing for older people in Kenya; community based projects were reported as being important for ensuring older people remain engaged and interactive with others (HelpAge Kenya, 2009). The Index of Wellbeing in Older Populations also highlights the importance of social connections and participation in activities as a dimension of wellbeing (Kaneda et al, 2011).

Narayan's (2000) research on perceptions of poverty among the poor highlighted the importance of good relations in the community.

Participation has been shown to be important at older ages as it can be connected to increased physical wellbeing as well as psychological wellbeing. Asiyinbola (2004) found that there was a significant positive relationship between strong social networks and the physical wellbeing of older people in urban Nigeria. Research on older people in Sri Lanka has also highlighted that social participation can be linked to healthy ageing. Holmes and Joseph (2011) found that if there is increased social participation among older people, chronic conditions can be easier to manage and prevent. A study on a measure of social support, which included social interaction, among older people in a poor urban area of Brazil found that there was an association between social support and depression and self-perceived health (Lino et al, 2013). Older people who were not depressed were more likely to have a satisfactory score on the social support measure. These findings from different studies indicate the importance of considering some form of participation among older people in the slums in Nairobi, as part of their wellbeing.

Participation among older people has been connected to the concept of active ageing for older people (UNECE, 2009). Active ageing encourages older people to be integrated into society and those who are integrated have been shown to have higher quality of life and longer, healthier lives (UNECE, 2009). This type of integration also promotes social cohesion and can prevent older people from becoming vulnerable to social exclusion. The UNECE (2009) has highlighted that moving at older age can decrease participation in communities; this may be problematic for older people who migrate to the slums in later life and indicates the need to explore their community participation.

Connected to the idea of active ageing is the idea of empowerment at older age. The rhetoric of empowerment in relation to older people has been strong in South Africa since the early 1990s and focuses on inclusion efforts (Ferreira and Daichman, 2013). Older people emerged as contributors to society with their capacity for helping out in their communities recognised as a positive thing. One of the empowerment initiatives highlighted by Ferreira and Daichman (2013) was "community based development programmes of older church and volunteer groups" (2013:7) as well as participation in civic affairs, such as community leadership, which was highlighted as a good strategy for encouraging inclusion and empowerment for older people. These types of

community participation are reflected in the choice of indicators for the community participation dimension.

The first indicator for the community participation dimension indicates deprivation if an older person is not a member of a self-help group within the slums. Participating in a local level financial organisation has been highlighted as an important indicator of wellbeing for older people in urban areas in South Africa and Brazil (Barrientos and de la Vega, 2011). This variable could be seen as a source of support for the older person. However, belonging to a self-help group demonstrates how involved an older person is within their community; as such, not belonging to a group is a useful indicator of deprivation for the older person, in terms of their community participation.

Barrientos and de la Vega (2011) emphasise lack of memberships of social organisations as indicating deprivation among older people in South Africa and Brazil. This measure is reflected in the second indicator for the dimension which asks the respondent how many times they have attended a group, club, society, union or organisational meeting in the last four months; deprivation is indicated if they have never attended a meeting. The third indicator for the community participation dimension is whether the older person has assisted to improve something or to fix an issue in their community in the last four months; deprivation is defined as they have never done this. This indicator has previously been used to measure social engagement among older people in the two slum settlements (Kodzi et al, 2010).

Table 8-4 Description of indicators of wellbeing for community participation dimension

<i>Community Participation Indicators</i>	<i>Description</i>	<i>Values</i>	<i>Deprivation</i>
Self-help/welfare group	Individual level survey: 'Do you belong to a self-help group such as merry-go-rounds or welfare organisation?	0 No 1 Yes	0
Attend social meetings	Individual level survey: 'How often in the last 4 months have you attended any group, club, society, union or organisational meeting?'	1 Never 2 Once or twice a week 3 Once or twice a month 4 Once or twice in the last 4 months 5 Other	1

Volunteers in community	Individual level survey: 'How often in the last 4 months have you worked with other people in your neighbourhood to fix or improve something or resolve a community issue?'	1 Never 2 Once or twice a week 3 Once or twice a month 4 Once or twice in the last 4 months 5 Other	1
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Source: Author's own analysis of combined NUHDSS data file, 2006

8.2.3 Methods for Measuring Wellbeing

There are four dimensions containing three indicators of wellbeing in this study. The three indicators in each dimension are equally weighted, as are each of the four dimensions; this avoids any normative judgements as to which indicator or dimension is more important than another (Zaidi, 2008; Barrientos and de la Vega, 2011).

Although a counting method will be used to measure the multidimensional wellbeing for older people in the two slum settlements, this can take different forms. An example discussed in section 3.3.3 detailed the approach of Barrientos and de la Vega (2011) who summed nine indicators of deprivation and compared these distributions. Although this was an interesting approach, it is limited in that the aggregation of all of the indicators results in the detail of the deprivations being missed. Wellbeing is only represented by a number, with limited opportunity to discuss where deprivations overlap and what policy interventions could be needed to improve wellbeing across a range of dimensions. There is also a risk that the summing of the indicators into one distribution can result in the monetary indicator (expenditure) being over-represented in the multidimensional wellbeing measure, due to its possible association with the other indicators (Bourguignon and Chakravarty, 2003). This method was informative for the Barrientos and de la Vega (2011) study as they were comparing wellbeing between older people in two countries and were also investigating the role of pensions in mitigating deprivation. However, these are not aims of this study which is focused on measuring wellbeing among older people in one context. As such, in order to retain the detail of wellbeing on multiple dimensions, this study will not construct one aggregated wellbeing distribution.

Two other methods for looking at wellbeing are used instead, both still based on the counting method. The first method looks at people who experience a combination of indicators on a dimension; this is a similar approach to one of the methods used by Saunders and Lujun (2006) in their study on multidimensional hardship among older

people in China. A simple counting approach was used to summarise how many indicators older people were deprived on for each dimension; this gives a sense of the depth of deprivation in each dimension (Saunders and Lujun, 2006). In order to further explore the multidimensionality of wellbeing for older people in the slums, the second method established a threshold of deprivation for each dimension.

There are more complicated statistical methods, such as principle component analysis and discriminate analysis, that can be used to determine the threshold of deprivation (see Magadi, 2010 and Magadi and Middleton, 2007 for a further discussion on the application of these methods to child poverty in the UK). However, these methods were technical and risked overcomplicating the analysis; as such, they were not utilised. Instead, a simpler and more rational approach was adopted; this suggests that being deprived on a number of indicators is likely to suggest a more severe deprivation (Magadi and Middleton, 2007). Being deprived on one indicator could be argued as indicative of some deprivation; however, being deprived on at least two of these indicators could indicate more severe deprivation (Magadi and Middleton, 2007). This threshold will be applied in this study. It has also been highlighted that this approach can be easily replicated in future studies (Magadi, 2010). As such, it would be an appropriate method to measure multidimensional wellbeing for this study as the longitudinal nature of the dataset means that there is a possibility that the study could be replicated in the future.

These dimensions of severe deprivation are then contrasted with one another to see how much they overlap and to highlight the degree of multidimensional deprivation experienced by older people in the two slum settlements (similar to Saunders and Lujun's approach, 2006).

A counting approach is used again to count the number of dimensions people are severely deprived on. This method is a useful exploratory analysis to establish the level of severe deprivation an older person experiences; whether that is just on one dimension or whether it is on all four. There is then a more in-depth analysis with the construction of a variable which shows the percentages of older people with severe deprivation on different numbers of dimensions, disaggregated so that the combinations of dimensions can be seen. This method has the effect of being able to highlight overlaps between dimensions of wellbeing, indicating where deprivation can be felt more severely in different ways. As such, policy interventions can be better informed as to the dimensions which should be focused on and the older people who

would most benefit from targeted programmes. The following sections detail the analysis of multidimensional wellbeing among older people in the slums.

8.3 How does Wellbeing Vary according to the Dimension it is measured on?

The following section details the analysis for the first research question in this chapter which explores how wellbeing among older people in the Nairobi slum settlements varies according to the dimension it is measured on. It is split into sub-sections to indicate the different dimensions explored; economic, dwelling, health, and community participation.

8.3.1 Economic Dimension

Table 8-5 shows the results for the three indicators of the economic wellbeing dimension. For the objective poverty indicator, almost two thirds of older people (65.6%) are in absolute expenditure poverty highlighting that the majority of older people experience deprivation in terms of their expenditure patterns.

Table 8-5 Descriptive information for the three indicators of the economic wellbeing dimension

Economic Wellbeing Indicators		Freq.	Per Cent.
Objective poverty	In absolute poverty	1,279	65.6
	Not in absolute poverty	671	34.4
Subjective poverty	Basic needs are not met	1,277	65.5
	Basic needs are met	673	34.5
Employment	Not working	434	22.3
	Working	1,516	77.7

Source: Author's own analysis of combined NUHDSS data file, 2006

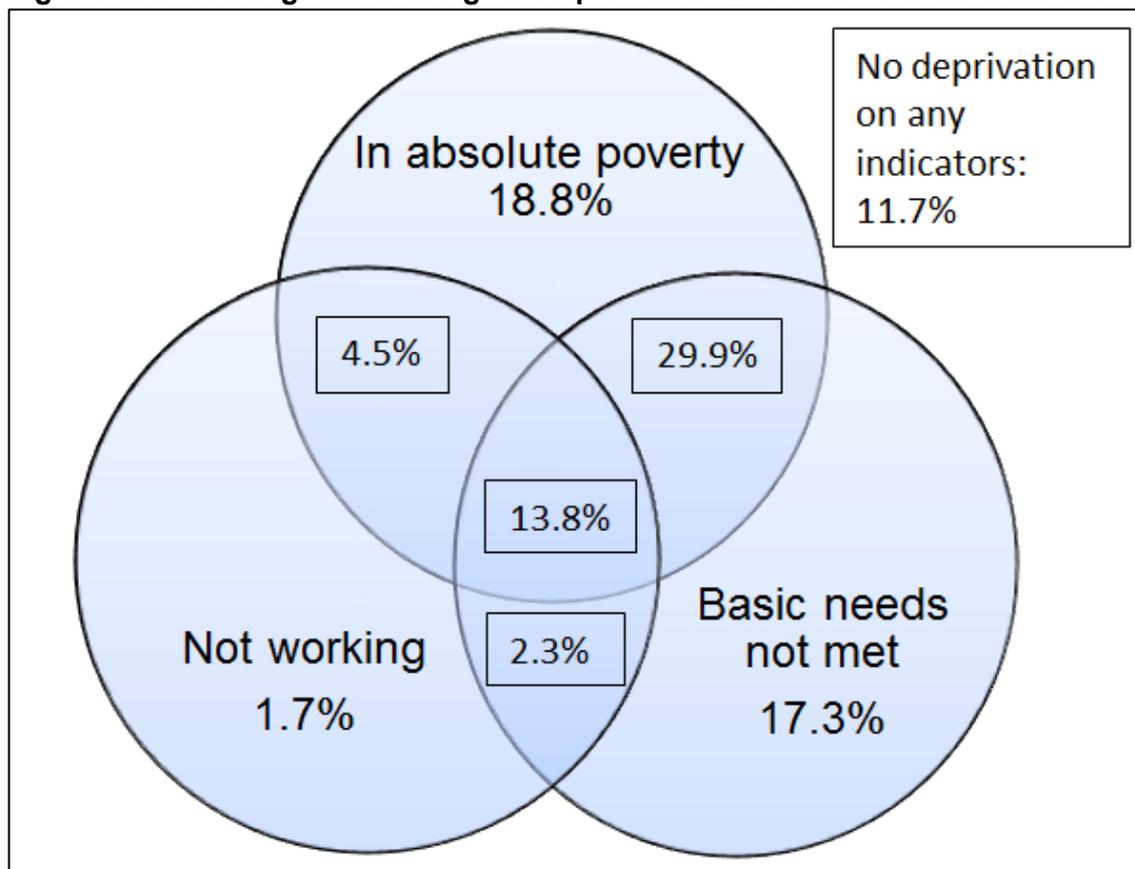
Interestingly, 66 per cent of older people feel that they only have a little or no money to meet their basic needs, which is the same percentage who is in absolute poverty. However, further analysis using a cross-tabulation of these two variables shows much variation between the objective and subjective indicator; 33 per cent of those older people who feel their basic needs are not met are not in absolute poverty and 33 per cent of older people who feel that their basic needs are met are actually in absolute poverty. This contrast between objective and subjective indicators for economic

wellbeing has been highlighted before with previous studies showing that older people perceive their situation in a positive manner despite this not being reflected in the realistic assessment of their situation (Barrientos and de la Vega, 2011). The employment indicator shows 22 per cent of older people are not engaging in income generating activities.

Figure 8-1 shows how these three indicators overlap to create the economic dimension. Only 12 per cent of older people are not experiencing deprivation on any of the three indicators. This is a relatively small proportion of older people indicating that some aspect of economic deprivation is common for older people in the slums.

There is much overlap between the indicators for economic deprivation. Over a third of older people (38%) experience economic deprivation on only indicator; 19 per cent for those in absolute poverty, 17 per cent for those whose basic needs are not met and two per cent for those who are not working. There is a difference in the two dimensional deprivation experienced. Over a quarter of older people (30%) do not have their basic needs met and are in absolute poverty only. Although these older people are working, they are deprived on both the objective and subjective measures of the economic dimension. This finding could indicate that they are working because they are poor, suggesting that the direction of deprivation may be the wrong way around for the employment indicator. Of the older people in the slums, 14 per cent experience economic deprivation on all three indicators. This multidimensional measure shows the importance of considering a wider collection of economic factors; it indicates that the economic situation for older people is more complex than a single objective measure of absolute poverty. To counteract this economic deprivation, older people may rely on support from other sources which will be further explored in chapter 9.

Figure 8-1 Venn diagram showing overlaps of indicators for economic dimension



Source: Author's own analysis of combined NUHDSS data file, 2006

NB: This diagram is 'schematic', i.e. the areas in the diagram do not correspond exactly to the percentage sizes

8.3.2 Dwelling Dimension

The first indicator for the dwelling dimension considers how safe older people feel within their neighbourhoods (table 8-6). A third (34%) of older people said they did not feel secure when walking through their community alone after dark. This figure is relatively high and underlines the suggestions made by the sisters from the Slum Care Home that security in the slums is an issue for older people (Slum Care Home, 2009).

Housing quality has been highlighted as an issue for older people in this setting and the quality of flooring reflects this; 38 per cent of older people had poorer quality flooring in their dwellings. Connected to this is the indicator which considers whether an older person is satisfied with the conditions of their living place. A quarter of older people were not satisfied with the conditions of their living place.

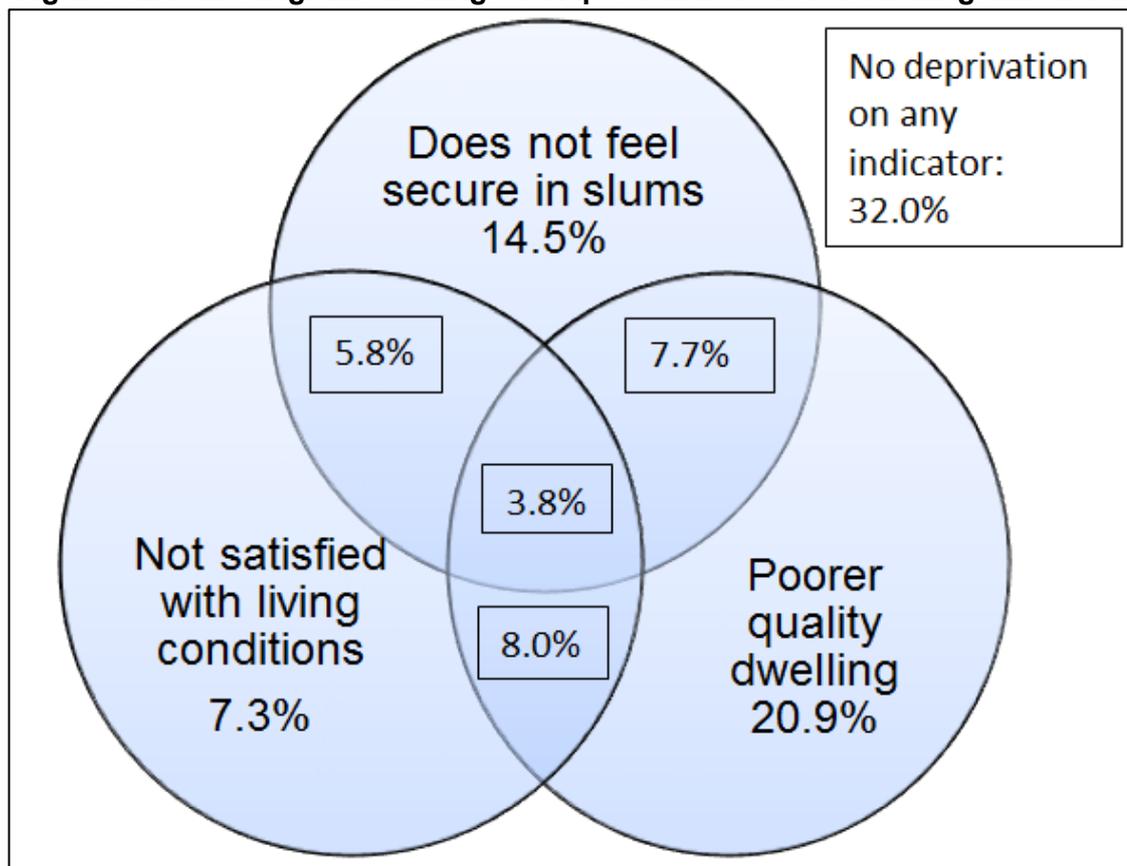
Table 8-6 Descriptive information for the three indicators of the dwelling wellbeing dimension

Dwelling Wellbeing Indicators		Freq.	Per Cent.
Safety	Do not feel secure in neighbourhood	663	34.0
	Feel secure in neighbourhood	1,287	66.0
Housing	Poor quality flooring	744	38.2
	Better quality flooring	1,206	61.8
Living Place	Not satisfied with conditions of living place	485	24.9
	Satisfied with conditions of living place	1,465	75.1

Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-2 shows how the indicators for the dwelling dimension overlap with one another. Almost one third of older people experience no deprivation on any of the indicators. Almost 43 per cent experience deprivation on only one indicator indicating that there is much variation in the dwelling situation of older people. A fifth of older people (21%) are deprived in terms of the quality of their dwelling only. Almost 15 per cent of older people do not feel secure in their communities but are not deprived on other indicators; this is interesting as it suggests that they are still satisfied with their living conditions, as there is no overlap in deprivation for them. There are small overlaps for the dwelling dimension with 22 per cent experiencing deprivation on only two indicators, ranging from six to eight per cent. There is a small overlap for all three indicators with only four per cent of older people experiencing deprivation across all indicators of the dwelling dimension.

Figure 8-2 Venn diagram showing overlaps of indicators for dwelling dimension



Source: Author's own analysis of combined NUHDSS data file, 2006

NB: This diagram is 'schematic', i.e. the areas in the diagram do not correspond exactly to the percentage sizes

8.3.3 Health Dimension

The health dimension reflects indicators of health status, access to food and mobility for the older person (table 8-7). Of the older people in the two slum settlements, 15 per cent stated that their health was bad to very bad. Over a third of older people did not have enough food to eat and 11 per cent of older people had severe to extreme difficulty in terms of their mobility. The figures showing deprivation for all three indicators are fairly low suggesting that overall health deprivation is low for older people in the slums.

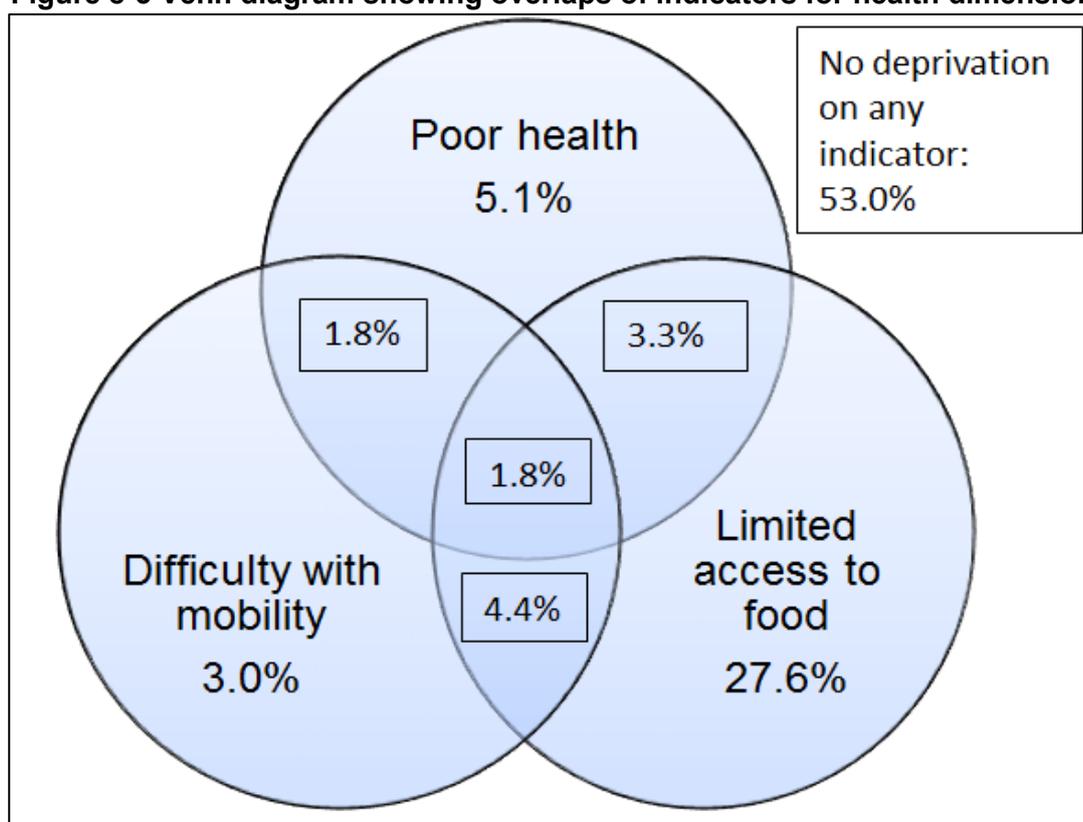
Figure 8-3 shows that over half of older people do not experience deprivation on any indicator of the health dimension, indicating a fairly positive experience of health for older people in the slums. More than a quarter of older people had limited access to food (28%) only but this did not bring about deprivation in any other health indicators for them. There were also a small number of older people who experienced deprivation for poor health (5%) and mobility (3%) only.

Table 8-7 Descriptive information for the three indicators of the health wellbeing dimension

Health Wellbeing Indicators		Freq.	Per Cent.
Health Status	Poor health	285	14.6
	Good health	1,665	85.4
Food	Limited access to food	674	34.5
	Access to food	1,276	65.6
Mobility	Had severe or extreme difficulty with moving around	214	11.0
	Had no to moderate difficulty with moving around	1,736	89.0

Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-3 Venn diagram showing overlaps of indicators for health dimension



Source: Author's own analysis of combined NUHDSS data file, 2006

NB: This diagram is 'schematic', i.e. the areas in the diagram do not correspond exactly to the percentage sizes

Of those older people who experienced overlap on two dimensions of health, only small numbers of those who did not have enough food also had poor health (3.3%) or difficulty with mobility (4.4%). Only two per cent of older people experienced deprivation in that they had poor health and difficulty with mobility. Just two per cent experienced deprivation across all three indicators.

8.3.4 Community Participation Dimension

The level of community participation can be important in indicating the wellbeing, or even social exclusion, experienced by the older person in terms of their social participation (table 8-8). Of the older people in the slum settlements, almost two thirds do not belong to a self-help group (65%). Over half (54%) have never attended a meeting for a group, club, society, union or organisation. Almost two thirds of older people (64%) have never worked with other people in their neighbourhood to fix or improve something or to resolve a community issue.

Table 8-8 Descriptive information for the three indicators of the community participation wellbeing dimension

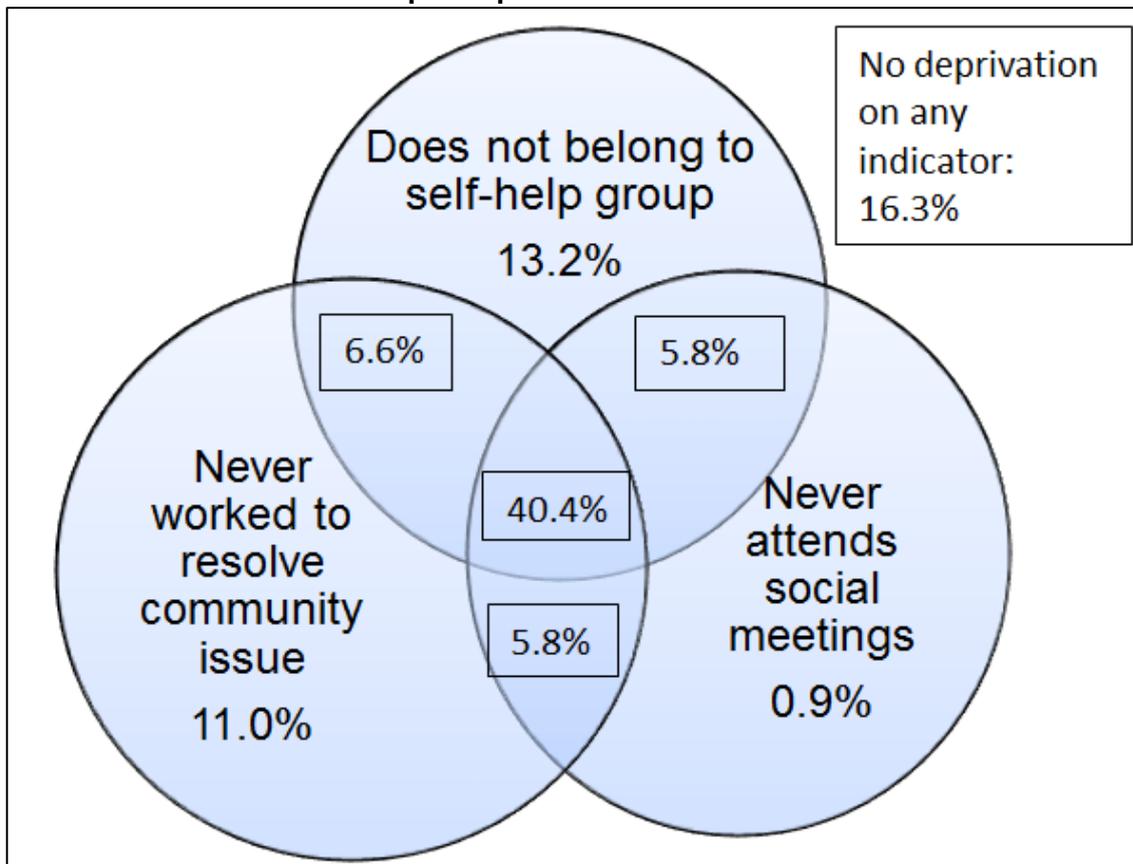
Community Participation Wellbeing Indicators		Freq.	Per Cent.
Self-Help Group	Does not belong to a self-help group	1,271	65.2
	Belongs to a self-help group	679	34.8
Social Meetings	Never attends social meetings	1,047	53.7
	Attends social meetings	903	46.3
Community Service	Never worked with neighbours to resolve a community issue	1,244	63.8
	Worked with neighbours to resolve a community issue	706	36.2

Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-4 shows how these indicators of wellbeing for community participation overlap. Of the older people in the slums, 16 per cent are not deprived on any indicator suggesting that they participate strongly in their community. There is some variation in one dimensional deprivation; a small proportion has never attended social meetings (1%) only, does not belong to a self-help group (13%) or has never worked to resolve a community issue (11%). There is not much difference in the percentages of older people experiencing overlaps for two indicators only. Of the older people in the slums, two-fifths (40%) experience deprivation across all three indicators for community participation suggesting that older people's involvement in their community is low for a

substantial number in the slums. This finding could indicate that older people did not want to participate in their communities suggesting that there could be an issue with the way this dimension has been measured; this will be further discussed in the limitations section (10.2).

Figure 8-4 Venn diagram showing overlaps of indicators for community participation dimension



Source: Author's own analysis of combined NUHDSS data file, 2006

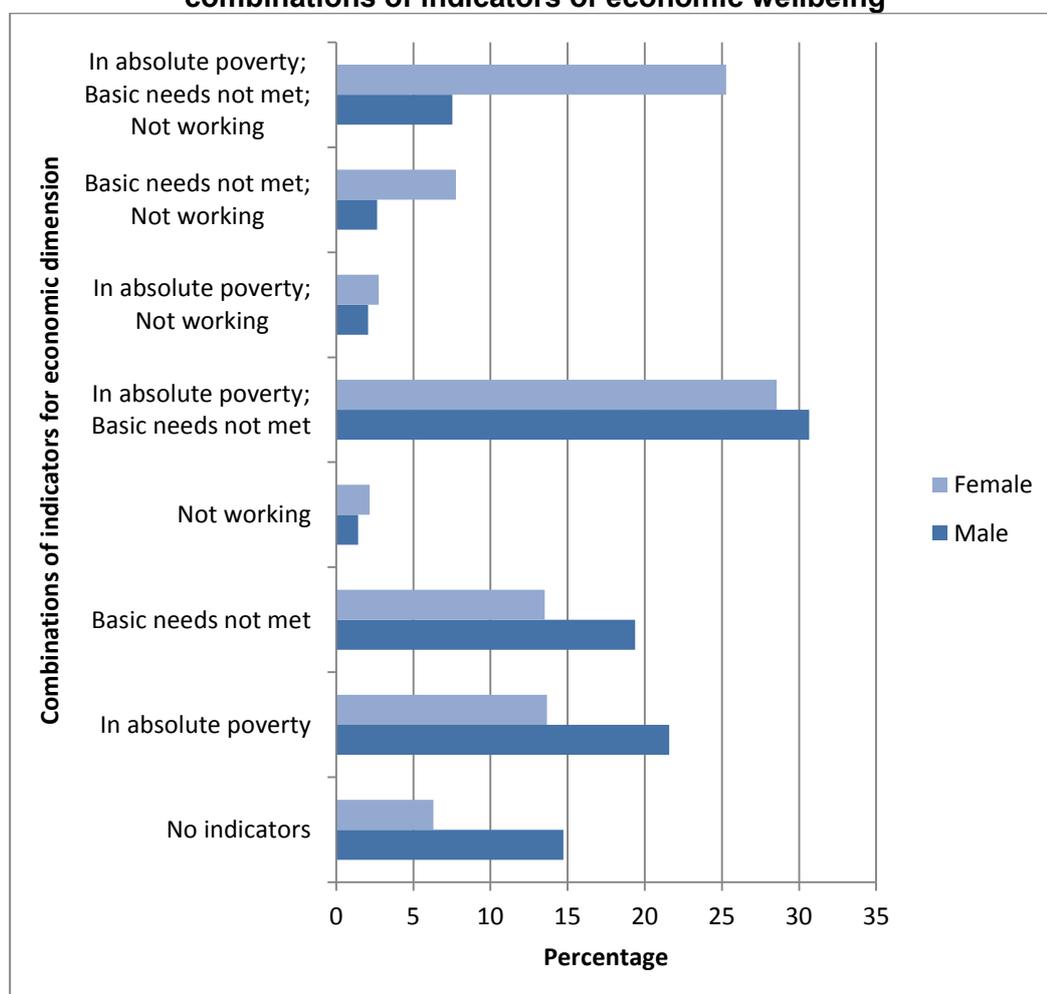
NB: This diagram is 'schematic', i.e. the areas in the diagram do not correspond exactly to the percentage sizes

8.4 How does Wellbeing Vary according to Gender and Age?

It is important to consider demographic information when investigating wellbeing among older people. This study has highlighted gender and age as cross-cutting variables that can highlight where particular sub-groups of older people can be more vulnerable. This section continues this work and focuses on how the four dimensions of wellbeing alter according to the gender and ages of the older people. Associations between gender and age and each of the dimensions were found to be statistically significant at the one per cent level.

Figure 8-5 shows the overlapping indicators for the economic dimension by gender. For older women, only six per cent are not deprived on any indicator compared to 15 per cent of men. Conversely, a quarter of older women are experiencing deprivation across all three indicators in comparison to eight per cent of older men. This result indicates that women are more deprived economically than men, even when this is measured using three different indicators. There is also a larger proportion of men scoring only one dimension of economic deprivation compared to women. Economic deprivation has been highlighted as being gendered with older women found to be poorer and with limited employment opportunities compared to men (Saunders and Lujun, 2006; Najjumba-Mulindwa, 2003). These results support this literature and indicate the need to improve the economic situation for women.

Figure 8-5 Percentage of older men and women experiencing different combinations of indicators of economic wellbeing

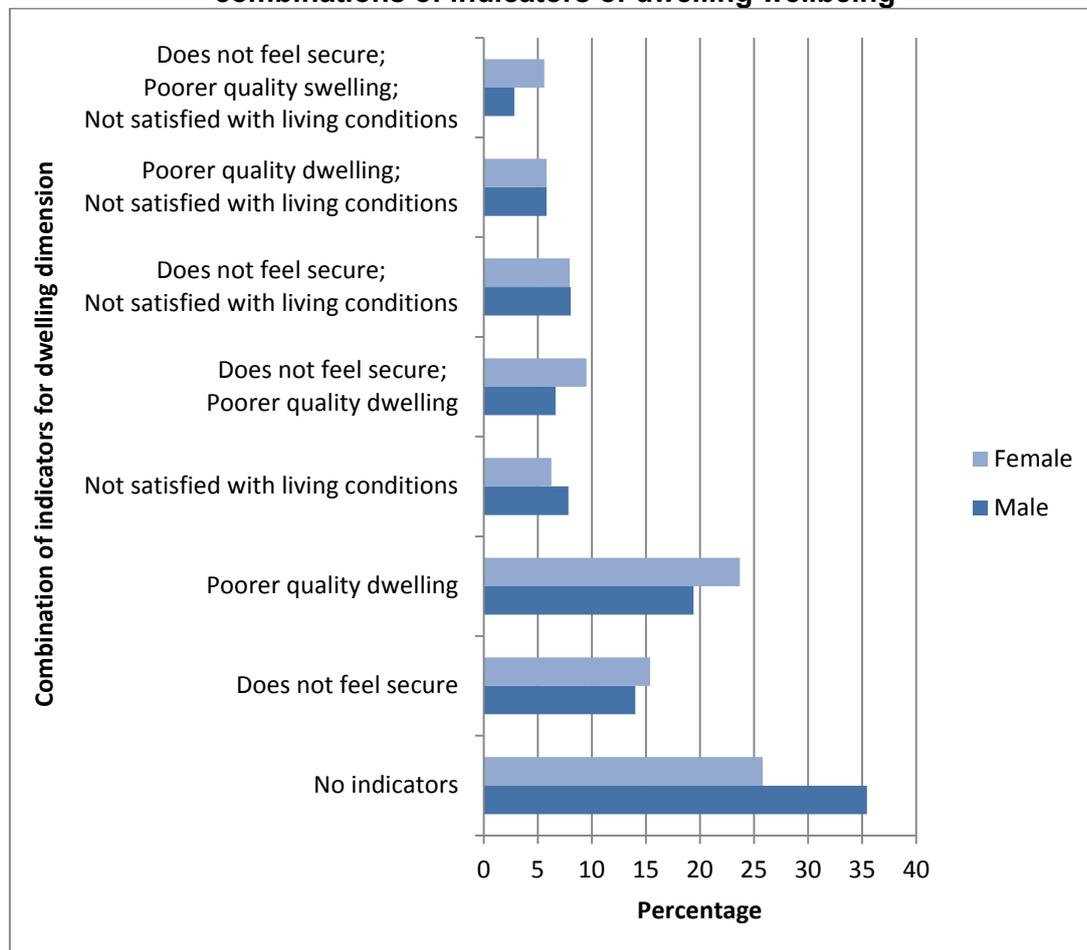


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-6 shows the overlapping of deprivation wellbeing indicators for the dwelling dimension and how these differ according to gender. Older women are slightly more disadvantaged than older men with six per cent deprived on any indicator of dwelling

compared to three per cent of men. Ten per cent more older men than older women experienced no deprivation across all three dwelling indicators; this also supports a gender divide for the dwelling dimension.

Figure 8-6 Percentage of older men and women experiencing different combinations of indicators of dwelling wellbeing

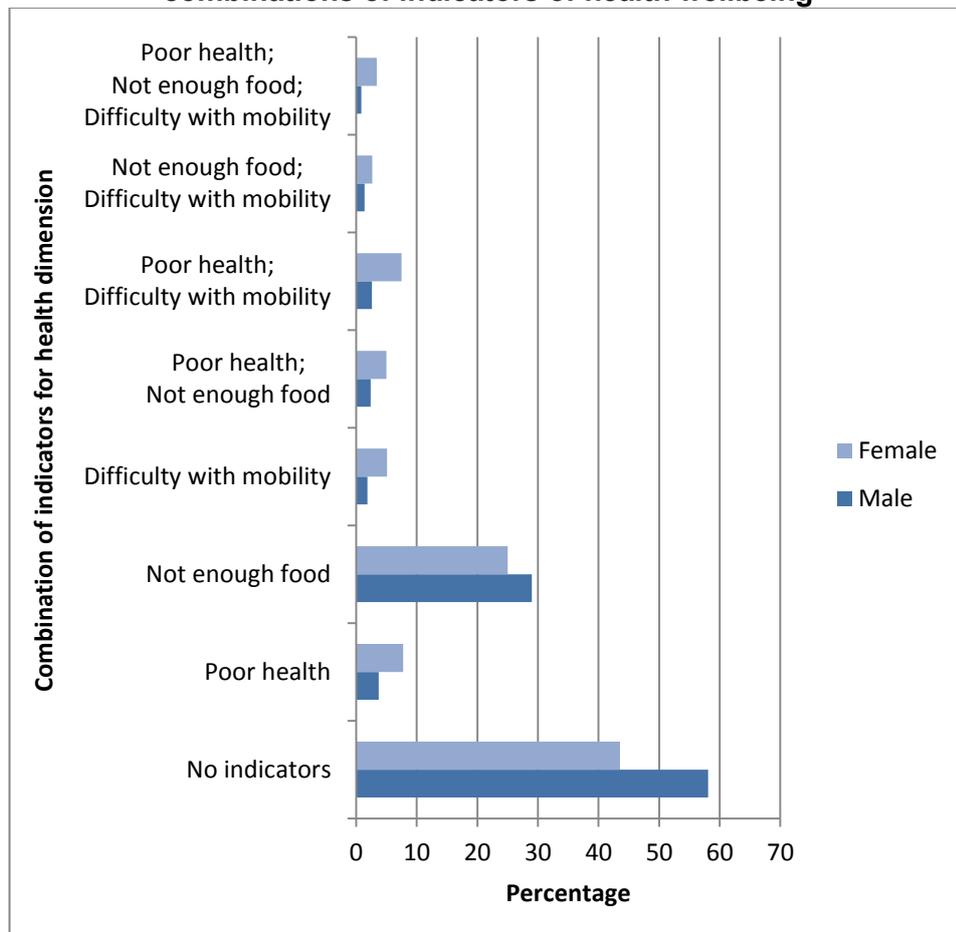


Source: Author's own analysis of combined NUHDSS data file, 2006

There are slight gender differences for one-dimensional dwelling deprivation with a larger proportion of women not feeling secure in their community and living in a poorer quality dwelling compared to men. Older women are slightly more disadvantaged than older men for one indicator of poorer quality dwelling (24% to 19%). There are similarities for gender for two-dimensional dwelling deprivation. A larger proportion of older women does not feel secure in their communities and have a poorer quality dwelling compared to men. A feeling of security in the community is important, especially for older women who have been shown to feel more threatened in urban areas (Slum Care Home, 2009). These results indicate a larger proportion of women than men are in the categories which include not feeling secure and residing in poorer quality dwellings. This disparity should be addressed to ensure that women feel secure in their community and that their dwelling is of a good quality.

Figure 8-7 shows how the indicators for the health dimension of wellbeing are overlapping, by gender. There is a gender disparity for this dimension as a larger proportion of older men than women have no indicators of deprivation for health (58% to 44%). A larger proportion of older women are experiencing poor health compared to men (8% to 4%). A larger proportion of older women are experiencing poor health compared to men (8% to 4%) as well as difficulty with mobility (5% to 2%). However, a larger proportion of men are experiencing deprivation in terms of not having enough food compare to women (29% to 25%). The differences for two dimensional and three dimensional health deprivation are minimal although there are slightly larger proportions of older women experiencing each of these combinations compared to men. This finding suggests that multiple health deprivation is worse for women than men in the slums, supporting existing literature on the gendered nature of health in older ages (Mwanyangala et al, 2010; Demakakos et al, 2010).

Figure 8-7 Percentage of older men and women experiencing different combinations of indicators of health wellbeing

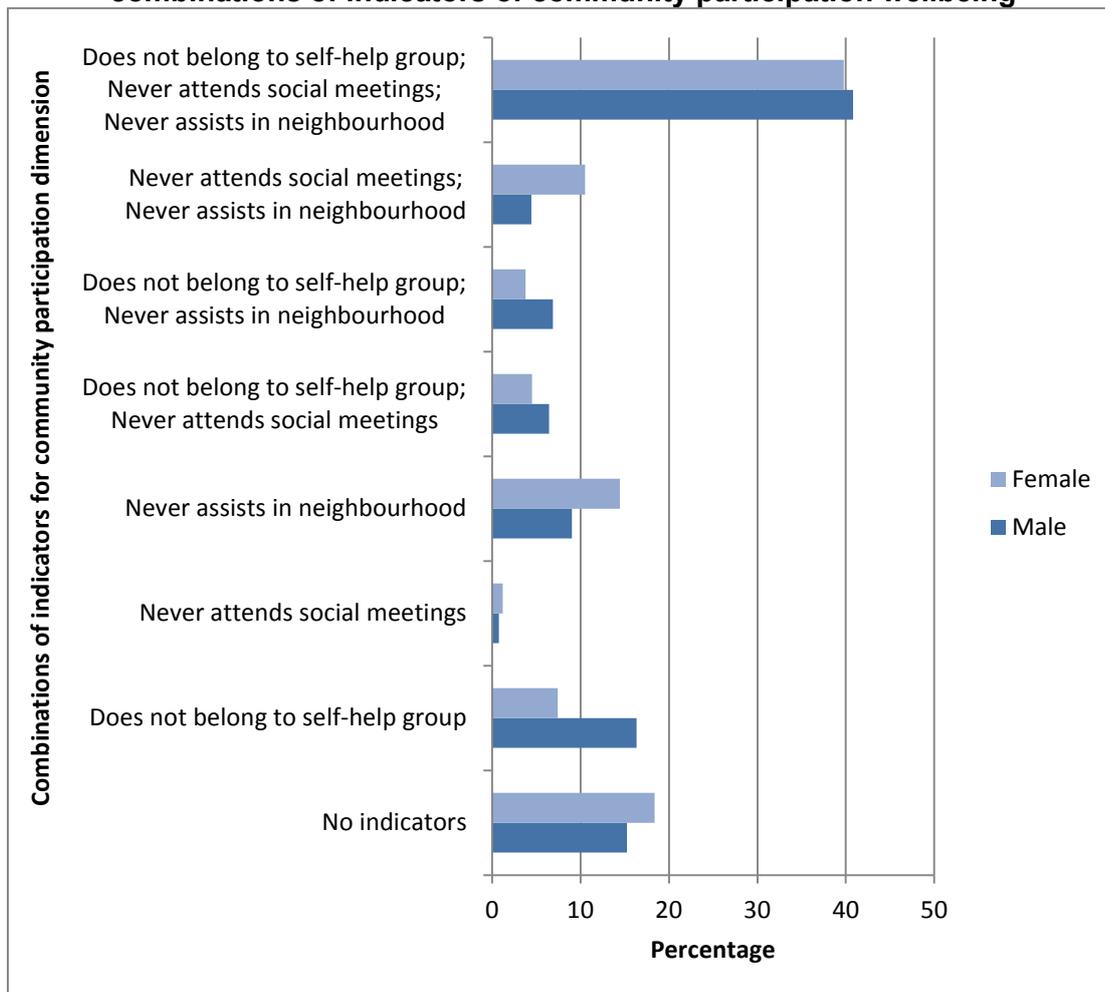


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-8 shows the overlapping categories for the indicators of the community participation dimension, according to gender. A larger proportion of older women have no indicators of deprivation for this dimension compared to men (18% to 15%)

highlighting that women participate more in their community than men. This finding contrasts to the previous dimensions where larger proportions of older men had no indicators of deprivation compared to women. Interestingly, larger proportions of older men compared to older women are in categories where they are not part of a self-help group, suggesting that this is a gendered activity dominated by women. A similar proportion of older men and women are deprived across all three indicators of community participation.

Figure 8-8 Percentage of older men and women experiencing different combinations of indicators of community participation wellbeing

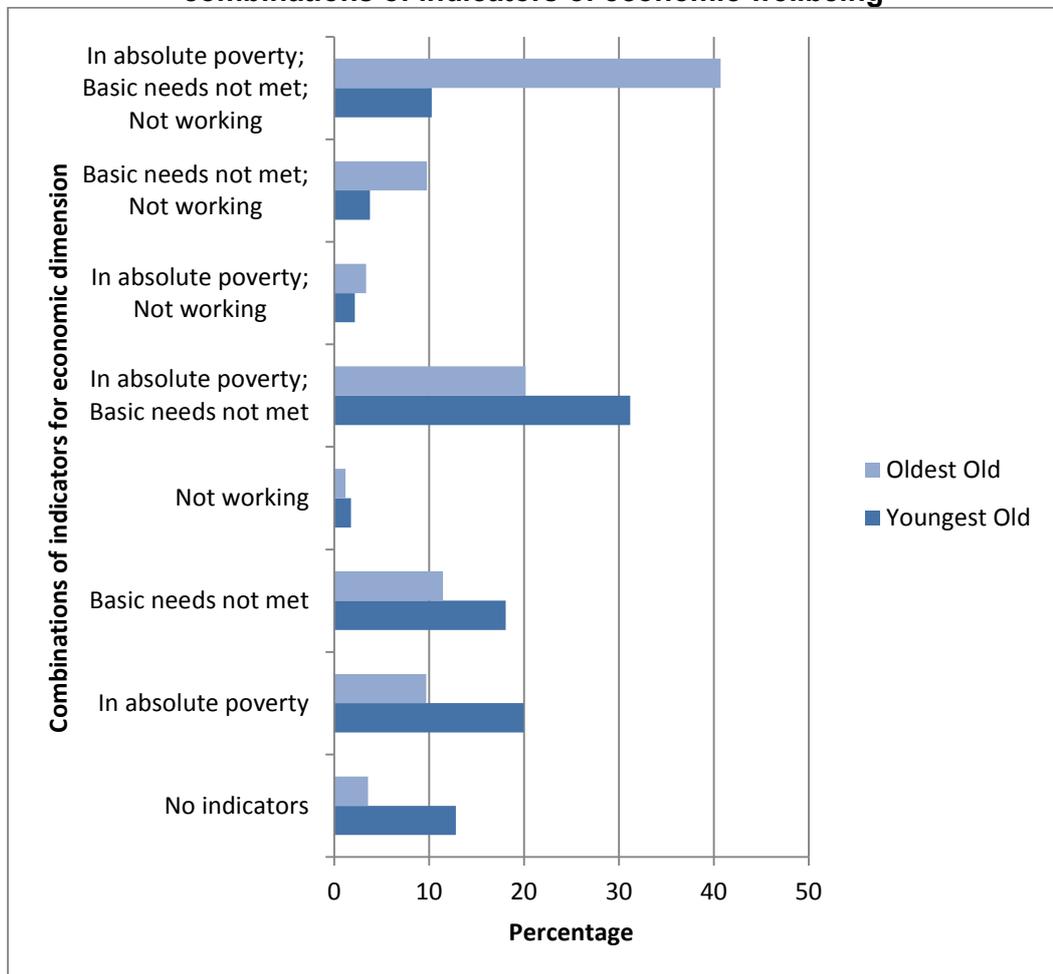


Source: Author's own analysis of combined NUHDSS data file, 2006

The following four figures look at the different dimensions of wellbeing by age, focusing on the youngest old (50-69 years) versus oldest old (70 and above) cut-off as discussed in section 6.6. Figure 8-9 shows how the indicators for the economic dimension overlap according to the age of the older person and it indicates an age disparity. The proportion of the youngest old who are deprived across all indicators of the economic dimension is significantly less than the proportion of the oldest old who are deprived across all indicators (10% for the youngest old; 41% for the oldest old).

This result supports existing research indicating that the oldest old are more economically disadvantaged than their younger counterparts (Nujjumba-Mulindwa, 2003). Larger proportions of the youngest old experience one-dimensional economic deprivation compared to the oldest old. Of the youngest old, 31 per cent are in absolute poverty and do not have their basic needs met, which is a larger proportion than the oldest old (20%). There is a large age discrepancy between those older people who do not have any indicators of economic deprivation; 13 per cent of the youngest old compared to just four per cent of the oldest old. These results suggest that targeting of the oldest age groups may be required to ensure that their economic wellbeing is improved.

Figure 8-9 Percentage of youngest old and oldest old experiencing different combinations of indicators of economic wellbeing

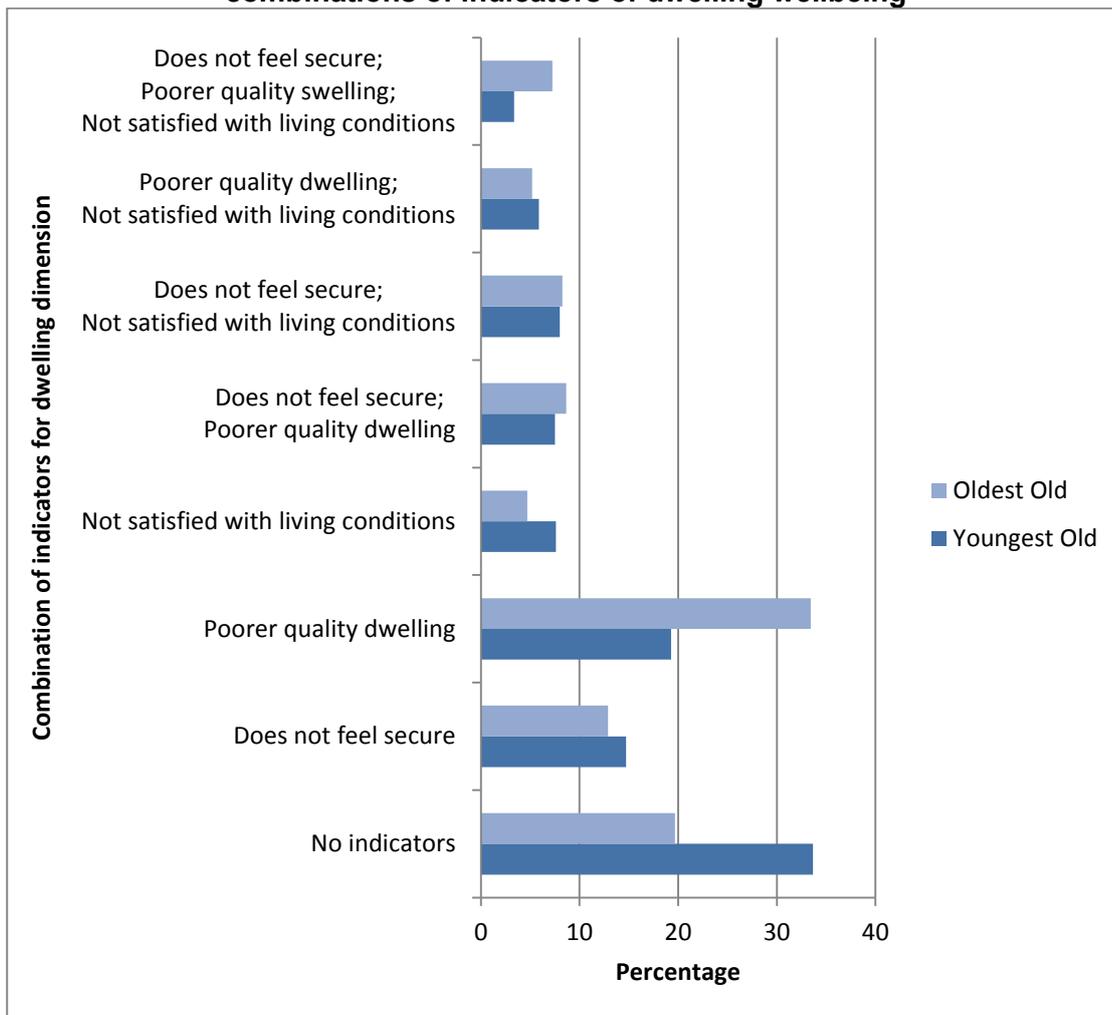


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-10 shows the overlapping of indicators for the dwelling dimension by age group. A slightly larger proportion of the oldest old are deprived on all three indicators compared to the youngest old (7% to 3%). There is a large discrepancy between the proportion of youngest old and oldest old experiencing deprivation for poorer quality

dwelling (19% to 33%). For two-dimensional wellbeing, there are similar proportions of the youngest old and oldest old. In contrast to this, a larger proportion of the youngest old (34%) experience no deprivation on any indicator of the dwelling dimension compared to the oldest old (20%). These discrepancies between the youngest and oldest old in terms of dwelling deprivation need to be addressed.

Figure 8-10 Percentage of youngest old and oldest old experiencing different combinations of indicators of dwelling wellbeing

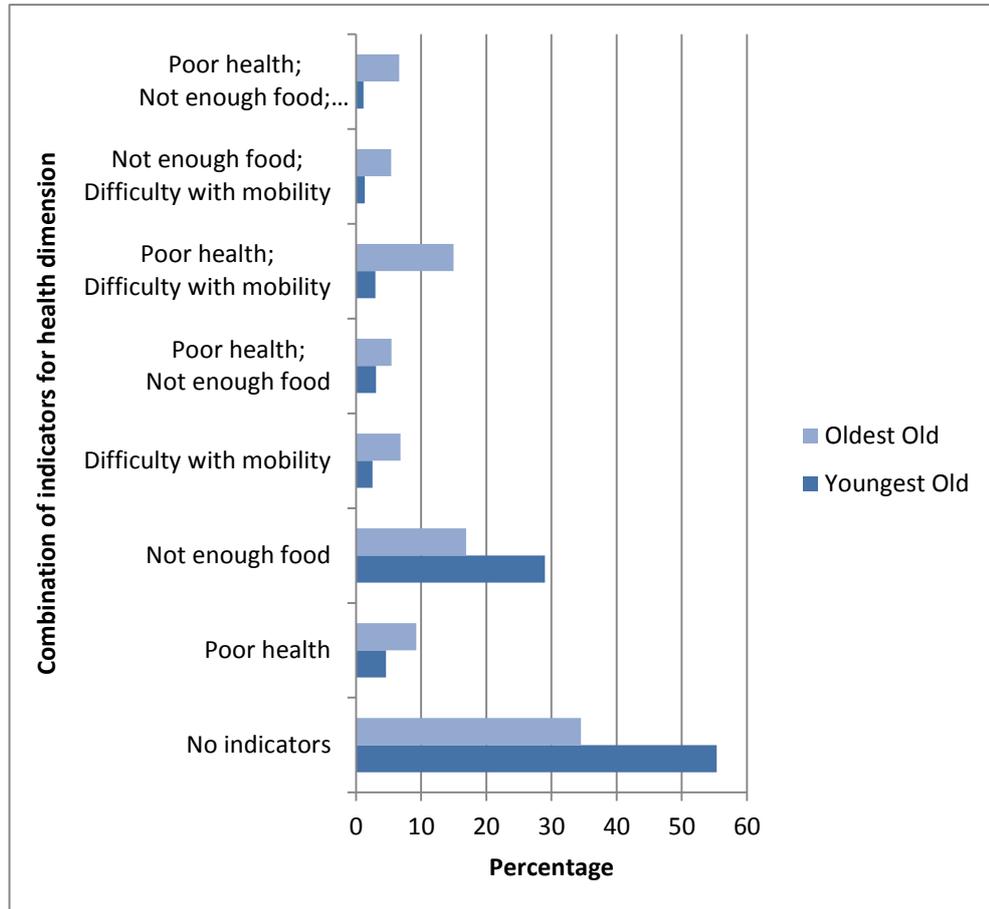


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-11 shows the overlapping of indicators for the health dimension, according to age group. A larger proportion of the oldest experience deprivation across all indicators of the health dimension compared to the youngest old (7% to 1%). Larger proportions of the oldest old also experience two-dimensional health deprivation compared to the youngest old. Interestingly, 29 per cent of the youngest old do not have enough food compared to 17 per cent of the oldest old. However, it may not be that the youngest old did not have enough food but that the measurement of this is disguised in that having enough food is also incorporated into the category for all three indicators. There is a

large difference between the proportion of the youngest old who experience no deprivation on any indicator compared to the oldest old (55% to 35%). Age discrepancies in health are not surprising and these results support other existing research (Mwanyangala et al, 2010).

Figure 8-11 Percentage of youngest old and oldest old experiencing different combinations of indicators of health deprivation wellbeing

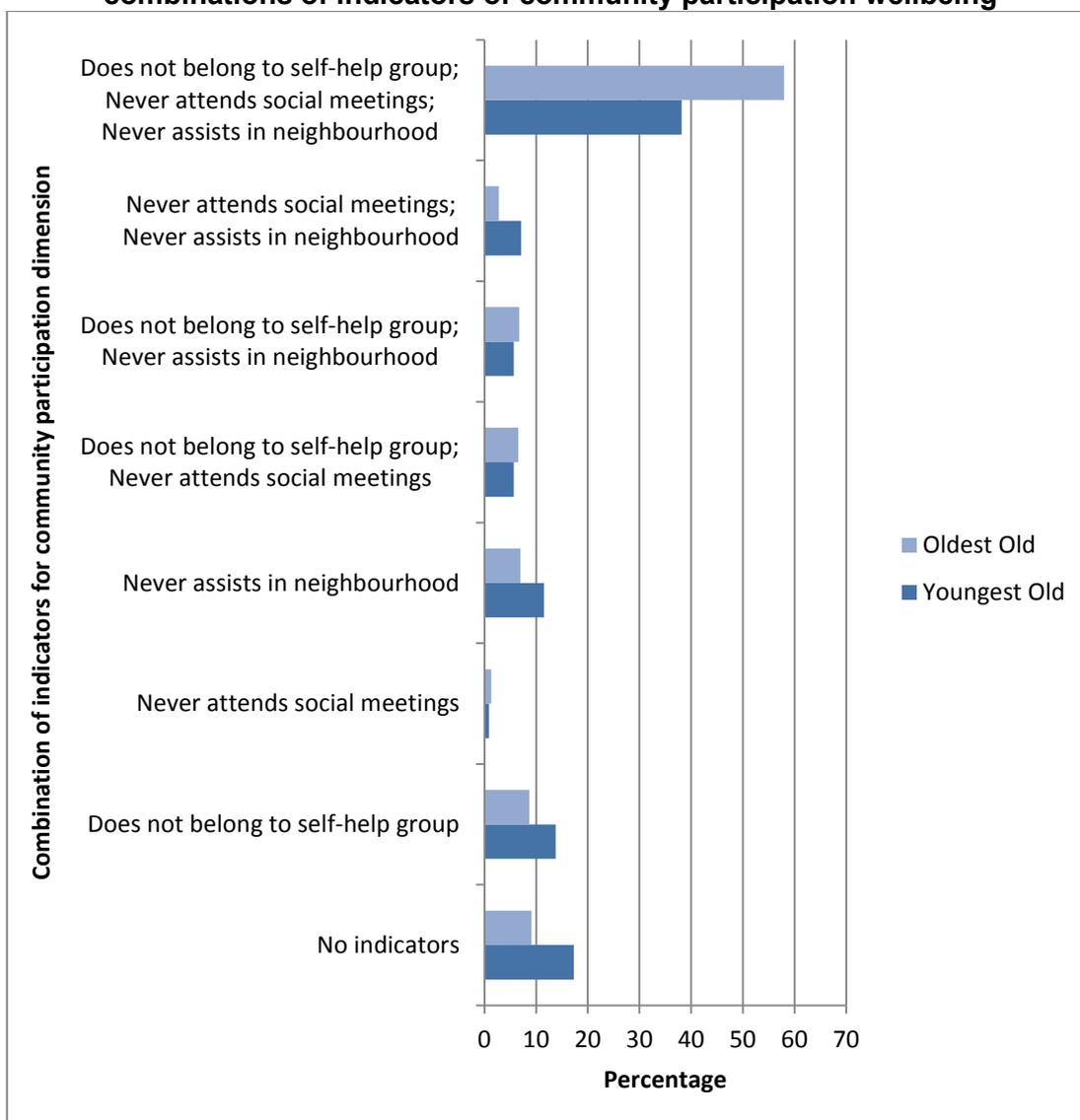


Source: Author's own analysis of combined NUHDSS data file, 2006

Figure 8-12 shows the overlaps in indicators of the community participation dimension, according to age group. These results show clear age discrepancies in involvement in the community for older people in the two slum settlements. Of the oldest old, 58 per cent are deprived on all three indicators of community participation compared to 38 per cent of the youngest old. This result indicates that a large number of the oldest old are not participating in their communities. Literature indicates that community involvement and social participation are important aspects of wellbeing at older ages as it can secure networks of support for older people (Barrientos and de la Vega, 2011). This result is reflective of other findings on social participation and older people with studies suggesting that reduced social participation can be connected to a lack of economic

means and to poor health (Kodzi et al, 2010; Asyinbola, 2004). Both the economic dimension and the health dimension indicate age discrepancies in relation to the different experiences of deprivation for the youngest and oldest old, however it cannot be determined if this is influencing the lack of community participation experienced by the oldest old. This age discrepancy is further reflected in the proportion of the youngest old who are experiencing no indicators of deprivation for the community participation dimension compared to the oldest old (17% to 9%). This result suggests that the oldest old may need to be targeted by programmes to improve their community participation wellbeing.

Figure 8-12 Percentage of youngest old and oldest old experiencing different combinations of indicators of community participation wellbeing



Source: Author's own analysis of combined NUHDSS data file, 2006

8.5 How do the Dimensions Overlap?

As was highlighted in section 8.2.3, it is important to explore how the dimensions for wellbeing overlap. The results in sections 8.3 and 8.4 indicate that there is much diversity in the experience of wellbeing for older people in the slum settlements. There are also gender and age differentials, with women and the oldest old experiencing the greatest deprivation on each of the dimensions. It has been useful to establish wellbeing experienced for each dimension but to give depth to the study, it is essential to look at how these dimensions interact with one another. This section explores the accumulation of deprivation as well as how dimensions overlap.

Table 8-9 shows the percentage of older people who are severely deprived on each dimension, by gender and age. Over half of the older people in the slums were severely deprived for both the economic dimension (51%) and the community participation dimension (59%). Both gender and age were statistically significantly associated at the one per cent level with severe deprivation on the economic and health dimensions. A larger proportion of older women than men were deprived on the economic dimension (64% to 43%) and a larger proportion of the oldest old were deprived on it compared to the youngest old (74% to 47%). These findings indicate that there are gender and age differentials for severe economic deprivation in old age, echoing the literature (Saunders and Lujun, 2006; Najjumba-Mulindwa, 2003).

There are also large gender and age differentials for severe deprivation on the health dimension: a larger proportion of women than men had severe health deprivation (19% to 7%); and a larger proportion of the oldest old had severe health deprivation compared to the youngest old (33% to 9%). These findings also echo literature that women and the oldest age groups experience worse health outcomes (Mwanyangala et al, 2010; Demakakos et al, 2010). There is also a significant age difference for the community participation dimension with 74 per cent of the oldest old in severe deprivation compared to 57 per cent of the youngest old. This finding supports existing literature that those people in the oldest age groups can experience a greater level of social exclusion (Scharf et al, 2005).

Table 8-9 Percentage of older people severely deprived on each dimension by gender and age

	<i>Freq.</i>	<i>Perc.</i>	<i>Male</i>	<i>Female</i>	<i>Youngest Old</i>	<i>Oldest Old</i>
At least two indicators of deprivation on economic dimension	984	50.5	42.9	64.4***	47.4	74.1***
At least two indicators of deprivation on dwelling dimension	419	21.5	20.5	23.3	21.4	22.1
At least two indicators of deprivation on health dimension	221	11.3	7.3	18.6***	8.5	32.5***
At least two indicators of deprivation on community participation dimension	1,143	58.6	58.6	58.6	56.6	73.9***

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: *** $p < 0.001$ indicates a significant association between gender and having two indicators of deprivation for the dimension or age and having two indicators of deprivation for the dimension

Table 8-10 shows the level of severe deprivation that older people are experiencing, depending on how many dimensions they experience it on. A fifth of older people (20%) do not experience severe deprivation for any dimension. Just over a third (35%) experience severe deprivation on at least one dimension and 30 per cent experience severe deprivation on at least two dimensions. These results indicate that the majority of older people are experiencing fairly low levels of severe deprivation. Only 2 per cent are experiencing severe deprivation on all four dimensions. Although this figure is small, it is still concerning as these older people are severely deprived across a diverse range of aspects of their life. It also suggests that a multifaceted approach to policy is not necessarily needed but there is still a need for a response as a high percentage of older people are still deprived for other combinations of two or three dimensions (43%).

There are differences in severe deprivation by gender and age, both of which were statistically significantly associated with the variable. The patterns show that larger proportions of older men have no severe deprivation or only on one dimension, compared to older women. This relationship reverses as the level of severe deprivation and more dimensions are incorporated. Larger proportions of older women compared to men experienced severe deprivation on at least two dimensions. Almost a fifth of older women (19%) were deprived on three dimensions compared to only ten per cent of men. These results indicate that severe deprivation across a larger number of

dimensions is felt more keenly by older women; this supports existing literature (Saunders and Lujun, 2006). A similar pattern is found for age and severe deprivations. Over a fifth (22%) of the youngest old had no severe deprivation on any dimension compared to just nine per cent of the oldest old. Again, this relationship reverses when severe deprivation is experienced on at least two dimensions. Almost a third (31%) of the oldest old is deprived on three dimensions compared to 11% of the youngest old.

Table 8-10 Percentage of older people with differing levels of severe deprivation, by gender* and age*****

	<i>Freq.</i>	<i>Perc.</i>	<i>Male</i>	<i>Female</i>	<i>Youngest Old</i>	<i>Oldest Old</i>
No severe deprivation on any dimension	397	20.3	23.0	15.5	21.8	8.9
Severe deprivation on one dimension	672	34.5	37.2	29.5	36.0	22.9
Severe deprivation on two dimensions	589	30.2	28.8	32.8	30.1	31.1
Severe deprivation on three dimensions	252	12.9	9.6	19.0	10.6	30.9
Severe deprivation on four dimensions	40	2.1	1.4	3.2	1.5	6.2
Total	1,950	100	100	100	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: *** p<0.001 indicates a significant association between gender and the number of dimensions an older person is severely deprived on or age and the number of dimensions an older person is severely deprived on

Table 8-11 shows the percentages of older people with severe deprivation on different numbers of dimensions, disaggregated so that the combinations of dimensions can be seen. These results allow for an in-depth assessment of deprivation for older people in the slums by investigating how the dimensions overlap. The largest proportions of older people with one dimension of severe deprivation are deprived on the community participation dimension (20%) or the economic dimension (11%). Gender is significantly statistically associated with this variable, at the one per cent level. A larger proportion of older men are deprived on only the community participation dimension compared to women (23% to 12%). Conversely, a larger proportion of older women are severely deprived on the economic dimension compared to men (14% to 10%).

Table 8-11 Percentage of older people with severe deprivation on different numbers of dimensions, detailed by dimensions, by gender***

	<i>Dimensions</i>	<i>Freq.</i>	<i>Perc.</i>	<i>Male</i>	<i>Female</i>
No severe deprivation on any dimension		397	20.3	23.0	15.5
Severe deprivation on one dimension	Economic dimension	219	11.2	10.0	13.5
	Dwelling dimension	55	2.8	3.1	2.4
	Health dimension	18	0.9	0.8	1.2
	Community participation dimension	380	19.5	23.4	12.4
Severe deprivation on two dimensions	Economic and dwelling dimension	71	3.6	3.2	4.3
	Economic and health dimension	22	1.1	0.5	2.3
	Economic and community participation dimension	388	19.9	18.4	22.6
	Dwelling and health dimension	7	0.4	0.4	0.3
	Dwelling and community participation dimension	89	4.6	5.5	2.8
	Health and community participation dimension	12	0.6	0.7	0.4
Severe deprivation on three dimensions	Economic, dwelling and health dimension	19	1.0	0.5	1.9
	Economic, health and community participation dimension	95	4.9	2.8	8.8
	Economic, dwelling and community participation dimension	130	6.7	6.0	7.8
	Dwelling, health and community participation dimension	8	0.4	0.3	0.6
Severe deprivation all four dimension	Economic, dwelling, health and community participation dimension	40	2.1	1.4	3.2
Total		1,950	100	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: *** p<0.001 indicates a significant association between gender and the combination of severe deprivation experienced by the older person on different dimensions

For the two dimensional severe deprivation, the largest proportion of older people is severely deprived on both the economic and community participation dimension (20%). This result could indicate an interaction between these two dimensions in that economic deprivation could contribute to the social exclusion of the older person. Older women fare worse on severe deprivation for economic and community participation dimensions than men (23% to 18%). Larger proportions of older men are severely deprived on both the dwelling and community participation dimensions compared to women (6% to 3%). This finding indicates severe deprivation for two dimensions encompassing where the older person lives; highlighting that living conditions need to be improved and involvement in community activities needs to be encouraged.

For the three dimensional severe deprivation, the largest proportion of older people were severely deprived on the economic, dwelling and community participation dimensions (7%). The combination of deprivation on the economic, health and community participation dimensions showed a gender differential with a larger percentage of women being severely deprived across these three dimensions compared to men (9% to 3%). For severe deprivation across all four dimensions, women were again more disadvantaged; a larger proportion of older women were severely deprived across all four dimensions compared to men, however this difference was only slight (3% to 1%).

8.6 Conclusion

This chapter investigated multidimensional wellbeing among older people in two Nairobi slum settlements. Research has indicated that the monetary measure of poverty, although informative, fails to portray the varied ways in which older people experience poverty (Barrientos and de la Vega, 2011; Kaneda et al, 2011). This chapter has sought to address this lack of information by analysing how deprived older people are across different dimensions in two Nairobi slum settlements.

The economic dimension was constructed using three indicators; absolute poverty status, subjective poverty assessment, and whether the older person was employed. The indicators overlapped in a variety of ways with 12 per cent of older people experiencing no indicators of economic deprivation and 14 per cent experiencing all three indicators of economic deprivation. Interestingly, 30 per cent of older people were deprived on both the absolute poverty status and subjective poverty assessment but not on the employment indicator. However, 19 per cent of older people were in absolute poverty but this did not overlap with the other two indicators, notably it did not

overlap with the subjective indicator. In addition to this, 17 per cent were deprived on the subjective indicator but this did not overlap with deprivation for employment or absolute poverty. This finding shows that these objective and subjective deprivation indicators can diverge in later life, echoing existing evidence (Barrientos and de la Vega, 2011). There are significant differences in gender and age for the economic dimension. Older women as well as the oldest old are deprived on all indicators of economic deprivation compared to men and the youngest old. These results echo existing literature that older women and the oldest old fare worse economically and suggests the need to target these vulnerable groups.

The dwelling dimension was constructed using indicators showing a poor quality dwelling, if the older person did not feel safe in their community and their subjective assessment of their living conditions. A third of older people (32%) did not have any indicators of deprivation for this dimension, with only four per cent being deprived on all three indicators. There was little overlap with the indicators suggesting that there are numerous areas to be addressed in order to improve wellbeing for older people in terms of their dwelling and their area of residence. There are significant gender and age differentials for the dwelling dimension. Larger proportions of older women and the oldest old are deprived on all three indicators compared to older men. This finding suggests that these two sub-groups may need targeting, particularly for improvements to their dwelling and feeling of security within the slums.

The health dimension was constructed using self-rated health status, access to food, and level of mobility of the older person. Over half of the older people in the slums had no indicators of deprivation for the health dimensions. There was little overlap in the indicators. Interestingly, 28 per cent of older people struggled with ensuring they had enough to eat but were not deprived on the other dimensions; this underlines the suggestion from the Slum Care Home (2009) that food security is a key issue for older people. Differences in indicators for the health dimensions are statistically different by gender and age. Larger proportions of older men and the youngest old do not experience deprivation on any of the health indicators.

The community participation dimension was constructed using indicators to signify the older person's assistance to their community as well as their membership of a self-help group. Of the older people, 40 per cent are deprived on all three indicators of this dimension. There are significant gender and age differences. Interestingly, a larger proportion of older women have no indicators of deprivation for this dimension compared to men (18% to 15%). Of the oldest old, 58 per cent are deprived on all three

indicators of community participation deprivation compared to the youngest old (18%). These findings suggest that the oldest old may need targeting to encourage community participation as well as older men.

In order to explore the dimensions in greater depth, their complexity was reduced by creating a poverty threshold for each dimension. Of the three indicators for each dimension, if an older person was deprived on at least two of these indicators they were considered to be severely deprived. The usual gender and age patterns were found to be statistically significant for severe deprivation on each of these dimensions. Larger proportions of older women were severely deprived on the economic, dwelling and health dimensions compared to men (statistically significant difference). Larger proportions of the oldest old were severely deprived on all four dimensions compared to the youngest old (statistically significant difference). Again, this indicates that these two sub-groups may need specific targeting.

The different dimensions were combined to establish the multidimensional nature of severe deprivation among older people in the slum settlements. There was great complexity in how the dimensions overlapped but the gender and age patterns were borne out again, with older women and the oldest old found to be more disadvantaged than older men and the youngest old. As such, policies need to consider targeting these groups to ensure that their wellbeing is improved. However, formal policies to affect improvements in wellbeing may take some time to implement. A more immediate source of support for older people is their families and the support they receive from external organisations in the slums. The next chapter looks at absolute poverty and multidimensional wellbeing by different sources of support to explore how many people receive these types of support and to highlight where further interventions are required.

9. Sources of Support for Older People in the Slums

This chapter builds on the poverty and multidimensional wellbeing findings from previous chapters and explores how these experiences of hardship are associated with various sources of support received by older people. The chapter also highlights the important role older people play in patterns of support through the contributions they make to their families. The chapter firstly looks at how sources of support vary among older people by their gender and absolute poverty status; the support explored is from families, external sources of support and pension receipt. The chapter then moves on to consider how these sources of support vary for the different dimensions of deprivation experienced by older people.

9.1 Introduction

Chapter 4 explored the country context and showed that pension coverage was limited in Kenya in 2006, with only three per cent of older people reported to be receiving any pension income (Kakwani et al, 2006:2). Section 4.1.3 explored social protection for Kenya and noted that formal support mechanisms were limited for older people, although there has been recent progress in incorporating their needs into various policies (MGCSD, 2009). Since the data for this study were collected in 2006, the Kenyan government has introduced a cash transfer to older people. Although the effect of this on poverty reduction cannot be assessed in this study, it is useful to consider how this cash transfer could impact on older people in absolute poverty in the slums.

External organisations were highlighted by the Kenyan government as being important sources of support for older people (Republic of Kenya, 2012). There was evidence in the slums that external organisations played an important part in ensuring wellbeing for older people. The Slum Care Home supported 34 destitute older people as well as a wider group of older people from the slums who would come to the home to receive food hand-outs (Slum Care Home, 2009). HelpAge Kenya had also worked with older people in urban areas to ensure that they had employment opportunities (HelpAge Kenya, 2009). It is therefore useful to consider the role that external organisations play in supporting older people.

In a recent government review on social protection in Kenya, the family was highlighted as an important source of support for older people with the Kenyan government

suggesting that informal support needed to be strengthened (Republic of Kenya, 2012). Previous research has highlighted the important role played by the family in supporting older people in SSA (Najjumba-Mulindwa, 2003; Ondigi and Ondigi, 2012). As such, it will be important to analyse whether older people in the slums benefit from family support, especially if they are in poverty or experiencing multiple deprivations. In addition to this, studies on familial support for older people in SSA have highlighted the important role older people play in supporting their own families, whether through cash transfers, caring for a family member with HIV/AIDS or caring for dependent children (WBPA Zambia, 2007; Chepngeno-Langat, 2012). As such, it will be important to consider the reciprocal nature of support among older people and their families. This chapter addresses the research questions:

- How do sources of support among older people in the slums vary by gender and absolute poverty status?
- How does support given to and received by older people relate to their levels of wellbeing?

The chapter aims to establish whether or not older people receive different sources of support, by gender and absolute poverty status, and will highlight where further support is needed for those older people who are experiencing particular hardship. However, the analysis is limited for this chapter as it does not allow us to determine whether the support received by older people has lifted them out of poverty. In order to analyse this, it would be necessary to know the monetary value of any transfers received by the older person before (ex-ante) or after (ex-post) receipt (Falkingham et al, 2009). However, general conclusions can be drawn which can hint at whether the support received is playing an alleviating role in terms of poverty reduction. A future survey could collect more detailed information on support received to determine the extent to which receipt of support can alter poverty status

9.2 Sources of Support in Later Life in the Slums by Absolute Poverty Status

As well as the household level information for older people, it is also important to consider their individual level information in terms of the sources of support they can rely on in later life. Despite the rise of institutional care and formal provision for older people in developed countries, the main focus of support for the older person both here and especially in developing countries is on the role of the family (UNFPA, 2002;

Aboderin, 2004a; Clarke et al, 2005; Zimmer and Dayton, 2005; Keizi, 2007). The family continues to be the main unit of care for older people although there are questions as to whether older people receive more formal sources of support, such as a pension or provision from NGOs and charities. This section explores whether older people receive these different sources of support.

9.2.1 Support Received by Older People

Of those older people who have children, there are differences in the type of support they received from their children (table 9-1, detailing row percentages). Just over a fifth received cash from their children each month (21%). It is difficult to ascertain if this cash is received from their children in another household, therefore acting as a source of income for the older person's household. On the other hand, for example, if the older person and the child reside together, with the older person as the household head, the cash could be counted as a general salary payment in the household income information.

There are gender differences in the receipt of support from children. Older women made up a larger proportion of those older people who received cash from their children (42%) compared to those older people who did not receive cash (33%). On the other hand, older males made up a smaller proportion of older people in receipt of cash from their children, compared to those who were not in receipt of cash (58% to 67%). The proportion of older people receiving cash from their children who are in poverty is similar to the proportion of older people who are not receiving cash from their children but are also in poverty (63% to 66%). This finding indicates that receipt of cash from children may not be significant in reducing poverty for older people in the slums.

A fifth of older people also received support with their healthcare from their children (20%). Again, there are gender differences here; older women constitute a larger proportion of those in receipt of support with healthcare from their children compared to those who are not in receipt (44% to 32%) whereas this relationship is the opposite for older men (56% to 68%). Of those older people who received support with their healthcare from their children, 70 per cent were in poverty compared to 64 per cent of those older people who were who were not receiving help with their household chores. This finding was statistically significant indicating that assistance with healthcare from children may be an important source of support for older people in poverty.

It is important to consider different sources of support for older people, including those that are non-monetary. Although these types of support may not have a poverty

alleviating effect, they may still be important for the day to day welfare of the older person. Of the older people in the slums, 61 per cent receive assistance from their children with their household chores each month. This supports the idea that children provide functional support to their parents (Li et al, 2009). Interestingly, there was a statistically significant difference in receipt of support with household chores according to poverty status. Of those older people in receipt of assistance with household chores, 70 per cent were in poverty. However, of those older people who were not receiving assistance, only 58 per cent were in poverty. This finding may reflect that older people in poverty are more likely to be in the oldest age groups (as shown in section 6.5.2) and may thus be less mobile and in poorer health, which could make it difficult for them to perform their household chores without assistance.

Table 9-1 Sources of support for older people by gender and poverty status

Variable			Freq. (N)	Total (%)	Male (%)	Female (%)	Not in Absolute Poverty (%)	In Absolute Poverty (%)
Receives support from children in terms of (N=1,880)	Cash	No	1,479	78.7	67.3	32.7	34.4	65.6
		Yes	401	21.3	57.6	42.4***	36.7	63.3
	Healthcare	No	1,509	80.3	67.6	32.4	36.1	63.9
		Yes	371	19.7	55.8	44.2***	29.7	70.3*
	Household chores	No	743	39.5	65.1	34.9	42.0	58.0
		Yes	1,137	60.5	65.3	34.7	30.2	69.8***
Receives support from relatives (N=1,950)	No	1,737	89.1	65.8	34.2	35.5	64.5	
	Yes	213	10.9	55.3	44.7***	33.0	67.0	
Receives support from external organisations (N=434)	No	302	69.6	55.0	45.0	35.6	64.4	
	Yes	132	30.4	29.9	70.1***	23.0	77.0**	

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: Some Ns for variables are lower than the analytical sample size of 1,950 due to non-response on certain question; * p<0.05 ** p<0.01 *** p<0.001 indicates a significant association between gender and variable or poverty status and variable

Eleven per cent of older people received support from their relatives which hints at the operation of wider family support networks. Of those older people who received support from their relatives, 45 per cent were females compared to 34 per cent of those who did not receive support. Conversely, older males made up a smaller proportion of those who received this form of support compared to those who did not (55% to 66%).

Existing evidence, as highlighted throughout this thesis, indicates that older women are particularly vulnerable to poverty risks (Saunders and Lujun, 2006; Najjumba-Mulindwa, 2003; Evans et al, 2005). It is therefore interesting to find this gender

differential. There was little difference in receipt of support from relatives by absolute poverty status.

The respondents were asked in the SSHOWOP survey (2006) if they were aware of organisations or groups that provided assistance such as financial, material, or emotional support to older people in the community; 434 (22%) were aware that there were organisations in the slums which they could go to for support (analysis not shown here). Of these 434, only 132 people (30%) had actually received support from an external organisation. This figure equates to seven per cent of all older people being in receipt of this support. This limited take up of assistance from external organisations may be because older people do not know about the existence of these organisations – only 22 per cent of older people were aware of the presence of these organisations in the slum settlements. However, it could also be due to the perceived social stigma attached to claiming from charity and being unable to provide for oneself (Schröder-Butterfill, 2004). Organisations which were highlighted by the older people in the slums included the Catholic Church or nuns (70 per cent of people of those who received support received it from this source); other religious groups and churches were also mentioned with a small number of people using women's groups and HIV/AIDS groups.

In terms of the older people in receipt of support from external organisations, a higher proportion is women compared men (70% compared to 30%). The gender split for those older people not in receipt of this type of support is closer (males: 55%, female: 45%). This finding indicates that support from external organisations may be more important for older females compared to older males. There is a significant statistical difference in receipt of this support by poverty status. More than three quarters of older people (77%) who received this assistance from an external organisation were in poverty compared to 23 per cent not in poverty. For those older people not in receipt of support from external organisations, the difference in the proportions of those in poverty and those not in poverty is smaller (65% to 35%). This finding is interesting and suggests that the support given by external organisations is still not enough to bring older people in the slums out of poverty.

9.2.2 Support Provided by Older People to their Families

Although older people may receive support from their family members, it is important to highlight that they also provide support and that this arrangement is reciprocal (table 9-2, detailing row percentages). Support tends to flow both ways and is of an intergenerational nature with older parents often providing financial support to their

adult children, assistance with household chores, childcare support or an advisory role (UNFPA 2002; Clarke et al, 2005; Zimmer and Dayton, 2005; Verbrugge, 2008; Wangmo, 2010).

Over half of older people in the slums give their children financial support (56%) and 68 per cent give material support, which could greatly affect the poverty status of an older person's household. This finding also indicates the important role older people play in helping to provide for their families. Interestingly, the majority of support provided by older people to their children falls into the category of advice/counselling (83%) which demonstrates the important cultural role that older people play in guiding their family members and passing on their knowledge. Just under a third of older people (31%) give assistance with caring for their grandchildren. A small proportion also give assistance with education and schooling costs (10%).

There are significant gender differentials in the support given to children by their older parents. These differentials appear to be split along traditional gender lines with males more likely to provide support connected to money such as financial and material support as well as assistance with education/schooling and healthcare. They are also consulted for their advice and counsel more so than women. Conversely, women have an increased likelihood of caring for grandchildren or assisting with household chores. This finding indicates the important role played by older people in assisting their families, regardless of their own poverty state. There are some significant differentials in assistance provided to children according to the poverty status of the older person. Providing assistance with caring for grandchildren as well as assistance with domestic chores was significantly associated with being in poverty, for the older person. Conversely, of those older people who were not giving advice or counsel, a larger proportion was in poverty compared to those who were giving advice or counsel (71% to 64%).

Table 9-2 Support from older people to their families, by gender and poverty status

<i>Variable</i>			<i>Freq. (N)</i>	<i>Total (%)</i>	<i>Male (%)</i>	<i>Female (%)</i>	<i>Total (%)</i>	<i>Not in Absolute Poverty (%)</i>	<i>In Absolute Poverty (%)</i>	<i>Total (%)</i>
Older person assists child with (1,904):	Financial support	No	830	43.6	53.1	46.9	100	33.3	66.7	100
		Yes	1,074	56.4	74.6	25.4***	100	36.3	63.7	100
	Caring for their children	No	1,324	69.5	71.2	28.8	100	37.1	62.9	100
		Yes	580	30.5	51.7	48.3***	100	30.2	69.8**	100
	Domestic chores	No	1,612	64.7	70.0	33.0	100	36.3	63.7	100
		Yes	292	15.3	55.5	44.5***	100	27.5	72.5**	100
	Material support	No	603	31.7	46.4	53.6	100	33.6	66.4	100
		Yes	1,301	68.3	74.0	26.0***	100	35.6	64.4	100
	Advice/counselling	No	330	17.3	49.2	50.8	100	28.8	71.2	100
		Yes	1,574	82.7	68.6	31.4***	100	36.3	63.7**	100
	Education/schooling	No	1,722	90.4	64.0	36.0	100	35.2	64.8	100
		Yes	182	9.6	76.6	23.4***	100	33.3	66.7	100
	Healthcare	No	1,887	99.1	65.1	34.9	100	35.0	65.0	100
		Yes	17	0.9	78.5	21.6	100	30.9	69.1	100
Provided care to chronically ill person in last 3 years (N=1,950)	No	1,724	88.4	64.9	35.1	100	34.8	65.2	100	
	Yes	226	11.6	62.7	37.3	100	38.7	61.3	100	
Caring for a non-biological child under 15 years (N=1,948)	No	1,458	74.8	69.3	30.7	100	36.3	63.7	100	
	Yes	490	25.2	50.8	49.2***	100	32.0	68.0*	100	

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: * p<0.05 ** p<0.01 *** p<0.001 indicates a significant association between gender and variable or poverty status and variable

Twelve per cent of older people in the slums have cared for a chronically ill person in the last three years. There is little gender differential in caring for a chronically ill person, and little difference by poverty status. Caring for a chronically ill person will inevitably have incurred costs which can be expensive when related to healthcare. The expenditure information at the household level suggests that 20 per cent of households containing an older person have spent money on healthcare in the last month. If an older person is still caring for a chronically ill person, it is possible that their household would have allocated money for healthcare costs. Health issues of close family members, and the care provision associated with this, may also play a part in dictating the support received by an older person from their adult children. Research has shown that older people often care for adult children with HIV/AIDS and their dependents too which has implications in terms of putting pressure on the older person to provide care but also taking away a potential form of support in the ill adult child (Ssengonzi, 2009; Dayton and Ainsworth, 2004).

HIV/AIDS related morbidity and mortality in the slum settlements are high; HIV prevalence is estimated at 11.5 per cent (APHRC 2008b) which is higher than the national prevalence of 6.7 per cent. Research has highlighted that there is increased pressure on older people to take care of their own adult children who have become infected with HIV (Degraft Agyarko, *et al.* 2000; Kakwani *et al.* 2006). As discussed earlier, the study sites display a higher rate of HIV prevalence than the national rate for Kenya and it is possible that if HIV prevalence increases, an increased number of older people will become carers and thus their risk of poverty may increase. Although financial support from healthy children will be important in this situation, more formal provision in the form of more affordable and better developed health and social care systems could be strongly argued for as a way to ensure that multi-generational households, which are headed by an older person who is caring for a chronically ill member, are not in poverty.

Additionally, a quarter of respondents (25%) had raised non-biological children *in addition* to their own children, reflecting the common practice of fostering children out in parts of sub-Saharan Africa (Nelson 1987; Isiugo-Abanihe 1991). There is a gender differential in the care provision for non-biological children. Older women constitute a larger proportion of those older people who have raised a non-biological child compared to those who have not (49% to 31%). There is a slightly significant difference in the poverty status of those who provide care to a non-biological child. Of those who provide care, 68 per cent are in poverty compared to 64 per cent who have not

provided care. Provision of care to children may incur additional costs which may impact on the poverty status of the older person.

Patterns of financial reciprocal support show interesting findings with almost half of older people just giving to their children (45%) and not in receipt of support (table 9-3, detailing row percentages). A third of older people neither gives nor receives which raises questions as to the other support mechanisms they have in place. There are gender differences within this. Men are more likely to give financial support only compared to women who are more likely to receive only. Interestingly, there are very few differences in financial reciprocity by poverty status.

Table 9-3 Reciprocal financial support among older people and their families, by gender* and poverty status**

Financial Reciprocity (1,869):	Freq. (N)	Total (%)	Male (%)	Female (%)	Total (%)	Not in Absolute Poverty (%)	In Absolute Poverty (%)	Total (%)
Receive and Give	217	11.6	67.2	32.8	100	39.8	60.2	100
Receive Only	183	9.8	45.9	54.1	100	33.4	66.6	100
Give Only	846	45.3	76.4	23.6	100	35.3	64.7	100
Neither Give Nor Receive	623	33.3	55.9	44.1	100	33.3	66.7	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: *** p<0.001 indicates a significant association between gender and reciprocity (not significant for poverty status and reciprocity)

9.2.3 Pension Receipt in Later Life

Interestingly, over a quarter of older people have contributed to a pension scheme of some kind (26%) and ten per cent have received some kind of payment from this (table 9-4, detailing row percentages). The figure of 26 per cent of older people contributing to pension schemes is fairly high as the coverage of pensions throughout Kenya is fairly low (Republic of Kenya, 2012). It may be that people are members of a pension scheme but are not currently contributing (MGCSD, 2009).

There is a strong statistically significant difference for gender and contribution; of those older people who have contributed to a pension scheme, 93 per cent are male and only seven per cent female. This gender difference is much closer for those older people who have not contributed to a pension scheme (males: 58%; females: 42%). This difference is repeated for receipt of pension with 90 per cent of those receiving a

pension being male and only 10 per cent female. Conversely, the gender difference between the proportion of older people not contributing was closer (males: 62%; females: 38%). These findings underline that women are excluded from this formal support mechanism (Kakwani et al, 2006) and that more needs to be done to ensure their inclusion in the system.

Table 9-4 Distribution of gender and poverty among those older people who contribute or receive a pension, by gender and poverty status

	Freq. (N)	Total (%)	Gender			Poverty status		
			Male (%)	Female (%)	Total (%)	Not in absolute poverty (%)	In absolute poverty (%)	Total (%)
Contributes to pension scheme:								
No	1367	74	58.5	41.5	100	32.3	67.7	100
Yes	476	26	92.8	7.2***	100	45.5	54.5***	100
Receives pension:								
No	1748	90	61.7	38.3	100	34.3	65.7	100
Yes	202	10	90.3	9.7***	100	42.8	57.2*	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: * p<0.05 *** p<0.001 indicates a significant association between gender and variable or poverty status and variable

Of those who contribute to a pension scheme, 55 per cent are in absolute poverty with 45 per cent not in poverty (difference is statistically significant). Conversely, more than two thirds of those not contributing to a pension are in poverty compared to 32 per cent not in poverty. This finding is interesting and suggests those older people in poverty are actively trying to improve their financial circumstances by saving money for their old age. There was also a difference in pension receipt and absolute poverty status with 57 per cent of those receiving a pension in absolute poverty and 43 per cent not in absolute poverty (difference is statistically significant). Conversely, of those older people not in receipt of a pension, 66 per cent were in poverty compared to 34 per cent not in poverty. This finding suggests that the receipt of a pension may help in alleviating poverty as the proportion receiving a pension who are in poverty is lower than the proportion who are not receiving a pension but are in poverty (57% to 66%). In order to further explore the impact of the pension on the older person's poverty status, it is necessary to know the frequencies and amounts of pension which are received by

the older person. As this level of detail is not contained in the dataset, it is not possible to ascertain the pension impact on poverty.

As has been highlighted in section 4.1.3.3, a cash transfer has been implemented in Kenya. However, when the data were collected in 2006 it was not yet in place. The pension schemes referred to here are contributory schemes. There are a variety of contributory pension schemes of which older people contributed to and receive from. The majority of older people (89.4%) who contributed to a pension scheme were paying into the National Social Security Fund (NSSF) only, which was the main contributory scheme in 2006. Seven per cent were contributing to both the NSSF and another scheme, meaning 96 per cent were contributing to the NSSF. The other scheme was mainly the National Hospital Insurance Fund (NHIF) which registers all eligible members from both the formal and informal sector. This scheme is not a pension scheme and covers health insurance; this indicates that there may be some confusion among older people in the slums as to whether they were contributing to a pension scheme. Just over one per cent contributed to a scheme that was not the NSSF and just over two per cent did not state which scheme they contributed to.

Almost ten per cent of all older people in the slums have received a pension payment (9.7%). It is difficult to determine where in the household income information a pension would be categorised. Only one household containing an older person stated that they had received pension as income, and they stated this in the 'other' category. Alternatively, it is possible that the pension received by an older person could be allocated specifically for the older person's consumption and may not be shared with the household.

Interestingly it is also possible to have contributed to and received a pension. This may be possible as the older people were asked if they had ever contributed to a pension scheme (not if they were currently contributing) and then asked if they had received a payment. This means that an older person could have contributed to a pension scheme, such as the NSSF, in the past and that they had since retired, so they had received their lump sum payment. Unfortunately, the information for pensions is not detailed enough to allow for clarification of this. There is also no information on how much the older person receives for their pension and the frequency with which they receive it.

9.3 How does Support Given and Received by Older People Relate to their Levels of Wellbeing?

The dimensions of wellbeing discussed in the previous chapter have shown some interesting results. As these dimensions are highlighting how older people experience severe deprivation, it is important to set this in the context of their own support patterns. The following section explores the support given and received by older people according to whether they are severely deprived on the four different dimensions of wellbeing. The aim is to further understand the complex interactions of multidimensional wellbeing and support within the lives of the older slum dwellers.

9.3.1 Familial Reciprocity

The familial reciprocity variable highlights how older people give and receive support from their family members (children and other relatives) within the two slums. This support can take many forms ranging from giving financial assistance to assisting with household chores. Unfortunately, the SSHOWOP (2006) survey did not ask details about the levels and amounts of support so it is not possible to get a more detailed picture of how the support impacted on poverty, and whether it helped to reduce poverty. It should be noted that there were 3.4 per cent of older people who were childless. As such, the inclusion of support patterns with other relatives will highlight whether they are receiving familial support. Analysis exploring whether childless older people experienced familial reciprocity found that they were either receiving support only (24%) or receiving and giving support (76%). This finding shows that although they did not have children to support or to be supported by, these childless older people utilised wider family networks.

Familial reciprocity is contrasted with being severely deprived for each dimension, shown in table 9-5 (detailing column percentages). The results suggest that the experience of giving and receiving familial support is connected to the deprivation experienced on the economic, health and community participation dimensions (the differences are statistically significant). For the economic dimension, of those older people who were only receiving support, a larger proportion was severely deprived compared to those older people who were only giving support (61% to 47%). These findings for the economic dimension indicate that although older people may be receiving support from their families, these transfers may not be enough to prevent them from being deprived on this dimension. Interestingly, of those older people who neither gave nor received support, 71 per cent were severely deprived. This result

suggests that this lack of familial support may impact on the experience of severe economic deprivation.

For the health dimension, of those older people who are only receiving support from their families, 20 per cent are severely deprived whereas seven per cent of those older people who give support only are severely deprived. This finding may indicate that those older people who provide familial support only have a better experience in terms of their health compared to those who only receive support.

Table 9-5 Percentages of familial reciprocity for older people within severe deprivation of dimension

<i>Dimension</i>	<i>Severely Deprived or Not</i>	<i>Reciprocity (N=1950)</i>			
		Receive and give	Receive only	Give only	Neither give nor receive
Economic***	No	50.7	39.4	53.1	28.6
	Yes	49.3	60.6	46.9	71.4
	Total	100	100	100	100
Dwelling	No	78.6	79.5	79.7	67.9
	Yes	21.4	20.5	20.3	32.1
	Total	100	100	100	100
Health***	No	89.0	80.5	92.6	78.0
	Yes	11.0	19.5	7.4	22.0
	Total	100	100	100	100
Community Participation***	No	44.6	49.9	31.4	25.3
	Yes	55.4	50.1	68.7	74.7
	Total	100	100	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006;

Note: *** $p < 0.001$ indicates a significant association between dimension deprivation and reciprocity

For the community participation dimension, a larger proportion of those who were giving only were severely deprived compared to those who received only (69% to 50%). This finding may indicate that receipt of familial support has a beneficial effect for community participation. However, where older people are strong contributors to their families, their community participation levels may be lower. These older people may place greater emphasis on familial networks as opposed to involvement in wider community initiatives. For those older people who neither give nor receive support, a larger proportion is severely deprived (74%) compared to those who both give and receive support (55%). This finding indicates that there may be a segment of the older population who are benefiting from neither familial support nor community participation, which indicates a level of social isolation. In order to counter their deprivation, these older people may have other support networks in operation rather than familial

reciprocity and community participation; however, they may be in need of other initiatives to improve their wellbeing.

Variables looking at care provision by an older person to a non-biological child or a person with a long-term illness were also explored in terms of how they relate to deprivation. Literature has suggested that care provision of dependent children or of chronically ill people, such as those with HIV/AIDS, can negatively impact on older people so it is important to consider how these variables could impact on the wellbeing of the older slum dwellers (Degraft Agyarko et al, 2000; Nhongo, 2004; Kakwani et al, 2006). However, the results showed that neither of these variables was significantly associated with deprivation, so they have not been included in the thesis.

9.3.2 Support from External Organisations

Familial reciprocity is strong within the two slum settlements but other forms of support for older people may also be important. This section looks at how the receipt of support from external organisations differs for older people who are severely deprived on each dimension (table 9-6, detailing column percentages). Of those older people who received external support from an organisation, 80 per cent were experiencing severe economic deprivation. However, of those who were not receiving support, only 48 per cent were economically deprived (this difference was statistically significant). This finding suggests that receipt of support from external organisations may be important for older people who are economically deprived but it is not enough to ensure that they avoid deprivation.

Of those older people who were receiving support from an external organisation, 32 per cent were deprived in terms of their dwelling compared to 21 per cent of those who were not in receipt of support (difference statistically significant). This finding is also mirrored for the health and community participation dimensions, although it is only statistically significant for the health dimension.

It is interesting that the risk of deprivation remains high for older people across all four dimensions, even with support from an external organisation. This finding raises the question of how useful this support is in improving wellbeing for older people in this context; although it can also be argued that without this external support, older people deprived on the economic, dwelling and health dimensions may be in a worse situation. Without knowing in more detail the levels and values of support received by older people, it is difficult to determine whether this support is making a difference to their

wellbeing. The finding highlights that future surveys should ask about the levels and values of support received by older people in the slums.

Table 9-6 Experiences of having severe deprivation for different dimensions, compared with support from external organisations

<i>Dimension</i>	<i>Severely Deprived or Not</i>	<i>Receive Support from External Organisation (N=1950)</i>	
		<i>No (1815)</i>	<i>Yes (N=135)</i>
Economic***	No	51.6	20.2
	Yes	48.4	79.8
	Total	100	100
Dwelling**	No	79.2	68.3
	Yes	20.8	31.7
	Total	100	100
Health***	No	89.7	74.7
	Yes	10.3	25.3
	Total	100	100
Community Participation	No	41.7	37.6
	Yes	58.3	62.4
	Total	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: ** p<0.01, *** p<0.001, indicates a significant association between dimension deprivation and receipt of support from external organisations

9.3.3 Pension Receipt

There is little formal support for older people in Kenya. The pension system is linked to formal employment, whereas the majority of older people in the slums are not in formal employment. The data used in this study were also collected prior to the implementation of the cash transfer scheme in 2009. It is therefore difficult to determine what impact formal social policies have had on older people in the slums. A minority of older people have received a pension in the slums (10%) however it is interesting to explore how this receipt is related to their experience of deprivation across the different dimensions (table 9-7, detailing column percentages). Existing literature indicates that pension receipt can significantly improve wellbeing for older people in SSA (Ferreira, 2006; Moller, 2011).

Table 9-7 Experiences of severe deprivation for different dimensions, compared with pension receipt

<i>Dimension</i>	<i>Severely Deprived or Not</i>	Receive Pension (N=1950)	
		No (1748)	Yes (N=202)
Economic	No	49.2	52.4
	Yes	50.8	47.6
	Total	100	100
Dwelling	No	78.5	78.6
	Yes	21.5	21.4
	Total	100	100
Health**	No	88.0	94.3
	Yes	12.0	5.7
	Total	100	100
Community Participation	No	41.6	39.7
	Yes	58.4	60.3
	Total	100	100

Source: Author's own analysis of combined NUHDSS data file, 2006

Note: ** $p < 0.01$, indicates a significant association between dimension deprivation and receipt of support from external organisations

The only statistically significant difference for deprivation and pension receipt was for the health dimension. Of those older people who received a pension, 5.7 per cent experienced deprivation in terms of their health compared to 12 per cent of those older people who did not receive a pension. This result suggests that receipt of pension may have a positive effect on health wellbeing for older people. The differences across other dimensions were negligible. This result is interesting for the economic dimension as literature suggests that pension receipt is connected to better economic wellbeing (Moller, 2011). It would be informative to analyse the impact of the cash transfer programme, to assess whether this has had an effect on improving economic wellbeing for older people in the two slums.

9.4 Conclusion

Poverty and multidimensional deprivation were found to be high among older people in the slum settlements. As such, it was important to analyse how poverty and deprivation were associated with sources of support received by older people, as well as the support they gave to their families. The transfer of money between family members adds a level of complexity to the analysis as it is difficult to determine how these transfers have been allocated. The lack of individual data on the amount and frequency

of these makes interpreting their importance for the older person more difficult. It may be that the payments are heavily relied upon or it may be that they supplement existing income.

The family is an important source of support for older people in the two slum settlements and older people are also important in providing for their families, hinting at strong intergenerational support flows. However, it is important to note that some of the transfers from family members to older people did not seem to be enough to lift the older person out of poverty. In terms of reciprocal familial exchanges, older women seemed to rely more on only receipt of support from their families whereas men tended to give support only. Women also benefit more from support from their relatives, as opposed to men. The gender divide in the support provided to children by older people is along traditional lines with older men associated with financial and material support and women associated with caring and domestic roles.

Familial reciprocity has also been connected to the different dimensions of wellbeing with the economic, health and community participation dimensions associated with reciprocity. This finding indicated the complexities of familial reciprocity among older people and also highlighted a group of older people who were severely deprived on the community participation dimension as well as lacking familial support; this result suggests this group may be vulnerable to social isolation. Future work will want to explore the amounts and frequencies of this support to gain greater understanding of the role reciprocity plays in reducing poverty and deprivation among families.

External organisations were highlighted as important sources of support for older people in the slums. These organisations were particularly associated with use by women but interestingly, this additional support did not lift them out of poverty. Support from external organisations was also associated with being in absolute poverty as well as being severely deprived. This finding underlines their greater need for support given their low level of wellbeing but also highlights that this support is not enough to raise them above the poverty line or to improve their deprivation on any dimension. In-depth analysis of the types of support received and the amounts would help to clarify this picture. In addition to this, only 22 per cent of older people in the slums were aware of the existence of these organisations suggesting that efforts to raise awareness of them may allow other people to access the support. However, the problem with this is that resources among these organisations may be relatively low already, so further dependence on the provision from a greater number of older people may not be feasible. The Kenyan government has highlighted that these external organisations are

an important part of the support system for older people and that they should be further strengthened (Republic of Kenya, 2012). If this were to happen, there could be a positive impact on the poverty and deprivation of a larger number of older people in the slums.

As has been highlighted throughout the thesis, pension coverage and receipt in Kenya is low (Kakwani et al, 2006). Interestingly, levels of contribution are high in the slum settlements, although it is questionable as to whether the survey question asking about pensions has been correctly understood. A small proportion of the older people had contributed to a health insurance fund. However, the majority (96%) had contributed to the NSSF, indicating that their response was valid as this was the main pension scheme in place in Kenya at the time of data collection in 2006. Another issue with the questions on pension contribution was that it focused on whether the older person had ever made a contribution to the pension scheme as opposed to whether they were active contributors at the time. If the older person has interrupted pension contributions, the lump sum paid to them on retirement will be smaller, and may not impact greatly on their poverty status. This issue may be borne out in that more than half of those older people who received a pension are in absolute poverty. However, the results suggest that a pension may help those older people who are in poverty, compared to not having it. Pension receipt may also have a positive impact on health wellbeing. The findings have, however, highlighted that women are more disadvantaged when it comes to pensions indicating that more needs to be done in terms of policy to create equality for pensions for people at older ages in the slums. The findings in relation to pensions highlight the limited information available for this in the dataset and indicate the need to collect more in-depth information in the future. Chapter 10 summarises the results of the thesis and considers the policy implications and future research directions based on the findings.

10. Discussions and Conclusions

This chapter brings together and discusses the results of the four research chapters, in four sections. The first section summarises the results and offers conclusions in terms of the research questions and the main findings. The following section acknowledges limitations of the research undertaken in this study. The third section discusses the policy implications of these results and how the evidence can be transformed into practical actions that will improve the lives of older people in the two slum settlements. The final section considers how future work could build on this research, both in terms of methods as well as substantive knowledge.

10.1 Addressing the Research Questions

Poverty rates in Kenya stood at 47 per cent in 2006 (Republic of Kenya, 2012:7). Poverty can affect all age groups of the population as it is a life course phenomenon but it has been shown to be closely associated with old age (UNFPA, 2002; Mugambe, 2006). The absolute number of older people over the age of 50 years in Kenya is predicted to double in the coming decades from three million in 2006 to almost eight million by 2030 (Velkoff and Kowal, 2007:8). This is a rapid increase in the absolute number of older people for a country with limited policies aimed at this group. Although steps have been taken in incorporating older people into policies at the national level in Kenya (MGCSD, 2009), there is a lack of robust evidence to inform policy-makers and ensure that their needs are addressed. Existing research has addressed the poverty and wellbeing experiences of older people in a rural area in Kenya (Ondigi and Ondigi, 2012). However, little is known about older people in this country, particularly those who reside in poor, urban settings.

This research has sought to address this dearth in knowledge by investigating poverty and wellbeing among older people in two Nairobi slum settlements. It aimed to measure absolute poverty as well as the broader concept of wellbeing to give an in-depth analysis of the lives of older people in this context. This research constitutes an original contribution to the literature in a variety of ways. The focus on the poverty and wellbeing of older people in a poor, urban setting in Kenya is unique. These findings are also an important contribution of robust evidence to the burgeoning gerontological literature in Africa, in terms of levels of poverty and wellbeing experienced and characteristics associated with these two concepts. More specific to the Kenyan, and even Nairobi, context; the poverty and wellbeing of older people is analysed in terms of

their existing support patterns which is an important first step in informing local government and NGOs as to the situation of older people in this environment.

This study offers an original contribution in terms of the data utilised. The data used for this study are unique in that they are taken from various surveys within a demographic surveillance system. This type of data collection allows for a wealth of information to be collected, both at the individual and the household level. Individuals and households can also be tracked over time allowing for the possibility of future follow-up work to explore changes in poverty and wellbeing over time. The detailed information collected for such a large number of older people in this context is also unusual and allows for robust evidence to be generated regarding their poverty and wellbeing.

The results of this study can also contribute to the methodological debates surrounding poverty and wellbeing generally but specifically for older people. The use of detailed household level monetary data for the older people in the two slums has allowed for the calculation of prevalence of absolute poverty which is also unique, as access to this information in contexts such as this is extremely rare, particularly for older people. As an extension of this, the analysis conducted on the sensitivity of poverty estimates to the equivalence scale used is novel and has not been investigated before in this context. The main contribution of the study is in the methodological conceptualisation and operationalisation of multidimensional wellbeing for older people in a poor, urban setting in Kenya. These findings offer interesting new insights into the experience of poverty and wellbeing for older people in urban settings in SSA and present a framework for how this analysis can be applied to similar research sites.

The research design for this study has initially taken a narrow approach to the measuring of poverty and wellbeing among older people in the two slum settlements. The first research question focused on exploring the income and expenditure sources of households containing an older person. This analysis highlighted that there were a variety of sources available but that there was no information at the household level about sources of income and expenditure specific to older people, such as pensions. The second research question took the household expenditure information and calculated an estimate of absolute poverty for older people in the two slum settlements (66%). This poverty rate is higher than the rate for the total slum population calculated by APHRC for the same point in time (62%) (WBPA Kenya, 2009). This finding supports existing evidence that disproportionately higher numbers of older people are in poverty compared to the total population (UN, 2009b; KNCHR, 2009; WBPA Kenya, 2009).

The third research question found a variety of demographic and socio-economic characteristics were associated with being in poverty, notably gender and age; these have also been highlighted by the wider literature as being connected with poverty in older ages (Zaidi, 2008; UN, 2009b). Multivariate analysis was then undertaken to explore these relationships further. The results showed that older women, those older people residing in larger households and those in the older age groups were significantly more likely to be in poverty. These findings echo results from existing studies on poverty and older people (Najjumba-Mulindwa, 2003; Saunders and Lujun, 2006; WBPA Kenya, 2009; Barrientos and Mase, 2010).

The fourth research question moved away from the absolute measure of poverty to use expenditure quintiles to explore relative poverty; it looked how the characteristics of older people living in the poorest 20 per cent of households differed from those living in the least poor 20 per cent of households. There is a large difference in household expenditure for the poorest and least poor older people in the slums. The average expenditure of the least poor 20 per cent of older people was 9.6 times that of the poorest 20 per cent. This finding highlights that there is inequality in expenditure for older people in the slums, with some older people having substantially less than others. In addition to this, greater proportions of women, the oldest old and those in the larger household sizes were in the poorest quintile. This result is important as it can allow for better targeting of those older people who are among the poorest in the slums.

The fifth and sixth research questions focus on the technical issues involved in calculating the poverty estimates. The fifth research question explored how changing assumptions about household size and composition can affect the poverty estimate produced. Several different equivalence scales were tested and there was some variation in the resulting estimates but that they remained fairly stable. Importantly, the sixth research question looked at the relationship between poverty and household size and whether this changed, depending on the assumptions made about compositional needs and economies of scale. It was not altered indicating that this relationship was not influenced by the assumption made by the researcher in adjusting for household composition and needs in constructing poverty estimates. As a result, this finding still provides reliable evidence for policy initiatives.

Ensuring older people are not living in absolute poverty remains a key aim for future policy initiatives in Kenya and more widely in developing countries. However, establishing their wellbeing across a variety of dimensions adds a greater depth and understanding to the individual ageing process of older people in this specific context.

In order to gain a better idea of differing wellbeing for older people, this was measured as deprivation on dimensions. This method was chosen because it is difficult to accurately measure how 'well' an older person is doing; it is not possible to know if they are completely well on a dimension as this would necessitate having all of the information to determine this wellbeing. However, it is conceptually more straightforward to discuss if an older person is deprived on a certain indicator or on a certain dimension. This measure gives policy implications as interventions can be established to stop the deprivation for the older person, thereby improving their wellbeing.

The seventh research question thus explored how wellbeing varied across the indicators for the four dimensions. There was a large overlap for the absolute poverty indicator and the subjective poverty indicator with 30 per cent of older people deprived on both of these indicators. There were less overlaps of indicators for the dwelling dimension and for the health dimension, although there were 28 per cent of older people who did not have access to food only and were not deprived on other indicators; this supports the problem of ensuring access to food in the slums (Slum Care Home, 2009). Two-fifths of older people were deprived on all three indicators of the community participation dimension indicating that more needs to be done to encourage community participation among older people in the slums.

To further understand these differences in wellbeing for older people in the two slum settlements, the eighth research question explored the differences in wellbeing according to gender and age. Women were disadvantaged in their deprivation in comparison to men for all dimensions apart from the community participation dimension. These results support existing evidence of older women's marginalisation and disadvantage in comparison to men (Zaidi, 2008; UNFPA, 2002). Disadvantages in wellbeing were also found for the oldest older people across all four dimensions, which also support existing literature and indicates this group is in greater need of policy targeting (Zaidi, 2008; UN, 2009b).

The ninth research question assigned a threshold for severe deprivation to each dimension; if the older person was deprived on at least two indicators of the dimension, they were severely deprived for that dimension. The focus was then on how dimensions overlap and explored the multidimensional nature of this severe deprivation. If the interactions between different dimensions of wellbeing can be understood, interventions can be put in place to improve wellbeing that may cut across more than one dimension. The findings for this research question were that

experiencing severe deprivation on all four dimensions was not common, with only two per cent of older people deprived on all four. However, 15 per cent were deprived on at least three dimensions. This deprivation differed by gender and age with larger proportions of women and the oldest old deprived on three or more dimensions compared to men and the youngest old. These two demographics are again highlighted as being more vulnerable and in need of targeting.

The tenth research question focused on the types of support that older people relied on and looked at these by gender and poverty status. Interesting patterns of support from the family were observed for older people, with women benefiting from support from relatives and their children. Older people also receive support from external organisations within the slums; women, as well as those older people in absolute poverty, receive this type of support, compared to men and those not in poverty. This finding indicates that the receipt of this support is not necessarily enough to lift an older person out of poverty. It would be interesting to look at poverty ex-ante (before the transfer of support) to determine if this made a difference; this type of support may need to be strengthened.

Pension coverage in 2006 for older people in Kenya was limited and was linked to formal employment (Kakwani et al, 2006). It is therefore surprising that ten per cent of older people in the slums have received some kind of pension; this may be connected to the understanding of what a pension scheme was in the survey. Women are more disadvantaged for pensions in terms of contributing to or receiving one. Of those older people who had received a pension, a smaller proportion was in absolute poverty compared to those who had not received a pension (57% to 66%). This finding suggests that pensions may be useful in reducing poverty. However, the contributions may be low, thus the final payment might be low; it is difficult to ascertain this without further information on the pension. Also, the NSSF (which 96% of pension recipients contributed to) pays the pension in a lump sum. This process may not be suitable in the slums for older people who have experienced long-term poverty and may need regular cash payments during their old age to ensure that poverty was avoided. It would be expected that recent research for older people would show these older people are benefiting from the cash transfer programme.

The final research question focused on patterns of support for older people and how these related to wellbeing. Those older people who neither give nor receive support have been highlighted as a potentially vulnerable group. This finding raises questions as to the support network relied on by these older people as their deprivation indicates

a need for support but they do not enjoy familial support. Other more formal sources of support are associated with multidimensional wellbeing. Assistance from an external organisation is important, particularly for those older people experiencing economic, dwelling or community participation deprivation.

10.2 Limitations of the Study

It is important to highlight the limitations of this study. The analyses are only conducted on cross-sectional data so there can be no definite interpretation as to the direction of relationships between different variables, which can limit the impact of the results and make deriving a targeted-policy more challenging. A component of longitudinal analysis would have greatly improved these analyses and expanded on the results. However, the data source utilised is very rich so a decision was taken to give full attention and in-depth analysis to the cross-sectional data. The data collection method allows for the longitudinal analysis of the data at a future time point.

The analysis is limited for this research as it is applying household level data to the individual level. This method has been utilised elsewhere in poverty analysis among widows and has been suggested as limited:

“Given that intra-household distribution is often far from equal, and also varies a great deal between different households, household data on consumer expenditure provide a rather blunt informational basis for the investigation of individual well-being” (Dreze and Srinivasan, 1997:218)

However, it is widely recognised that this is a common approach to obtaining poverty estimates (Deaton and Zaidi, 2002; World Bank, 2004). Little data exists at the individual level which properly captures the needs and allocation of resources among individuals within households (Deaton and Paxson, 1997; World Bank, 2004). The complex nature of household exchanges makes this process extremely challenging and the logistics of obtaining the information, in terms of time and cost, are too large; especially if information was to be obtained for enough people in order that the results might robustly inform policy. The multidimensional study design is used to check the validity of the household level information as it incorporates individual level information, allowing for more detailed comparisons of the wellbeing of older people.

There are also difficulties in not having individual level data for expenditure as household members will have certain individual needs. This research aimed to explore poverty among older people, yet it is difficult to account for the individual needs of an

older person within a household (Nicholson, 1976; Pal and Palacios, 2006). As such, specifying household resource allocation whilst taking this into account is not feasible. Older people may have different needs to working age adults in terms of their food consumption and use of shared household goods (Deaton and Paxson, 1997). In addition, they have individual income and expenditure which may not be accounted for in the pooled household information, such as healthcare payments and pensions. The differences in the objective absolute measure of poverty and the subjective poverty measure in the economic dimension of wellbeing highlights the disparity in the experience of poverty for the older person. In looking at the overlap of the three indicators for the economic dimension, 17 per cent of older people were only deprived on the subjective poverty measure suggesting that although they were not in absolute poverty, they felt their poverty situation was poor; this may indicate that at the household level, their wellbeing appears positive but that household allocation of resources may disadvantage them and so they feel poor. The inability to accurately incorporate the needs and subsequent allocation of household resources for an older person is a serious shortcoming in terms of poverty analysis for older people.

A further limitation may be that the true allocation of household resources is not known and so the correct poverty rate cannot be determined for the older people. The controversies due to equivalence scales mean that we cannot be sure whether the poverty estimates produced are definite or not (Deaton, 1997). This problem can potentially result in estimates being incorrect, which can give misleading conclusions and lead to incorrect policy recommendations (Coulter et al, 1992). As such, it is vital to check the robustness of estimates (Jenkins and Cowell, 1994). Sensitivity analyses have been conducted on the poverty estimates produced in chapter 6 which suggest that the results are still robust, as the same relationship between poverty and household size is mirrored across any assumptions for equivalence scales. This relationship is important in informing policy as it suggests larger households need to be targeted, even when different assumptions are made in adjusting for household composition and economies of scale.

Another limitation of this analysis is the lack of detail in the datasets. The household survey lacked in-depth information, especially in terms of details on household debt and whether or not households were in receipt of a pension through an older household member. Additionally, there were shortcomings in the individual dataset which collected information on the older person. There was limited information on the amount they earned and how their exchanges with their family, especially with their children, operated. Given that some of them may have been residing with children, this

information lacks the clarity to build an accurate picture of how the household income and expenditure linked to the individual sources of support, as recorded by the older person. Connected to this is the lack of detail in the pension information and for the levels and values of familial and external support received by the older person, at the individual level. There was no data on the frequency of payments, the amount of payments and for the pension, there is a lack of clarity in terms of the possibility that an older person could both contribute and receive at the same time.

There are a variety of measurement issues involving the conceptualisation and measurement of the wellbeing dimensions. There is no set information for how to measure different dimensions of wellbeing. It is informed by the existing concepts and evidence as well as the constraints of the data used. To ensure that the analysis of the wellbeing dimensions was as robust as possible, discussions with stakeholders regarding older people's wellbeing in the slums, and more widely in Kenya, were used. The choice of dimensions and indicators was also informed through existing literature. This has enabled the conceptualisation of dimensions which are common within the measurement of wellbeing, and specifically among older people.

The relationship surrounding employment and economic wellbeing has been shown to be complex. It is difficult to know whether older people are working because they enjoy work and view it as empowering, in relation to the active ageing framework, or because they face poverty if they are not employed, thus resulting in them having to work. However, the results suggest that the employment indicator could be rethought in terms of whether the direction of association is correct. A limitation of the method is that the relationship between employment and economic wellbeing may be working in the other direction. As such, it could be reversed to indicate that having a job is suggestive of being in poverty. However, it is difficult to know if this is really the case as some people may really enjoy their job and not want to retire. In this sense, it is difficult for the researcher to pre-judge and be definite about the direction of this relationship.

The finding that 40 per cent of older do not participate in their communities indicates the conceptual limitations for the community participation dimension. These respondents could be choosing not to participate. This reflects the measurement issue in that the researcher has made the conditions of participation prescriptive in that participation reflects wellbeing, when the older person may experience wellbeing through not participating. It could also be that the variables used as the indicators of community participation are not picking up all aspects of participation on the part of the older person. These may not adequately reflect the kind of social interaction highlighted

in other studies and could indicate the need for an improved and detailed dataset. Other variables such as the number of friends the older person has or their religious attendance could be more indicative of community participation. As such, there is a potential limitation of this dimension which could be addressed through further research.

The two slum settlements in Nairobi are specific contexts so these results cannot be generalised to all older people in all urban slums in SSA. However, these results can impact policy at the local level. Despite the shortcomings listed above, the dataset has yielded new information on an older population in an urban slum environment in SSA. Little is known about the monetary and non-monetary wellbeing of this group and this analysis, although limited, has contributed valuable information which may aid policy-makers and NGOs in assisting older people in the slum settlements.

10.3 Policy Implications

It is important to focus not only on national level estimates of poverty among older people and to compare between countries (Kakwani et al, 2006; Kakwani and Subbarao, 2007), but to investigate individual ageing and a wider concept of wellbeing in greater depth. Policies and programmes can then focus on the local level more specifically, targeting various dimensions of need. The aim of this research was to provide robust evidence detailing individual ageing in terms of poverty and wellbeing among older people in the two slum settlements and to suggest policies which can improve the situation for older people in this context. The different measures of poverty and wellbeing highlight the heterogeneous experiences of older people in the slums. As such, there cannot be one over-arching policy to improve the welfare of older people. Instead, the disaggregation through the different dimensions of wellbeing can better guide a multifaceted policy response.

As the sample is not nationally representative, the policy implications are more applicable at the local level. However, the findings could still be used to inform policy and research considerations in other places, both within Kenya and abroad. The results are useful for local government initiatives and could be used to target resources to groups who are more disadvantaged in terms of their poverty and wellbeing, such as older women and the oldest old. In addition to this, existing NGOs and charitable organisations that may have had difficulty in drawing attention to the plight of older people in poverty in the slums now have solid evidence on which to base their fundraising efforts and can use the results to support their own advocacy work. The

Kenyan government has recognised the need to promote and support charities and NGOs which work with older people (MGCSO, 2009). The recognition of high levels of absolute poverty among older people in the slums has the potential to raise the profiles of organisations such as HelpAge Kenya and the Slum Care Home, which particularly work with older people in poverty. This research can provide evidence to encourage more economic assistance to support their work.

Formal support mechanisms in Kenya are limited in coverage with few people saving for their old age (KNCHR, 2009); this is borne out in the results of this study with ten per cent of older people in the slums in receipt of a pension. Although this is a fairly high rate for Kenya, it is still coverage for all older people in the country. More could be done by the Kenyan government to increase awareness among the general population of the importance of saving for old age, in order to avoid poverty (KNCHR, 2009). For those people already in old age and unable to save, the introduction of the cash transfer programme is a positive action in trying to address the poverty experienced by older people in Kenya. There are 66 per cent of older people in the slums that live in absolute poverty and 45 per cent of older people were deprived on at least two dimensions of wellbeing. Fourteen per cent of older people in the slums overlapped on all three indicators of economic deprivation (figure 8-2). However, 30 per cent of older people overlapped on the absolute poverty indicator and on the subjective basic needs indicator. This finding suggests that if older people are in receipt of a cash transfer, they could be lifted out of absolute poverty which may also improve their subjective assessment of their economic wellbeing status. However, the government needs to do its utmost to ensure that there is no corruption in the system for administering it and that it is effective in all areas to ensure that it covers all older people who may be economically deprived.

Currently, older people are still not a priority group for policy initiatives in Kenya. This situation could be changed by considering how policies can be value-added; thus, how other age groups can be incorporated into them or shown to be benefiting from them. Living in larger households for older people was significantly positively associated with absolute poverty status. As such, a policy which aims to reduce poverty for older people may also reduce poverty of other household members. For example, the cash transfer programme introduced in Kenya means that those older people in poverty can now get help but it may mean that, if this money is pooled in this household, the other household members may benefit from an increase in the household income. Other research on social pensions in South Africa has shown that the addition of a social pension to a household can impact more widely as it can be used to improve the

wellbeing of other family members (Ferreira, 2006; Moller, 2011). As such, the OP-CT in Kenya could act as a value added policy by enabling children or working age adults in poverty to benefit from this policy.

A variety of characteristics are associated with absolute poverty and economic wellbeing. Gender is a theme which has run through the study; it receives much attention in international development programmes and there is a continuing call for data analysis to be made available which disaggregates results by gender (UNFPA and HAI, 2012; UN, 2002). A larger proportion of women were in absolute poverty compared to men (71% to 63%), thereby supporting existing evidence suggesting that older women are more at risk of poverty (UNFPA and HAI, 2012). In addition to this, being a woman was significantly positively associated with deprivation on the economic, dwelling and health dimensions of wellbeing. They fared better than men for the community participation dimension suggesting they are more adept at utilising their community networks. The Kenyan government has acknowledged that women are at greater risk of poverty in older age and would benefit from specific targeting in poverty-reduction programmes (MGCSD, 2009). Additionally, focus on older women in terms of pensions as well as through the local level work of NGOs and charities could also greatly improve their overall wellbeing.

Urban poverty is characterised by poor living conditions with a lack of access to basic services such as water and sewage (Baker and Schuler, 2004). The dwelling dimension indicated that some older people were not living in good quality housing and were also not satisfied with their living conditions. There was limited overlap on the dwelling dimension of wellbeing (figure 8-3). However, 21 per cent experienced deprivation in terms of their quality of dwelling only. Another 15 per cent of older people were deprived just on their feelings of security in the slums. If efforts were made to improve both the security in the slums as well as the quality of the dwellings, potentially a further 36 per cent of older people would experience no deprivation for the dwelling dimension. The NPOPA recognises that more needs to be done to make housing decent and affordable for older people in Kenya and that urban development programmes need to incorporate the needs of older people (MGCSD, 2009). If action was taken on this issue by the government, dwelling wellbeing among older people could greatly improve.

Just over half of the older people in the slums (53%) experienced no deprivation on any indicators of health wellbeing (figure 8-4). Yet 28 per cent of older people were just deprived on their access to food, in that they did not have enough to eat. As such, if the

government ensured that older people had enough food to eat, through better access to food and improved nutritional awareness, potentially 81 per cent of older people would experience wellbeing across all three indicators of the health dimension. The NPOPA has highlighted that older people in Kenya could be helped through access to subsidised food items and the government is also aiming to integrate food security and nutrition into primary healthcare services for older people (MGCSD, 2009). Well-thought through policies administered at the local level would alleviate the burden on charitable organisations such as the Slum Care Home, which counts provision of food as one of the most important aspects of its work for older people in the slums (2009).

Efforts could be made through local policy initiatives to improve community participation among older people in the slums as 40 per cent are deprived across all three indicators of this dimension. Women fared slightly better than men for this dimension and the oldest old were particularly deprived in their community participation. This result is concerning as it could highlight social isolation among this group, meaning they could be vulnerable. As such, policies could be designed to encourage involvement for all older people but specifically for the oldest old. Older people could be encouraged to participate in local initiatives and to generate new community activities.

Older people in the slums have been shown to receive support from their family. In the absence of formal support mechanisms, family support networks have been acknowledged as important informal support mechanisms for older people; the NPOPA aims to support these in order to ensure continued care provision for older people (MGCSD, 2009). The research has also shown that support can be reciprocal and that older people can be a source of support to their families. This level of familial support from older people in the slums has been echoed more widely in reports on older people in developing countries worldwide (UNFPA and HAI, 2012; UN, 2002). It is important that this contribution is recognised, which it has been through the NPOPA; the Kenyan government are also aiming to strengthen these ties and to support older people in providing support for their families as well as in contributing to their communities (MGCSD, 2009). This action will be important as older people are not a homogeneous dependent group, only in need of support and assistance. They have much to offer to their families and communities and this interaction should be encouraged in order for them to experience positive wellbeing at older age as well as to benefit their families and communities.

This research has shown that not all older people are in poverty and some have high levels of wellbeing across a variety of dimensions. It is important that these positive experiences are continued for older people in the slums, with efforts made to improve the situation of those living in absolute poverty or experiencing multidimensional deprivations.

10.4 Priority for Future Research

Future work will benefit from the increased emphasis on the welfare of older people by the Kenyan government through the NPOPA. It has highlighted the need to produce good quality data on older people at the national level, which is disaggregated by age and gender (MGCSD, 2009). It is positive that the Kenyan government has moved to recognise older people in law and to promote improved wellbeing for them. However, the ambitious goals set out in the NPOPA for improving wellbeing may be difficult to translate to practical measures. Future work should focus on assessing how successful the government has been at improving various aspects of wellbeing for older people. Building on this study, a useful direction for future research will be to utilise the longitudinal data from the study sites in the slums. This data could be used to analyse whether poverty and wellbeing have changed over time for older people and what factors are connected to this. The cash transfer programme has been introduced since the data were collected so analysis could also be conducted to determine the effect this has had on older people's poverty and wellbeing in the slums.

When considering the impact of increased numbers of older people in Kenya in the long term, future research studies and policy interventions would benefit from a life course approach. The findings of this study show that there are older people who would currently benefit from social protection initiatives, better housing, improved health and access to food, as well as further integration into their communities. The immediate meeting of these needs is vital and should be a government priority. However, many of the challenges associated with being an older person in the slums which have been highlighted in this research – such as being in poverty, being in poorer health, needing better housing and being disconnected from the wider community – are issues that can be potentially prevented by addressing problems earlier in the life course (MGCSD, 2009; KNCHR, 2009). Ensuring access to regular and properly salaried employment, with provision for investing in old age benefits through contributory programmes, would result in fewer people reaching old age in poverty and would prevent them from falling into poverty at older ages. The

government has highlighted the need to promote active ageing across the life course to ensure that people take responsibility for their health and to prevent limiting conditions in old age (MGCSD, 2009). Similarly, policies that regulate housing throughout the slums and encourage community initiatives from a young age could all lead to increased levels of wellbeing among people as they enter old age.

The analysis conducted in this study is specific to the research sites. However, the demographic surveillance system is part of the INDEPTH Network which is a network of demographic surveillance sites around the world, from Africa to India. The future work could include an ambitious plan to replicate these analyses in these different settings to determine the extent of variation of poverty and wellbeing for older people across a variety of contexts.

Ideally, future research would involve a more in-depth consideration of the allocation of household resources. A small sub-sample of older people could be interviewed in much greater depth and all of the members of their household could be interviewed to try and gain a clearer picture as to the way that resources are allocated within households. This would be extremely challenging as it would be another survey for the respondents to complete (evidence suggests there may be research fatigue among the respondents in the slums after ten years of data collection; Chepnego-Langat, 2008). Also, fundamentally splitting up the amounts and the ways in which people contribute will be difficult. However, more detailed information may go some way to producing a clearer picture of financial operations within the household. Future data collection could also rectify the issue of pension receipt within the household by including more detailed questions on sources of income, expenditure and generic sources of support which are specific to older people.

In order to further inform the dimensions of wellbeing, a participative approach could be used. Further research could take the results from this survey and use them to explore the opinions of older people in the slums, to see whether they agree with the dimensions used in representing their wellbeing. This future research could also investigate the policy initiatives that older people would like to see implemented, that could benefit them and improve their wellbeing. In addition to this, more detailed information on sources of support could be collected. It would be interesting to analyse both poverty and wellbeing, ex-ante as well as ex-post, to determine whether receipt of support can make a difference to poverty and wellbeing, as indicated in chapter 9 analysis.

Further research could strengthen the use of the employment indicator through qualitative methods which seek the input of relevant stakeholders. Health and social care professionals as well as other NGOs could be consulted to ascertain their thoughts on this indicator. Previous stakeholder discussions framed employment in a positive light (Slum Care Home, 2009). HelpAge Kenya (2009) particularly highlighted the efforts they go to in order to ensure that older people have employment and receive training to continue working. An important stakeholder, in addition to these, is the older people themselves. It would be essential to conduct further investigations with older people in the slums, and more widely in Kenya and SSA, to establish their thoughts on working at older ages. Do they see this as an important indication of deprivation, in that they have to work to survive? Or do they see it as a positive aspect of their continued good health and capability? The research conducted in chapter eight has established that the employment indicator may be ambiguous in its interpretation. The direction of this wellbeing indicator could be changed so that having employment signifies economic deprivation. However, it would be useful to establish how the older people in the study population see this indicator impacting their wellbeing.

The 40 per cent of older people who were deprived across all three indicators of the community participation dimension may not participate because they do not want to. The UNECE (2009) has highlighted the importance of participation and integration at older ages but has also emphasised that this process is individualised because older people may have difference levels of need and different preferences for participation. As such, it may be misleading to argue that they are deprived through their lack of participation. A way to explore this dimension further would be to consult the older people themselves to find their views as to whether the community participation dimension adequately reflects their own wellbeing.

Existing studies have shown the benefits of social participation and that this involvement can promote happiness and psychological wellbeing (Holmes and Joseph, 2011; Lino et al, 2013). However, it could be that those older people who are not involved in their communities are at risk of social isolation, especially if they do not have family to depend on for networks (UNFPA and HAI, 2012). The use of this dimension has been important in highlighting that the oldest old were particularly lacking community participation. It is therefore important to consider this dimension further. It could be strengthened in the same way as the employment indicator; through stakeholder engagement, particularly consultation with older people in the slums. This method would highlight the perception of the importance of this dimension in the measurement of their wellbeing. It would also highlight whether a lack of community

participation the oldest ages was indicative of increased levels of vulnerability for this group, thereby identifying a group for potential targeting by a policy or intervention.

Research on poverty and wellbeing among older people in poor, urban settings in SSA is still in its infancy. This study is an original contribution to this burgeoning area of investigation which will grow in importance as Kenya, and SSA as a whole, continue to experience growth in the absolute numbers of their older people. It also furthers the existing methodology on measuring wellbeing among older people. As highlighted in the introduction, the Madrid International Plan of Action on Ageing (MIPAA) aims to reduce poverty among older people (UN, 2002). However, it is necessary to have information on which to base policies and programmes, which is where this study makes a contribution. Whilst emphasising that many older people in the slums experience varying degrees of wellbeing across a variety of dimensions, it also demonstrates that there is a significant proportion whose monthly expenditure falls below the national poverty line. It is therefore informative research and strong evidence for what policies need to be adopted to reduce poverty and improve wellbeing of older people in these two slum settlements.

Appendices

Appendix 1

Research Ethics Checklist

Postgraduate Ethics Review Checklist July 2008

This checklist should be completed by the research student (with the advice of the research supervisor) for all research projects.

Research Title:

Aspects of Ageing in two Nairobi Slums

Research Student:

JENNIFER BAIRD

Supervisor:

JANE FALKINGHAM

	YES	NO
1. Will the study involve human participants?		✓
2. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g. covert observation of people)		✓
3. Does the study involve participants who are unable to give informed consent? (e.g. children, people with learning disabilities)		✓
4. Does the study involve participants who are commonly viewed as 'vulnerable'? (e.g. children, elderly, people with learning disabilities) CRB check needed if YES		✓
5. Will the study require the co-operation of a third party for initial access to the groups or individuals? (e.g. students at school, residents of a nursing home)		✓
6. Will the study involve discussion of sensitive topics (e.g. sexual activity, drug use)?		✓
7. Could the study induce psychological stress or anxiety, cause harm or have negative consequences for the participants beyond the risks encountered in normal life?		✓
8. Will deception of participants be necessary during the study?		✓
9. Will blood or tissue samples be taken from participants? Are drugs, placebos or other substances (e.g. foods, vitamins) to be administered to the participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?		✓
10. Will the study involve prolonged or repetitive testing or physical testing?		✓
11. Is pain or more than mild discomfort likely to result from the study?		✓
12. Will financial or other inducements (other than reasonable expenses) be offered to participants?		✓
13. Will the study involve recruitment of patients or staff through the NHS?		✓
14. Is the right to freely withdraw from the study at any time made explicit? <i>N/A</i>		
15. Where secondary data is to be used, is the risk of disclosure of the identity of individuals minimal?	✓	
16. If you are using secondary data, are you obtaining it from any where other than recognised data archives?		✓

Please refer to the School Guidance Notes for completing the Ethics Review Checklist before completing this form.

If you have answered YES to any of the questions (other than 13, 14 & 15), your research proposal will be referred to the School Ethics Committee. You will need to submit your plans for addressing the ethical issues raised by your proposal using the Research Ethics Approval Form, available on the School Intranet. If you have answered Yes to Question 13, you will have to submit an application to the appropriate external NHS Ethics Committee. If this is the case, your application will not need to be reviewed by the School Ethics Committee (but see the School Guidance Notes for clarification in cases where a project may include both NHS-related and non-NHS related elements).

Please note that it is your responsibility to follow the University of Southampton's Ethics Policy and any relevant academic or professional guidelines in the conduct of your study. This includes providing appropriate information sheets and consent forms, and ensuring confidentiality in the storage and use of data.

Signature of Research Student

Jennifer Baird

Date

21-7-11

2.9.	Where does your/this household do most of its cooking? [IF 05, SKIP TO 2.11]	Open air/outside or small shade outside 01 Separate kitchen (distinct room) 02 Room also used for sleeping..... 03 Room used for other purposes..... 04 Household does not cook..... 05 Other _____(specify) 96	
2.10	What is the main source of cooking fuel used by the household?	Kerosene/paraffin..... 01 Gas..... 02 KPLC electricity..... 03 Electricity from other sources..... 04 Charcoal..... 05 Firewood..... 06 Animal waste..... 07 Crop residue/saw dust..... 08 Briquettes/mud charcoal..... 09 Other _____(specify) 96	
2.11	What is the main source of lighting for your/this household?	Kerosene/Paraffin..... 01 Gas..... 02 KPLC electricity..... 03 Electricity from other sources..... 04 Candles..... 05 Firewood..... 06 Other _____(specify) 96	
2.12	What is the main method of garbage disposal used by your household?	Garbage dump..... 01 in the river..... 02 On the road..... 03 In drainage/trench..... 04 In private pits..... 05 In public pits..... 06 Garbage disposal services..... 07 Vacant/abandoned house..... 08 Burning..... 09 No designated place/all over..... 10 Other _____(specify) 96	
2.13	Is your household renting or does it own this dwelling unit/the rooms in which it is living in this structure?	Owned Purchase..... 01 Constructed..... 02 Inherited 03 Renting from Individual..... 04 Government..... 05 Local authority..... 06 Parastatal..... 07 Private company..... 08 Free of charge..... 09 Other _____(specify) 96	

3.0. HOUSEHOLD POSSESSIONS		X	X	X	X		
	[1= YES, 2= NO AND 8= DON'T KNOW] [CIRCLE THE APPROPRIATE RESPONSES]	Q 3.1 Does this household own (.) that is kept here? Y N	Q 3.2 Does this household own (.) that is kept in another place?	Q 3.3 In the past ONE year, did this household buy (.) that is/was kept here?	Q 3.4 In the past ONE year, did this household buy (.) that is/was kept in another place?	Q 3.5 In the past ONE year, did this household sell (.) that is/was kept here?	Q 3.6 In the past ONE year, did you sell (.) that is/was kept in another place?
A	A Vehicle	A	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
B	A motorcycle	B	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
C	A bicycle	C	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
D	A refrigerator	D	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
E	A television	E	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
F	A radio/Stereo	F	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
G	A DVD/VCD/VCR	G	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
H	A Sewing machine	H	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
I	An electric iron	I	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
J	A fan	J	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
K	Telephone/Mobile phone ...	K	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
L	An electric/gas stove	L	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
M	Sofa set	M	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
N	Table	N	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
O	A Torch	O	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
P	Kerosene lamp with glass .	P	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
Q	Kerosene stove	Q	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
R	Wall Clock	R	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
S	Mattress	S	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
T	Blankets	T	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
U	Bed	U	1 2 8	1 2 8	1 2 8	1 2 8	1 2 8
3.7.	Does your household own any Livestock or Poultry that is kept here, upcountry or somewhere else? <input type="checkbox"/>						
	[1= YES, 2= NO AND 8= DON'T KNOW] [IF NO OR DON'T KNOW SKIP TO 3.12.]						
3.8.	[CIRCLE THE APPROPRIATE RESPONSES] Does your household own (.)? [1= YES, 2= NO AND 8= DON'T KNOW] [IF NO OR DON'T KNOW SKIP TO NEXT LIVESTOCK]	3.9 How many do you own?	3.10 Where are the (.) domesticated? 1= In this community 2= Upcountry or some other place 3= In both places		3.11. How does today's number of (.) compare with ONE year ago? 1= Less now 2= The same 3= More now 8= Don't Know		
A	Cattle? 1 2 8		1 2 3		1 2 3 8		
B	Goats/Sheep? 1 2 8		1 2 3		1 2 3 8		
C	Pigs? 1 2 8		1 2 3		1 2 3 8		
D	Chickens/Ducks? 1 2 8		1 2 3		1 2 3 8		
E	Donkeys? 1 2 8		1 2 3		1 2 3 8		
F	Other Livestock or Poultry (specify _____) 1 2 8		1 2 3		1 2 3 8		
3.12.	Which is the main commodity that your household uses to clean its teeth? [1= Tooth Paste; 2= Herbs/Chewing Stick; 3= Salt; 6= Other] _____ (Specify) <input type="checkbox"/>						

4.0. HOUSEHOLD INCOME AND EXPENDITURE	
4.1. [ENSURE THAT THE RESPONDENT PROVIDES A TOTAL OF ALL INCOMES FROM ALL SOURCES] I know that it is usually difficult to state exactly how much income a household makes over time. I would like you to tell me your best estimate of the TOTAL income that this household had in the last 30 days? _____	
4.2. How much did this household receive or retrieve from (.) in the last 30 days?	AMOUNT
A SALARIED/WAGE EMPLOYMENT	
B BUSINESS	
C SAVINGS	
D AGRICULTURE	
E BORROWING	
F FINANCIAL GIFT/SUPPORT FROM ANY SOURCE	
G ANY OTHER SOURCE OF INCOME IN THE LAST ONE MONTH (Specify)	
4.3 How much in total did your household spend on the following items?	
ITEM	EXPENDITURE
A FOOD (Last 7 days)	
B ENERGY (paraffin, charcoal) (Last 7 days)	
C WATER (Last 7 days)	
D TRANSPORT (Last 7 days)	
E FINANCIAL GIFT/SUPPORT TO OTHERS (Last 7 days)	
F ELECTRICITY (Last Month)	
G HEALTH CARE (Last 30 days)	
H RELIGIOUS OBLIGATIONS (Last 30 days)	
I RENT (Last Month)	
J SCHOOL RELATED EXPENSES (Last 30 days) (School Fees, Scholastic Materials)	
K Other (Last 7 days)	
5.0. FOOD PRODUCTION AND CONSUMPTION	
5.1 Did your household grow crops during the last 12 months? [IF NO OR DON'T KNOW SKIP TO Q5.4] [1= YES, 2= NO AND 8= DON'T KNOW]	<input type="checkbox"/>
5.2 Where did you grow the crops? [1= Within same DSA Nairobi slum 2= Other DSA Nairobi slum 3= Non-DSA Nairobi slum 4= Nairobi non-slum 5= Other urban area of Kenya 6= Rural Kenya 7= Outside Kenya 8= Do not Know]	<input type="checkbox"/>
5.3 Were the crops sold or used for household consumption? [1= For household consumption only 2= For sale only 3= For both consumption and sale 8= Do not Know]	<input type="checkbox"/>
5.4 Do you grow or buy most of the staple food that you eat in your household? [1=Buy all the food 2=Mostly buy food 3=Grow all the food 4=Mostly grow all the food 8= Do not Know] [IF 3, SKIP TO Q5.6]	<input type="checkbox"/>
5.5 How often do you purchase the following staple foods?	
STAPLE FOOD	FREQUENCY
A Ugali (Maize Meal)	<input type="checkbox"/> [1= DAILY, 2= TWICE A WEEK, 3= WEEKLY
B Githeri (Beans & Maize)	<input type="checkbox"/> 4= FORTNIGHTLY, 5= MONTHLY,
C Sukuma (Kales)	<input type="checkbox"/> 6= LESS FREQUENTLY THAN A MONTH, 8= DON'T KNOW]

5.6 Did any special event occur in your household in the last two days (for example, family event, guests invited)? [1= YES, 2= NO AND 8= DON'T KNOW] [IF YES SKIP TO 5.8]

5.7 How many meals were served to the household members during the last two days? [SKIP TO 5.9]

5.8 How many meals were served to the household members during the 2 days preceding the special event?

5.9 Were there any special events in the last seven days (for example family event, guests invited)? [1= YES, 2= NO AND 8= DON'T KNOW]
 (IF YES IN 5.9, THEN 5.10 SHOULD REFER TO THE WEEK PRECEDING THE SPECIAL EVENT)

5.10 During the last seven days, for how many days were the following foods served in a main meal eaten by the household?
 [DO NOT INCLUDE LEFT OVERS THAT ARE SOLD ON THE STREETS IN THE COMMUNITY]

LUXURY FOOD	NUMBER OF DAYS SERVED
A Chapati	<input type="checkbox"/> [8= DON'T KNOW]
B Meat, Fish, Chicken	<input type="checkbox"/> [EXCLUDE LEFT OVERS LIKE "MGONGO WAZI" "HELICOPTER" "KATAKATA", "BYE BYE" "FIRESTONE" "MAHORI" "MUTURA" etc]
C Bread	<input type="checkbox"/> [EXCLUDE LEFT OVERS LIKE "ANYONA", "NGAE" etc]

The following questions relate to whether your household was able to afford the food you needed

5.11 Which of these statements best describes the food eaten by your household during the last 30 days?
 1. Your household had enough of the kinds of food it wanted to eat [IF 1 SKIP TO 5.15]
 2. Your household had enough food, but not always the kinds of food it wanted
 3. Sometimes your household did not have enough food to eat
 4. Your household often did not have enough food to eat
 8. Don't know

Now I am going to read several statements that people usually make about their food situation. Please tell me whether each of these statements was often true, sometimes true, or never true for your household in the last month

5.12. "The food that you bought finished and you didn't have money to get more." Was that often true, sometimes true, or never true for your household in the last 30 days?
 [1= Often true 2= Sometimes true 3= Never true 6= Refused 8= Don't Know]

5.13. "During the past 30 days, children in your household failed to eat for a whole day/slept hungry because there wasn't enough money for food." Was that often, sometimes, or never true for you/your household?
 [1= Often true 2= Sometimes true 3= Never true 6= Refused 8= Don't Know 9= Not Applicable]

5.14. "During the past 30 days, you or other adult(s) in your household failed to eat for a whole day because there wasn't enough food." Was that often, sometimes, or never true for you/your household?
 [1= Often true 2= Sometimes true 3= Never true 6= Refused 8= Don't Know]

I would like to ask you some questions about how you would use extra income. I just want you to imagine this situation. We are not going to provide the money to you. We are just using this as an example.

5.15. If your household received additional Ksh. 2000 each month, would you change anything about what your household eats? [1= YES, 2= NO AND 8= DON'T KNOW], IF NO OR DON'T KNOW SKIP TO 6.0

5.16. What is the main change that you would make to your household's food consumption?
 1= Buy more food items of what is being eaten 2= Buy more nutritious food items
 3= Buy greater variety of food 4= Other _____ (Specify)

6.0. HOUSEHOLD SHOCKS EXPERIENCED			
[CIRCLE THE APPROPRIATE RESPONSES]			6.2. How many such events have occurred in this household in the last one year?
6.1. Has your household or any member experienced (,) problem in the last one year? [1= YES 2= NO 8= DON'T KNOW, IF 2 or 8 SKIP TO THE NEXT SHOCK]			
A FIRE	1	2	8
B FLOODS	1	2	8
C MUGGING	1	2	8
D THEFT	1	2	8
E EVICTION	1	2	8
F DEMOLITION	1	2	8
G SEVERE ILLNESS	1	2	8
H DEATH	1	2	8
I RAPE	1	2	8
J STABBING	1	2	8
K LAY-OFF	1	2	8
Before I conclude, I would like to ask you a general question about your household in this community			
7.1. Now, I would like you to tell me how your household compares to other households in this community with respect to the general wellbeing. If all households in the community were placed on a ladder from ONE to TEN [SHOW THE RESPONDENT THE LADDER], where the richest is on number TEN and the poorest on number ONE, where would you place your household? <input type="text"/>			
8.0. END OF INTERVIEW			
8.1. I would like to thank you for taking your time to answer the questions that I asked you. As I said at the beginning, the information you have given me will help a lot in understanding how people's movements affect their wellbeing I have now come to the end of the interview. Do you have any questions for me? <input type="checkbox"/> 1=YES; 2= NO; [IF 2 SKIP TO Q8.3]			
8.2. FW: RECORD QUESTIONS AND COMMENTS RAISED BY RESPONDENT			
8.3. FW: RECORD COMMENTS ABOUT THE INTERVIEW			
8.4. RESULT OF INTERVIEW (CODESHEET A?) <input type="checkbox"/>			
8.5. END TIME (24 HRS) <input type="text"/>			

Appendix 3

Survey of Social, Health and Overall Wellbeing of Older People

AFRICAN POPULATION AND HEALTH RESEARCH CENTRE AND WHO/INDEPTH SURVEY ON SOCIAL, HEALTH AND OVERALL WELLBEING OF OLDER PEOPLE (50+ YEARS)	
1.0 IDENTIFICATION INFORMATION and CONSENT	
1.1 FIELD WORKER'S CODE	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.2 DATE OF INTERVIEW (DD/MM/YYYY)	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.3 RESPONDENT'S ID	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.4 RESPONDENT'S DATE OF BIRTH (DD/MM/YYYY)	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.5 RESPONDENT'S SEX (F=Female; M=Male)	<input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>
1.6 RESPONDENT'S FULL NAME	
1.7 LOCATION ID	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.8 ID OF ROOM WHERE RESPONDENT SLEEPS	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
INTRODUCTION AND CONSENT	
<p>Hello, my name is _____ and I work with the African Population and Health Research Centre. We are conducting a survey to better understand the health and well-being of older people in this community. Specifically we would like to know about your health, your economic challenges, the care and support you need or receive, and the experiences you go through such as caring for people who are ill, caring for younger children and so on. The results of this study will be presented to institutions, including the government, that are involved in decision making and provision of services targeted at older people with the intention that they will use the information to improve the wellbeing of older people. All the responses you provide are confidential and will be used for the purposes of this study only. This interview is not expected to cause you any harm or discomfort. However, if you feel uncomfortable with certain questions you can choose not to answer them. We, however, hope you will participate in this survey since your views are very important. This interview will take about 1 hour of your time.</p>	
1.9 Do you accept to participate in the study?	(Y=YES; N=NO; IF 'YES' SKIP TO 1.11) <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>
<p>1.10 IF THE RESPONDENT DOES NOT ACCEPT TO BE INTERVIEWED ASK: To help better inform our work in the future, could you please tell me the main reason why you do not want to participate in this study?</p> <p>(FW: IF REASON IS RELATED TO TIME BEING INCONVENIENT FOR RESPONDENT, PLEASE MAKE APPOINTMENT TO COME BACK AND DO THE INTERVIEW). OTHERWISE THANK RESPONDENT FOR HIS/HER TIME AND END THE INTERVIEW.</p>	
<p>1.11 IF THE RESPONDENT ACCEPTS TO BE INTERVIEWED: Thank you for agreeing to participate in our study. Could you please sign here to show that you have accepted to participate in the study.</p> <p>Respondent's Signature.....</p> <p>0= REFUSES TO SIGN 1= SIGNS 2= WILLING BUT UNABLE TO SIGN <input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/></p>	
1.12 FINAL RESULT OF INTERVIEW (CODE SHEET A ¹)	<input style="width: 20px; height: 15px; border: 1px solid black;" type="checkbox"/>
1.13 START TIME (24 HR-FORMAT)	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
OFFICE/FIELD CHECK DETAILS	
1.14 FIELD SUPERVISOR'S/TEAM LEADER'S CODE	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>
1.15 DATA ENTRY CLERK'S CODE	<input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 15px; border: 1px solid black;" type="text"/>

consent form

2.0 MARITAL STATUS	
2.1 Are you currently married or living with a man/woman? (Y=YES; N=NO)	[IF NO, SKIP TO 2.3] <input type="checkbox"/>
2.2 How would you best describe your type of marriage - did you have a religious ceremony, a civil registration, customary or traditional ceremony or just living together? 1=religious ceremony, 2=civil registration only, 3=customary/traditional marriage only, 4=just living together?	[SKIP TO 2.5] <input type="checkbox"/>
2.3 Have you ever been married or lived with a man/woman? (N=NO; Y=YES)	[IF NO, SKIP TO 3.0] <input type="checkbox"/>
2.4 How did your last marriage/union end? Are you widowed, divorced, or separated? (W=WIDOWED; D=DIVORCED; S=SEPARATED)	<input type="checkbox"/>
2.5 How many times have you been married or lived with a man/woman in your lifetime? [INCLUDE CURRENT SPOUSE FOR THOSE CURRENTLY MARRIED/LIVING WITH A MAN/WOMAN].	<input type="text"/> <input type="text"/>
2.6 How old were you when you got married or started living with a man/woman for the first time? [CHECK 2.3, IF YES SKIP TO 2.16]; IF A MAN (IF 1.5 IS MALE) AND CURRENTLY MARRIED/LIVING TOGETHER (IF 2.1 IS YES), [SKIP TO 2.12]	<input type="text"/> <input type="text"/>
DETAILS ABOUT CURRENT/MOST RECENT SPOUSE FOR WOMEN CURRENTLY MARRIED/LIVING TOGETHER	
2.7 Does your husband/partner usually live in this household? (Y=YES; N=NO)	[IF YES SKIP TO 2.9] <input type="checkbox"/>
2.8 Where does he live?	[CODE SHEET A ²] <input type="checkbox"/>
2.9 In what month and year did you get married/living together with your current husband/partner?	MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
2.10 Does your husband/partner have any other wife/wives besides yourself? (N=NO; Y=YES)	[IF "NO", SKIP TO 3.0] <input type="checkbox"/>
2.11 How many <u>other</u> wives does he have?	NUMBER <input type="text"/> <input type="text"/> [SKIP TO 3.0]
DETAILS ABOUT CURRENT/MOST RECENT SPOUSE FOR MEN CURRENTLY MARRIED/LIVING TOGETHER	
2.12 How many wives/partners do you currently have?	<input type="text"/> <input type="text"/>
2.13 [IF MORE THAN ONE] Are you living with your wife/partner in this household? (N=NO; Y=YES) [IF HAS ONLY ONE] Does your wife/partner usually live in this household? (N=NO; Y=YES)	[IF YES SKIP TO 2.15] <input type="checkbox"/>
2.14 Where does your/your most recent wife live?	[CODE SHEET A ²] <input type="checkbox"/>
2.15 In what month and year did you get married/living together started with your (MOST) recent wife/partner?	MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> [SKIP TO 3.0]
2.16 In what month and year did you get separated/divorced/widowed in your most recent marriage/union?	MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
3.0 CHILD BEARING HISTORY, CARE AND SUPPORT	
Now I would like to ask about all the births/children you have had during your life including any children whom you raised as your own and are now grown up. We will also talk about children who are deceased if any. It may be painful to talk about this but it is important that we get the right information.	
3.1 Have you ever given birth/Have you ever had any children of your own?	(Y=YES; N=NO; if 'NO' skip to 3.3) <input type="checkbox"/>
3.2 In total, how many children have you given birth to/have you had, including those that have died?	<input type="text"/> <input type="text"/>
3.3 Do you have any children you did not give birth to but whom you raised as your own? [if 'NO' in 3.1 & 'NO' in 3.3; SKIP TO 3.21; IF 'YES' IN 3.1 & 'NO' IN 3.3 SKIP TO 3.5]	(Y=YES; N=NO) <input type="checkbox"/>
3.4 In total how many children did you not give birth to but raised as your own?	<input type="text"/> <input type="text"/>

Now I would like us to talk about all your biological children including any children you may have raised as your own even if you did not give birth to them. We are interested in both those who are still alive and those who have passed away. We will begin by talking about your biological children first starting with the first one you had.													
3.5	3.6	3.7	3.8	3.9	IF 12 YRS OR OLDER		3.12	IF ALIVE		3.15	IF DEAD		
What name was given to your first (next) child?	Is (NAME) male (M) or female (F)?	Is (NAME) still alive or not? (Y=Alive; N=Dead)	In what month and year was (NAME) born? (if 'Alive' skip to 3.10)	If (NAME) DIED, in what month and year did (NAME) die?	Has/ was (NAME) ever/ been married? IF YES	How many children does/ did (NAME) have, if any? IF NO	Where did (NAME) live currently? (CODE SHEET A ²)	How frequently do you see each other with (NAME)? (UNITS: D=DAILY, W=WEEK, M=MONTH, O=IN A WHILE)	On average, how much money (in Ksh.) do you receive from (NAME) each month?	In what other ways does (NAME) support you? 1=No other support 2=Household chores 3=Health care 4=2&3 5=Other	Did (NAME) die of injury or illness? 1=ILLNESS 2=INJURY IF 2 SKIP TO 3.18	Did (NAME) die of illness regularly provide care to (NAME) at the time of his/her illness? (Y=YES; N=NO)	Did (NAME) regularly contribute financially toward your support before his/her death? (Y=YES; N=NO)
1			M	M				U					
			Y	Y				#					
2			M	M				U					
			Y	Y				#					
3			M	M				U					
			Y	Y				#					
4			M	M				U					
			Y	Y				#					
5			M	M				U					
			Y	Y				#					
6			M	M				U					
			Y	Y				#					

3.5	3.6	3.7	3.8	3.9	3.10	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18
IF ALIVE										IF DEAD			
What name was given to your first (next) child?	Is (NAME) male (M) or female (F)?	Is (NAME) still alive or not? (Y=Alive; N=Dead)	In what month and year was (NAME) born? (if 'Alive' skip to 3.10)	If (NAME) DIED, in what month and year did (NAME) die?	Has/was (NAME) ever/been married? IF YES (NAME)'s marital status? (CODE SHEET A)	How many children does/did (NAME) have, if any? IF NO ENTER 001	Where did (NAME) does currently live? (CODE SHEET A)	How frequently do you see each other with (NAME)? (UNITS D=DAILY, W=WEEK, M=MONTH, Y=YEAR, O=IN A WHILE)	On average, how much money (in Ksh.) do you receive from (NAME) each month?	In what other ways does (NAME) support you? 1=No other support 2=Household chores 3=Health care 4=2&3 5=Other	Did (NAME) die of injury or illness? 1=ILLNESS 2=INJURY IF 2 SKIP TO 3.18	Did you regularly provide care to (NAME) at the time of his/her illness? (Y=YES; N=NO)	Did (NAME) regularly contribute financially towards your upkeep/support before his/her death? (Y=YES; N=NO)
7			M	M				U					
			Y	Y				#					
8			M	M				U					
			Y	Y				#					
9			M	M				U					
			Y	Y				#					
11			M	M									
			Y	Y									
12			M	M									
			Y	Y									
13			M	M									
			Y	Y									

Now I would like us to talk about the children you did not give birth to but raised as your own, both those who are alive and those who have passed away. Starting with the eldest/oldest.

I would like to ask you some questions about the support you provide to your children and the support that you may receive from others.

3.19 Do you provide any of your children with financial support or assistance? (Y=YES; N=NO)

3.20 Do you assist any of your children in/by

	Y=YES	N=NO
a. Caring for their children	Y	N
b. Doing domestic chores for them	Y	N
c. Providing material support (food, clothing..)	Y	N
d. Providing advice or counseling	Y	N
e. Other (specify)	Y	N

3.21 Who normally provides the most assistance to you with work around the house such as cooking, cleaning, collecting water and so on? RECORD RELATIONSHIP TO RESPONDENT (CODE SHEET A⁴)

3.22 Do you usually require assistance to get somewhere outside the community, for example going to town, to the market etc? (Y=YES; N=NO; If 'NO' SKIP TO 3.24)

3.23 Suppose you wanted to go somewhere outside the community, who normally assists you or accompanies you to places outside the community? RECORD RELATIONSHIP TO RESPONDENT (CODE SHEET A⁴)

3.24 Do you receive any kind of assistance or support from any of your relatives (other than children)? (Y=YES; N=NO; If 'NO' SKIP TO 3.26)

3.25 What type of assistance or support do you receive from your relatives?

CIRCLE ALL MENTIONED

Financial	....A
Material support (food, clothing)	....B
Shelter or rent payment	....C
Assist in domestic chores	....D
Advice or counsel	....E
Emotional support	....F
Other (Specify)	....G
Other (Specify)	....H
Other (Specify)	....I

3.26 Are you aware of any organizations or groups that provide assistance such as financial, material, or emotional support to older people in this community? (Y=YES; N=NO; If 'NO' SKIP TO 4.0)

3.27 Which are these groups or organizations that provide assistance to older people?

CIRCLE ALL MENTIONED

Catholic Church/Sisters	....A
Muslim groups	....B
Redeemed Gospel Church	....C
TAK (Takataka Afya Korogocho)	....D
Women's Groups	....E
KENWAI Orphans/ HIV/AIDS	....F
Government/DO/Chief	....G
Other (Specify)	....H
Other (Specify)	....I
Other (Specify)	....J

3.28 Have you received assistance from any of these groups or organizations in the last 12 months? (Y=YES; N=NO; If 'NO' SKIP TO 4.0)

3.29 From which groups or organizations have you received the most assistance?

CIRCLE ONLY ONE RESPONSE

Catholic Church/Sisters ..1
Muslim groups ..2
Redeemed Gospel Church ..3
TAK (Takataka Afya Korogocho) ..4
Women's Groups ..5
KENWA\ Orphans\ HIVAIDS ..6
Government/DO/Chief ..7
Other (Specify) ..8

3.30 What is the main type of assistance or support have you received from this organization or group?

CIRCLE ONLY ONE RESPONSE

Financial ..1
Material support (food, clothing) ..2
Shelter or rent payment ..3
Support for the OVC ..4
Care and support for PLWHA ..5
Other (Specify) ..6

3.31 How often do you receive assistance from this organization of group?

W=WEEKLY; M=MONTHLY; Y=YEARLY; O=OTHER NO. OF TIMES

Other (Specify) _____

4.0 LINKS WITH PLACE OF ORIGIN

4.1 What is the name of the area where you consider as your place of origin?
(RECORD THE PROVINCE/DISTRICT/LOCATION/VILLAGE OR ESTATE)
(P).....(D).....(L).....(V/E).....

4.2 RECORD CODE FOR AREA OF ORIGIN MENTIONED IN 4.1 (CODE SHEET A²)
[IF ANSWER IS 1, 2, 3 or 4, SKIP TO 4.7A]

4.3 When was the last time you visited your place of origin?
MONTH YEAR
[IF ANSWER IS NEVER RECORD 88 IN MONTH AND 8888 IN YEAR AND SKIP TO 4.5]
[IF RESPONDENT LASTE VISITED HOME BEFORE 12 MONTHS SKIP 4.5]

4.4 In the last 12 months, how many times have you visited your place of origin?

4.5 When was the last time you had visitors from your place of origin?
MONTH YEAR
[IF ANSWER IS NEVER RECORD 88 IN MONTH AND 8888 IN YEAR AND SKIP TO 4.7]

4.6 In the last 12 months, how many times have you had visitors from your place of origin?

<p>4.7 4.7A. Do any of the following family members live at your place of origin?</p> <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">YES</td> <td style="text-align: center;">NO</td> <td style="text-align: center;">NA</td> <td></td> </tr> <tr> <td>A. Parent/parents-in-law</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> <td style="text-align: center;">X</td> <td>If YES ASK ---></td> </tr> <tr> <td>B. Spouse/partner</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> <td style="text-align: center;">X</td> <td>If YES ASK ---></td> </tr> <tr> <td>C. Siblings/in-laws</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> <td style="text-align: center;">X</td> <td>If YES ASK ---></td> </tr> <tr> <td>D. Child/Children</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> <td style="text-align: center;">X</td> <td>If YES ASK ---></td> </tr> </table>		YES	NO	NA		A. Parent/parents-in-law	Y	N	X	If YES ASK --->	B. Spouse/partner	Y	N	X	If YES ASK --->	C. Siblings/in-laws	Y	N	X	If YES ASK --->	D. Child/Children	Y	N	X	If YES ASK --->	<p>4.7B In the last 12 months, did you have the following family members as visitors?</p> <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">YES</td> <td style="text-align: center;">NO</td> </tr> <tr> <td>A. Parent/parents-in-law</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td>B. Spouse/partner</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td>C. Siblings/in-laws</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td>D. Child/Children</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> </table>		YES	NO	A. Parent/parents-in-law	Y	N	B. Spouse/partner	Y	N	C. Siblings/in-laws	Y	N	D. Child/Children	Y	N
	YES	NO	NA																																						
A. Parent/parents-in-law	Y	N	X	If YES ASK --->																																					
B. Spouse/partner	Y	N	X	If YES ASK --->																																					
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D. Child/Children	Y	N	X	If YES ASK --->																																					
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A. Parent/parents-in-law	Y	N																																							
B. Spouse/partner	Y	N																																							
C. Siblings/in-laws	Y	N																																							
D. Child/Children	Y	N																																							

4.8 Do you have a piece of land anywhere outside Nairobi? (Y=YES; N=NO)

4.9 Do you have a house anywhere outside Nairobi? (Y=YES; N=NO)

4.10 Do you intend to move away from Korogocho/Viwandani any time in the future? (Y=YES; N=NO; If 'YES SKIP TO 4.12)

<p>4.11 What is the most important reason why you don't intend to move away from Korogocho/Viwandani?</p> <p style="text-align: center;">CIRCLE ONLY ONE RESPONSE</p>	<p>Has no land anywhere else ...1</p> <p>Has no house anywhere else ...2</p> <p>Family disputes/ Other disputes at origin ...3</p> <p>Dispossessed of land ownership...4</p> <p>Has property in Nairobi ...5</p> <p>Has family/social networks in Nairobi ...6</p> <p>Lack finances to migrate back ...7</p> <p>Conflict of culture e.g intermarriage ...8</p> <p>Living condition is better here .10</p> <p>Rent is affordable/cheap .11</p> <p>Get used to the area .12</p> <p>Convenient to me/my family members work place .16</p> <p>Have no other choice .17</p> <p>Other (Specify) .18</p> <p style="text-align: center;">[SKIP TO SECTION 5.0]</p>
<p>4.12 Where do you intend to move to?</p> <p style="text-align: center;">CIRCLE ONLY ONE RESPONSE</p>	<p>Place of origin/Place of birth ...1</p> <p>Another rural place in Kenya ...2</p> <p>Another urban place in Kenya ...3</p> <p>Another slum in Nairobi ...4</p> <p>Non-slum in Nairobi ...5</p> <p>Outside Kenya ...6</p> <p>Don't know/Unsure of where to go ...7</p>
<p>4.13 How long from now do you intend to move away from Korogocho or Viwandani?</p> <p style="text-align: center;">W=WEEK; M=MONTH; Y=YEAR; D=DONT KNOW <input type="text"/> Duration <input type="text"/><input type="text"/></p>	
<p>5.0 WORK HISTORY AND BENEFITS</p> <p>Now I would like to ask you some questions about any work that you may be doing now or have done in the past.</p>	
<p>5.1 As you know, some people take jobs for which they are paid in cash or kind. Other people sell things, have a small business, or work on the family farm or family business. Are you currently working or doing any of these activities (not including housework)? <input type="checkbox"/></p> <p style="text-align: right;">(Y=YES; N=NO; IF 'YES' SKIP TO 5.6)</p>	
<p>5.2 What is the <u>main reason</u> you are not currently working or engaged in any income generating activity?</p> <p style="text-align: center;">CIRCLE ONLY ONE RESPONSE</p>	<p>Homemaker / caring for family .....1</p> <p>Cannot find a job .....2</p> <p>Do voluntary work (not paid) .....3</p> <p>Seasonality of work .....4</p> <p>(specify) Health problems/Disabled .....5</p> <p>Have to take care of someone with disability/health condition .....6</p> <p>Do not have the need to work .....7</p> <p>My family/spouse doesn't want me to work .....8</p> <p>Retired / too old to work .....9</p> <p>Laid off / made redundant ....10</p> <p>Vacation / sick leave / voluntary and temporary time off ....11</p> <p>Other, specify: ...98</p>
<p>5.3 When was the last time you were engaged in an income generating activity?</p> <p style="text-align: center;">MONTH <input type="text"/><input type="text"/> YEAR <input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <p style="text-align: center;">[IF NEVER WORKED RECORD 'NA'=NOT APPLICABLE IN 'MONTH' THEN ASK 5.4 OTHERWISE SKIP TO 5.5]</p>	
<p>5.4 What is the <u>main reason</u> that you have never worked?</p> <p style="text-align: center;">CIRCLE ONLY ONE RESPONSE</p>	<p>Homemaker / caring for family .....1</p> <p>Could not find a job .....2</p> <p>Do voluntary work (not paid) .....3</p> <p>(Specify) Health problems/Disabled .....4</p> <p>Have to take care of someone with disability/health condition .....5</p> <p>Do not have the economic need .....6</p> <p>Parents / spouse did not let him/her .....7</p> <p>Other, specify: ...8</p>
<p>5.5 Are you actively looking for work at this time? <input type="checkbox"/></p> <p style="text-align: right;">(Y=YES; N=NO)</p> <p style="text-align: center;">(IF ANSWER IS 'NO' AND 5.3 IS 'NA', SKIP TO 5.16; IF ANSWER IS 'NO' AND 5.3 IS NOT NA, SKIP TO 5.7)</p>	

5.6 [NOT CURRENTLY WORKING & LOOKING] When people become older, they would like to retire from active employment. Why would you like to work at present?

[CURRENTLY WORKING] When people become older, they would like to retire from active employment. Why are you currently working?

Need the income for selfA
 Need income to support spouseB
 Need income to support childrenC
 Need income to support grand childrenD
 Need income to support other family membersE
 Want to/need to be activeF
 Want to feel usefulG
 Not reached retirement ageH
 Other (Specify)I

CIRCLE ALL MENTIONED

5.7 [CURRENTLY WORKING] Now I will ask you some questions about your current work. What activity are you engaging in?

[NOT CURRENTLY WORKING] Now I will ask you some questions about your most recent work. What activity were you engaged in?

Unestablished own business.....1
 Established own business.....2
 Informal casual.....3
 Informal salaried.....4
 Formal salaried.....5
 Formal casual.....6
 Rural agriculture.....7
 Urban agriculture.....8
 Other (Specify).....9

CIRCLE ONLY ONE RESPONSE

5.8 Do/did you usually work throughout the year, seasonally, or only once in a while?

(1=Work Throughout the year; 2=Seasonally/Part of the year; 3=Once in a while)

5.9 On average, how many days in a week do/did you work in your main job? DAYS

5.10 On average, how many hours a day do/did you work in your main job? HOURS

5.11 Are/were you paid a salary monthly (1), weekly (2), daily (3) or per job done (4)?

5.12 Have you ever made any contribution to NSSF or any other pensions or retirement scheme?

(Y=YES; N=NO; D=DON'T KNOW; If 'N' or 'D' SKIP TO 5.15)

5.13 Which pension scheme have you contributed to? **RECORD ALL MENTIONED**

NSSF ..A..
 Other schemes (specify) ...B..
 Other schemes (specify) ..C..

5.14 Have you been paid your pension or gratuities? (Y=YES; N=NO)

5.15 At what age did you start working for pay? (DON'T KNOW =98)

5.16 What would you say is your main source of livelihood currently?

CIRCLE ONE RESPONSE

Own and/or spouse's work1
 Own savings/Investments2
 Pension/retirement benefit3
 Support from children4
 Support from other relatives5
 Donations/welfare6
 Other(Specify)8

6.0 HEALTH CARE UTILIZATION	
6.1 In the last 3 months, have you gone to seek health care outside the home? (Y=YES; N=NO; IF 'NO' SKIP TO 6.4)	<input type="checkbox"/>
6.2 Where did you go to seek health care? NAME OF FACILITY/PROVIDER _____	Govt health center/dispensary.....1 Private Health center/dispensary.....2 Pharmacist/Drug store.....3 Government hospital.....4 Private hospital.....5 Traditional healer/herbalists.....6 Religious / Prayer houses.....7 Other (specify).....8
6.3 How much have you spent on the following health related costs in the last 3 months? (RECORD '00000' IF FOR FREE)	
6.6.1 Consultation	<input type="text"/>
6.6.2 Hospitalization	<input type="text"/>
6.6.3 Medicine/drugs	<input type="text"/>
6.6.4 Transportation to health facility	<input type="text"/>
6.6.5 Other (specify)	<input type="text"/>
6.4 CHRONIC CONDITIONS	
6.4.1 Arthritis	
6.4.1a Have you ever been diagnosed with/told you have <u>arthritis</u> (or by other names rheumatism or osteoarthritis)? (Y=YES; N=NO; IF 'NO' SKIP TO 6.4.1d)	<input type="checkbox"/>
6.4.1b Have you been taking medications or other treatment for it in the <u>last 2 weeks</u> ? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.1c Have you been taking medications or other treatment for it in the <u>last 12 months</u> ? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.1d During the <u>last 12 months</u> have you experienced, pain, aching, stiffness or swelling in or around the joints (like arms, hands, legs or feet) which were not related to an injury and lasted for more than a month? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.1e During the <u>last 12 months</u> have you experienced, stiffness in the joint in the morning after getting up from bed, or after a long rest of the joint without movement? (Y=YES; N=NO; IF 'NO' SKIP TO INSTRUCTION JUST ABOVE 6.4.1h)	<input type="checkbox"/>
6.4.1f How long did this stiffness last? (1=about 30 minutes or less; 2=More than 30 minutes)	<input type="checkbox"/>
6.4.1g Did this stiffness go away after exercise or movement in the joint? (Y=YES; N=NO)	<input type="checkbox"/>
(FW: IF THE ANSWER TO 6.4.1d IS YES OR ANSWER TO 6.4.1e IS YES ASK 6.4.1h; ELSE SKIP TO 6.4.1i)	
6.4.1h These symptoms that you have said you experienced in the last 12 months, have you experienced them in the <u>last 2 weeks</u> ? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.1i Have you experienced <u>back pain</u> during the <u>last 30 days</u> ? (Y=YES; N=NO) (IF 'NO' SKIP TO 6.4.2)	<input type="checkbox"/>
6.4.1j On how many days did you have this back pain during the last 30 days? DAYS	<input type="text"/>
6.4.2 Diabetes	
6.4.2a Have you ever been diagnosed with <u>diabetes</u> (high blood sugar)? (Not including diabetes associated with a pregnancy) (Y=YES; N=NO; IF 'NO' SKIP TO 6.4.3)	<input type="checkbox"/>
6.4.2b Have you been taking insulin or other blood sugar lowering medications in the <u>last 2 weeks</u> ? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.2c Have you been taking insulin or other blood sugar lowering medications in the <u>last 12 months</u> ? (Y=YES; N=NO)	<input type="checkbox"/>
6.4.2d Are you following a special diet, exercise regime or weight control program for diabetes during the <u>last 2 weeks</u> ? (As recommended by health professional) (Y=YES; N=NO)	<input type="checkbox"/>

6.4.3 Chronic Lung Disease	
6.4.3a Have you ever been diagnosed with <u>chronic lung disease</u> (emphysema, bronchitis, COPD)?	<input type="checkbox"/>
(Y=YES; N=NO; If 'NO' SKIP TO 6.4.3d)	
6.4.3b Have you been taking any medications or other treatment (like oxygen) for it in the <u>last 2 weeks</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3c Have you been taking any medications or other treatment (like oxygen) for it in the <u>last 12 months</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3d During the <u>last 12 months</u> , have you experienced any <u>shortness of breath</u> at rest? (while awake)	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3e During the <u>last 12 months</u> , have you experienced any <u>coughing</u> or <u>wheezing</u> for <u>ten minutes or more</u> at a time?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3f During the <u>last 12 months</u> , have you experienced any coughing up <u>sputum</u> or <u>phlegm</u> for most days of the month for <u>at least 3 months</u> ?	<input type="checkbox"/>
(Y=YES; N=NO; If 'NO' SKIP TO INSTRUCTION JUST ABOVE 6.4.3h)	
6.4.3g Have you had <u>blood</u> in your phlegm or have you <u>coughed blood</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
(FW: IF THE ANSWER TO 6.4.13d IS YES OR ANSWER TO 6.4.3e IS YES ASK 6.4.3h; ELSE SKIP TO 6.4.3i)	
6.4.3h These symptoms that you said you experienced in the last 12 months, have you experienced them in the <u>last 2 weeks</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3i In the <u>last 12 months</u> , have you had a <u>tuberculosis (TB) test</u> ? I mean, has a doctor examined your sputum (taken a sample of the substance spit out from a deep cough and sent it to a laboratory for analysis) or made an x-ray of your chest?	<input type="checkbox"/>
(Y=YES; N=NO; If 'NO' SKIP TO 6.4.4)	
6.4.3j Have you been taking any medications or other treatment for TB during the <u>last 2 weeks</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.3k Have you been taking any medications or other treatment for TB during the <u>last 12 months</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.4 Hypertension (High blood Pressure)	
6.4.4a Have you ever been diagnosed with <u>high blood pressure</u> (hypertension)?	<input type="checkbox"/>
(Y=YES; N=NO; If 'NO' SKIP TO 6.5)	
6.4.4b Have you been taking <u>medications or other treatment</u> for it during the <u>last 2 weeks</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.4.4c Have you been taking <u>medications or other treatment</u> for it during the <u>last 12 months</u> ?	<input type="checkbox"/>
(Y=YES; N=NO)	
6.5 What do you consider to be the <u>most severe</u> health problem you have currently?	
CIRCLE ONE RESPONSE	Communicable disease (malaria, tuberculosis, HIV/AIDS, other)..... ..1 Acute conditions (diarrhea, flu, headaches, cough, other)..... ..2 Injury or disability as a result of injury..... ..3 Post-Surgery complications..... ..4 Sleep problems..... ..5 Chronic pain in joints/arthritis (joints, back, neck)..... ..6 Diabetes or related complications..... ..7 Problems with heart including unexplained pain in chest .....8 Problems with mouth, teeth or swallowing..... ..9 Problems with breathing..... ..10 High blood pressure / hypertension..... ..11 Stroke/sudden paralysis of one side of body..... ..12 Generalized pain (stomach, muscle or other non specific pain)..... ..13 Depression or anxiety..... ..14 Cancer..... ..15 Poor sight..... ..16 Hearing Loss..... ..17 Have no severe health problem .....18 Other (specify)..... ..98
[IF ANSWER IS 18 SKIP TO 6.11]	

6.6 In the last 3 months, have you gone to seek health care outside of home for this problem?
(Y=YES; N=NO; If 'NO' SKIP TO 6.10)

6.7 Where did you go to seek health care? NAME OF FACILITY/PROVIDER

Govt health center/dispensary.....1	Government hospital.....5
Private Health center/dispensary.....2	Traditional healer/herbalists.....6
Pharmacist/Drug store.....3	Religious / Prayer houses.....7
Private hospital.....4	Other (specify).....8

6.8 What was the outcome of the last visit to seek care for this health problem? Did your condition greatly improve, slightly improve, not change, slightly worsen or greatly worsen?
Greatly improved (1), slightly improved (2) No change (3) Slightly worsened (4), Greatly worsened (5)

6.9 In total, how much have you spent on the health care for this problem in the last 3 months?
(RECORD '00000' IF FOR FREE)

6.6.1 Consultation	<input type="text"/>
6.6.2 Hospitalization	<input type="text"/>
6.6.3 Medicine/drugs	<input type="text"/>
6.6.4 Transportation to seek treatment	<input type="text"/>
6.6.5 Lab, X-Ray etc	<input type="text"/>
6.6.6 Other (specify)	<input type="text"/>

[SKIP TO 6.11]

6.10 What is/was the main reason why you did not seek health care outside the home/when you needed it?
CIRCLE ONE RESPONSE

Could not afford the cost of the visit.....1	The health care provider's skills are inadequate.....7
No transport available.....2	You did not know where to go.....8
Could not afford the cost of transport.....3	You tried but were denied health care.....9
Was previously badly treated.....4	You thought you were not sick enough.....10
Could not take time off work or had other commitments.....5	You did not need health care.....11
The health care provider's drugs or equipment are inadequate.....6	Other (specify).....98

6.11 Are there times in the past 3 months when you needed health care but you did not get it?
(Y=YES; N=NO; If 'NO' SKIP TO 7.0)

6.12 What is/was the main reason why you did not get health care when you needed it?
CIRCLE ONE RESPONSE

Could not afford the cost of the visit.....1	The health care provider's skills are inadequate.....7
No transport available.....2	You did not know where to go.....8
Could not afford the cost of transport.....3	You tried but were denied health care.....9
Was previously badly treated.....4	You thought you were not sick enough.....10
Could not take time off work or had other commitments.....5	You did not need health care.....11
The health care provider's drugs or equipment are inadequate.....6	Other (specify).....98

6.13 In the last 12 months did you ever feel that you were treated differently by health care providers for any of the following reasons.

6.13A. Because of your ...	Y=YES	N=NO	IF YES ASK ---->	6.13B. If YES were you treated better or worse?	B=BETTER	W=WORSE
Sex	Y	N	IF YES ASK ---->		B	W
Age	Y	N	IF YES ASK ---->		B	W
Social class	Y	N	IF YES ASK ---->		B	W
Lack of money	Y	N	IF YES ASK ---->		B	W
Ethnic group	Y	N	IF YES ASK ---->		B	W

7.0 HEALTH STATE DESCRIPTIONS

7.1 START TIME (24 HR FORMAT)

I would like to ask you questions about your health and well-being. I know some of these questions may be sensitive or difficult to answer, but please try to provide an answer to the best of your knowledge. I will ask about your overall health, including both your physical and your mental health. Some of the questions may sound similar or repetitive, but I need to ask all of the questions so we have complete understanding of your health.

7.2 In general, how would you rate your health today, would you say your health is Very good (1), Good (2), Moderate (3), Bad (4), or Very bad (5)?

7.3 Overall in the last 30 days, how much difficulty did you have with work or household activities. Would you say No difficulty (1), Mild difficulty (2), Moderate (3), Severe (4) or Extreme/cannot do anything (5)?

Now I would like to review the different functions of your body. When answering these questions, I would like you to think about the last 30 days, taking both good and bad days into account. When I ask about difficulty, I would like you to consider how much difficulty you have had, on average, in the last 30 days, while doing the activity in the way that you usually do it. By difficulty I mean requiring increased effort, discomfort or pain, slowness or changes in the way you do the activity. I would like you to provide me your response whether you have No difficulty, Mild difficulty, Moderate difficulty, Severe difficulty or Extreme difficulty regarding the following functions of your body. By moderate difficulty I mean between mild and severe difficulty.

(CIRCLE APPROPRIATE CODE)

	NONE	MILD	MODERATE	SEVERE	EXTREME /CAN'T DO
Mobility					
7.4 Overall in the last 30 days how much difficulty did you have with <u>moving around</u>?	....1	....2	.... 3	....4	....5
7.5 Overall in the last 30 days how much difficulty did you have in <u>vigorous activities</u> (such as walking fast)?	....1	....2	.... 3	....4	....5
Self-Care					
7.6 Overall in the last 30 days how much difficulty did you have with <u>self-care</u> , such as bathing/washing yourself or dressing?	....1	....2	.... 3	....4	....5
7.7 Overall in the last 30 days how much difficulty did you have in <u>taking care of and maintaining your general appearance</u> (e.g. grooming, looking tidy)	....1	....2	.... 3	....4	....5
7.8 Overall in the last 30 days how much of <u>bodily aches or pains</u> did you have?	....1	....2	.... 3	....4	....5
7.9 Overall in the last 30 days how much bodily <u>discomfort</u> did you have?	....1	....2	.... 3	....4	....5
Cognition					
7.10 Overall in the last 30 days how much difficulty did you have with <u>concentrating or remembering things</u>?	....1	....2	.... 3	....4	....5
7.11 Overall in the last 30 days how much difficulty did you have in <u>learning a new task</u> (for example, learning how to get to a new place)?	....1	....2	.... 3	....4	....5
Interpersonal Activities					
7.12 Overall in the last 30 days how much difficulty did you have with <u>personal relationships or participation in the community</u>?	....1	....2	.... 3	....4	....5
7.13 Overall in the last 30 days how much difficulty did you have in <u>dealing with conflicts and tensions</u> with others?	....1	....2	.... 3	....4	....5

		(CIRCLE APPROPRIATE CODE)				EXTREME/ CANNOT	
		NONE	MILD	MODERATE	SEVERE		
Breathing							
7.14	Overall in the last 30 days how much of a problem did you have with breathing, such as <u>shortness of breath when not doing anything</u> ?	1	2	3	4	5	
7.15	Overall in the last 30 days how much of a problem did you have with <u>shortness of breath when doing mild activity</u> , such as climbing uphill for 20 meters or climbing stairs?	1	2	3	4	5	
Sleep and Energy							
7.16	Overall in the last 30 days how much of a problem did you have with sleeping, such as <u>falling asleep</u> , waking up frequently during the night or waking up too early in the morning?	1	2	3	4	5	
7.17	Overall in the last 30 days how much of a problem did you have due to <u>not feeling rested and refreshed</u> during the day (e.g. feeling tired, not having energy)?	1	2	3	4	5	
Affect							
7.18	Overall in the last 30 days how much of a problem did you have with <u>feeling sad, low or depressed</u> ?	1	2	3	4	5	
7.19	Overall in the last 30 days how much of a problem did you have with <u>worry or anxiety</u> ?	1	2	3	4	5	
Vision							
7.20	When was the last time you had your <u>eyes</u> examined by a health care professional? (1=Never; 2=Within the last 12 months; 3=1-2 years ago; 4=3-4 years ago; 5=5 or more years ago)						<input type="checkbox"/>
7.21	Do you use eyeglasses or contact lenses to <u>see far away</u> (for example across the street)? (Y=YES; N=NO)						<input type="checkbox"/>
7.22	Do you use eyeglasses or contact lenses to <u>see up close</u> (for example at arms length, like when you are reading)? (Y=YES; N=NO)						<input type="checkbox"/>
		NONE	MILD	MODERATE	SEVERE	CANNOT DO	
7.23	Overall in the last 30 days how much difficulty did you have in <u>seeing and recognising a person or object you know across the road</u> (from a distance of about 20 meters)?	1	2	3	4	5	
7.24	Overall in the last 30 days how much difficulty did you have in seeing and recognising <u>an object at arm's length</u> (for example reading)?	1	2	3	4	5	
Hearing (respondent should answer when wearing hearing aid if one is used)							
7.25	Do you wear a <u>hearing aid</u> ? (Y=YES; N=NO)						<input type="checkbox"/>
		NONE	MILD	MODERATE	SEVERE	EXTREME/ CANNOT	
7.26	Overall in the last 30 days how much difficulty did you have in <u>hearing someone talking on the other side of the room in a normal voice</u> (even with hearing aid on if you use one)?	1	2	3	4	5	
7.27	How much difficulty did you have in hearing <u>what is said in a conversation with one other person in a quiet room</u> (even with your hearing aid on if you use one)?	1	2	3	4	5	

FUNCTIONING ASSESSMENT

The next questions ask about difficulties due to health conditions. Health conditions include diseases or illnesses, other health problems that may be short or long lasting, injuries, mental or emotional problems, and problems with alcohol or drugs. Think back over the last 30 days and I would like you to provide me your response whether you have No difficulty, Mild difficulty, Severe difficulty or Extreme difficulty in doing the following activities:

(CIRCLE APPROPRIATE CODE)

In the last 30 days, how much difficulty did you have

	NONE	MILD	MODERATE	SEVERE	EXTREME/ CANNOT	N/A
7.28 ...in sitting for long periods?	1	2	3	4	5	9
7.29 ... in walking 100 meters?	1	2	3	4	5	9
7.30 ... in standing up from sitting down?	1	2	3	4	5	9
7.31 ... in standing for long periods?	1	2	3	4	5	9
7.32 ... with climbing one flight of stairs without resting?	1	2	3	4	5	9
7.33 ... with stooping, kneeling or crouching?	1	2	3	4	5	9
7.34 ... picking up things with your fingers (such as picking up a coin from a table)?	1	2	3	4	5	9
7.35 ... in taking care of your household responsibilities?	1	2	3	4	5	9
In the last 30 days, how much difficulty did you have						
7.36 ... in joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?	1	2	3	4	5	9
7.37 ... in extending your arms above shoulder level?	1	2	3	4	5	9
7.38 ... concentrating on doing something for 10 minutes?	1	2	3	4	5	9
7.39 ... in walking a long distance such as a kilometer?						
7.40 ... in bathing/washing your whole body?	1	2	3	4	5	9
7.41 ... in getting dressed?	1	2	3	4	5	9
7.42 ... in your day to day work?	1	2	3	4	5	9
7.43 ... with carrying things?	1	2	3	4	5	9
7.44 ... with moving around inside your home (such as walking across a room)?	1	2	3	4	5	9
7.45 ... with eating (including cutting up your food)?	1	2	3	4	5	9
7.46 ... with getting up from lying down?	1	2	3	4	5	9
7.47 ... with getting to and using the toilet?	1	2	3	4	5	9
7.48 ... with getting where you want to go, using private or public transport if needed?	1	2	3	4	5	9
7.49 ... getting out of your home?	1	2	3	4	5	9

	NOT AT ALL	A LITTLE	MODERATELY	GREATLY	SEVERELY
7.50 In the <u>last 30 days</u> , how much have you been emotionally affected by your health condition(s)?	1	2	3	4	5
7.51 Overall, how much did these difficulties interfere with your life?	1	2	3	4	5

7.52 Besides any vision (eyeglasses, contact lenses) or hearing aids, do you use any other assistive devices (such as a cane, walker, or other devices) to help you with any difficulties you may have? (Y=YES; N=NO)	<input type="checkbox"/>
(IF YES Please Specify) _____	
7.53 Have you lost your tooth/teeth? (Y=YES; N=NO)	<input type="checkbox"/>
IF NO SKIP TO 7.55	
7.54 Do you have any difficulty in feeding as a result of loosing your teeth? (Y=YES; N=NO)	<input type="checkbox"/>
SUBJECTIVE WELLBEING AND QUALITY OF LIFE	
Now, I would like to ask for your thoughts about your life and life situation. By telling me whether you Completely, Mostly, Moderately, A little, or Not at all agree with the statement.	
(CIRCLE APPROPRIATE CODE)	
	COMPLETELY MOSTLY MODERATELY A LITTLE NONE AT ALL
7.55 Do you have enough energy for everyday life?	..... 1 2 3 4 5
7.56 Do you have enough money to meet your basic needs?	1 2 3 4 5
Please tell us how satisfied you are with the following issues. By telling me whether you are Very Satisfied, Satisfied, Neither Satisfied nor Dissatisfied, Dissatisfied, or Very Dissatisfied	
	VERY NEITHER VERY SATISFIED SATISFIED SATISFIED NOR DISSATISFIED DISSATISFIED DISSATISFIED
7.57 How satisfied are you with your health?	1 2 3 4 5
7.58 How satisfied are you with your ability to perform your daily living activities?	1 2 3 4 5
7.59 How satisfied are you with your personal relationships?	1 2 3 4 5
7.60 How satisfied are you with the conditions of your living place?	1 2 3 4 5
7.61 Taking all things together, how satisfied are you with your life as a whole these days?	1 2 3 4 5
7.62 How would you rate your overall quality of life? Is it Very Good (1), Good (2), Moderate (3), Bad (4), or Very Bad (5)? Don't Know (8).	<input type="checkbox"/>
7.63 Taking all things together, how would you say you are these days? Are you Very happy (1), Happy (2), Neither happy nor unhappy (3), Unhappy (4), or Very unhappy (5)? IF DON'T KNOW (8)	<input type="checkbox"/>
7.64 END TIME (24 HR-FORMAT)	<input style="width: 20px; height: 20px;" type="text"/>

8.0 CARING FOR PERSONS WITH PROLONGED ILLNESS	
<p>In the following questions, I would like to find out how families and households cope and support each other through prolonged illnesses. People who are ill may need care and assistance from others. This includes both daily personal care at home, assistance outside the house such as to go see a doctor, going to buy medicines, health care, emotional well-being or other personal activities.</p> <p>I would like to ask you some questions about this type of care given to people who have had prolonged illness that is, people who have been ill continuously for three months or more.</p>	
8.1 Are you currently taking care of someone who has had a prolonged illness? (Y=YES; N=NO; IF 'NO' SKIP TO 8.4)	<input type="checkbox"/>
8.2 How many people who have a prolonged illness are you currently caring for?	<input type="checkbox"/>
8.3 (IF MORE THAN ONE IN 8.2) Please give me the name of the person who got ill most recently. (OTHERWISE ASK) Please give me the name of the person you are currently providing care to? _____	
8.4 [IF CURRENTLY CARING] Other than those you are caring for, in the past 3 years, have you cared for someone who had a prolonged illness? [IF NOT CURRENTLY CARING] in the past 3 years, have you cared for someone who had a prolonged illness? (Y=YES; N=NO; IF 'NO' SKIP TO FILTER 1)	
8.5 [IF CURRENTLY CARING] Apart from those you are currently caring for, how many people have you cared for in the past 3 years? [IF NOT CURRENTLY CARING] how many people have you cared for in the past 3 years?	<input type="checkbox"/>
8.6 (IF MORE THAN ONE IN 8.5) Please give me the name of the person who started getting ill later than the others. (OTHERWISE ASK) Please give me the name of the person whom you provided care. _____	
8.7 In what month and year did you start providing care to (PERSON MENTIONED IN 8.6)? MONTH <input type="checkbox"/> <input type="checkbox"/> YEAR <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p>[FILTER 1: CHECK 8.1 AND 8.4, IF ANS IS 'NO' IN 8.1 AND 'NO' IN 8.4, SKIP TO SECTION 9; IF 'YES' IN 8.1 AND 'NO' IN 8.4 ASK ABOUT THE PERSON MENTIONED IN 8.3; OR IF 'NO' IN 8.1 AND 'YES' IN 8.4 ASK ABOUT THE PERSON MENTIONED IN 8.6] IF 'YES' IN 8.1 AND 'YES' IN 8.4 ASK ABOUT THE PERSON MENTIONED IN 8.3]</p>	
I would like us to talk briefly about _____ (NAME OF PERSON)	
8.8 What is your relationship to (NAME)? (CODE SHEET A ⁴)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.9 How old is (NAME)?/How old was (NAME) at the time you started providing care to him/her?	<input type="checkbox"/> <input type="checkbox"/>
8.10 Where is (NAME) currently residing?/Where was (NAME) residing at the time you were caring for him/her? (CODE SHEET A ³)	<input type="checkbox"/>
8.11 Before you started providing care, was (NAME) living at the location (MENTIONED IN 8.10) (Y=YES; N=NO)	<input type="checkbox"/>
8.12 IF NAME WAS 12 YEARS OR OLDER: At the time you provided care, what is/was (NAME)'s marital status? (N=Never married; M=Married; L=Living together; W=Widowed; D=Divorced; S=Separated/Not living together)	<input type="checkbox"/>
8.13 What main illness is/was (NAME) suffering from? _____	

8.14 For how long has/was (NAME) been ill? M=MONTHS; Y=YEARS; D=DON'T KNOW <input type="checkbox"/>		DURATION <input type="text"/>																																				
8.15 For how long has/was (NAME) critically ill that he/she needed someone to provide a lot of personal care? W=WEEKS; M=MONTHS; Y=YEARS; D=DON'T KNOW <input type="checkbox"/>		DURATION <input type="text"/>																																				
CARING ROLE																																						
8.16 For how long have you been caring for/did you provide care to (NAME)? M=MONTHS; Y=YEARS; D=DON'T KNOW <input type="checkbox"/>		DURATION <input type="text"/>																																				
8.17 Is there anyone else assisting you/who assisted you in providing care to (NAME)? (Y=YES; N=NO; IF 'NO' SKIP TO 8.20)		<input type="checkbox"/>																																				
8.18 Between you and the other people or person, who is/was the main person who provides/provided care? (1=Respondent; 2=Someone else; IF '1' SKIP TO 8.20)		<input type="checkbox"/>																																				
8.19 What is this other person's relationship to (NAME)?		(CODE SHEET A ⁴) <input type="text"/>																																				
<table style="width:100%; border:none;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%;">NONE</th> <th style="width:10%;">MILD</th> <th style="width:10%;">MODERATE</th> <th style="width:10%;">SEVERE</th> <th style="width:10%;">EXTREME</th> </tr> </thead> <tbody> <tr> <td colspan="6">As a result of providing care to (NAME), how much difficulty have you had/did you have with:</td> </tr> <tr> <td>8.20 Getting enough sleep?</td> <td style="text-align:center;">1</td> <td style="text-align:center;">2</td> <td style="text-align:center;">3</td> <td style="text-align:center;">4</td> <td style="text-align:center;">5</td> </tr> <tr> <td>8.21 Eating enough food?</td> <td style="text-align:center;">1</td> <td style="text-align:center;">2</td> <td style="text-align:center;">3</td> <td style="text-align:center;">4</td> <td style="text-align:center;">5</td> </tr> <tr> <td>8.22 Having enough time to do other extra work?</td> <td style="text-align:center;">1</td> <td style="text-align:center;">2</td> <td style="text-align:center;">3</td> <td style="text-align:center;">4</td> <td style="text-align:center;">5</td> </tr> <tr> <td>8.23 Having muscle aches and pains?</td> <td style="text-align:center;">1</td> <td style="text-align:center;">2</td> <td style="text-align:center;">3</td> <td style="text-align:center;">4</td> <td style="text-align:center;">5</td> </tr> </tbody> </table>				NONE	MILD	MODERATE	SEVERE	EXTREME	As a result of providing care to (NAME), how much difficulty have you had/did you have with:						8.20 Getting enough sleep?	1	2	3	4	5	8.21 Eating enough food?	1	2	3	4	5	8.22 Having enough time to do other extra work?	1	2	3	4	5	8.23 Having muscle aches and pains?	1	2	3	4	5
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MEDICAL COSTS																																						
FW: IF (NAME) DIED OR RECOVERED FROM ILLNESS BEFORE 12 MONTHS SKIP TO 8.37																																						
8.24 Has/did (NAME) gone/go to seek treatment for his/her illness in the last 12 months (of the illness)? (Y=YES; N=NO; D=DON'T KNOW)		<input type="checkbox"/>																																				
(IF 'YES' AND CURRENTLY CARING SKIP TO 8.26. IF CARE WAS IN THE PAST SKIP TO 8.27)																																						
8.25 What is the main reason why (NAME) has not gone/did not go to seek treatment? (SKIP TO 8.27)		(CODE SHEET A ⁵) <input type="checkbox"/>																																				
8.26 Is (NAME) currently on treatment?		(Y=YES; N=NO; D=DON'T KNOW) <input type="checkbox"/>																																				
8.27 Has/did (NAME) incurred any medical costs in the last 12 months?		(Y=YES; N=NO; IF 'NO' SKIP TO 8.37) <input type="checkbox"/>																																				
8.28 How much has been spent for (NAME) on the following costs during the last 12 months? (RECORD '00000' IF NONE)																																						
	8.28.1 Consultation	<input type="text"/>																																				
	8.28.2 Hospitalization	<input type="text"/>																																				
	8.28.3 Medicine/drugs	<input type="text"/>																																				
	8.28.4 Transportation for treatment	<input type="text"/>																																				
	8.28.5 Other (specify)	<input type="text"/>																																				
8.29 Have you personally contributed financially to meet the medical costs incurred by (NAME)? (Y=YES; N=NO; IF 'NO' SKIP TO 8.35)		<input type="checkbox"/>																																				
8.30 About how much would you say you have contributed to meet the medical costs: Would you say it is all or nearly all (1), over half (2), half (3), less than half (4), or, very little or nothing at all (5)?		<input type="checkbox"/>																																				

8.31 As a result of the medical expenses, have you had/did you have to borrow any money to cover these expenses? (Y=YES; N=NO)	<input type="checkbox"/>
8.32 As a result of the medical expenses, have you had/did you have to sell any items or assets to cover these expenses? (Y=YES; N=NO; If 'NO' SKIP TO 8.34)	<input type="checkbox"/>
8.33 What asset(s) have you sold/did you sell? CIRCLE ALL MENTIONED	Household utensils/Clothing .....A Furniture(table/chair/stool/sofa) .....B Electronic household appliances .....C Production tools/Equipment .....D Livestock .....E Other (Specify) .....F Other (Specify) .....G
8.34 What has been your <u>main source</u> for the money you have contributed to meet the costs of (NAME's) medical expenses? CIRCLE ONLY ONE RESPONSE	Own income generating activity .....1 Savings/Investments .....2 Pension/retirement benefits .....3 Donations from friends/relatives .....4 Sell of assets/property .....5 Other (Specify) .....6
8.35 What or who has been the <u>primary</u> source of finances used to pay (NAME's) medical bills? (CODE SHEET A ⁶)	<input type="checkbox"/> <input type="checkbox"/>
8.36 What would you say is/was the <u>most costly</u> medical expense?	Consultation .....1 Hospitalization .....2 Medicine/drugs .....3 Transportation .....4 Other (specify) .....8
INCOME LOSS	
8.37 Is/was (NAME) engaged in any livelihood activity/at the time of providing care? (Y=YES; N=NO If 'YES' SKIP TO 8.39)	<input type="checkbox"/>
8.38 Was (NAME) engaged in any livelihood activity at least 4 months before s/he became ill? (Y=YES; N=NO; If 'NO' SKIP TO 8.41)	<input type="checkbox"/>
8.39 Does/did (NAME) contribute to your household income/upkeep? (Y=YES; N=NO; If 'NO' SKIP TO 8.41)	<input type="checkbox"/>
8.40 About how much would you say (NAME) contributed/contributes to your household income/upkeep: Would you say it was/is all or nearly all (1), over half (2), half (3), less than half (4), or, very little/nothing at all (5)?	<input type="checkbox"/>
8.41 Has/did the caring responsibility interfered/interfere with your livelihood activities? (Y=YES; N=NO)	<input type="checkbox"/>
8.42 What is the <u>main</u> reason why the caring responsibility interfered/did not interfere with your livelihood activities? CIRCLE ONLY ONE RESPONSE	Was not working/Not looking for work .....1 Caring tasks took too much time .....2 Care required constant presence .....3 Lost job/laid off because of caring .....4 Health problems/Disabled .....5 Retired / too old to work .....6 Livelihood activity not too demanding .....7 Other, specify: .....8

8.43 Have/did you tried/try to engage in (another) an income generating activity to cope with the financial costs of caring for (NAME) since (NAME) fell sick? (Y=YES; N=NO)	<input type="checkbox"/>
(CHECK QUESTION 8.1, IF CURRENTLY CARING SKIP TO SECTION 9 OTHERWISE ASK QUESTION 8.44)	
FUNERAL COSTS	
8.44 Did (NAME) survive the illness? (Y=YES; N=NO; If 'YES' SKIP TO SECTION 9)	<input type="checkbox"/>
Now I would like to talk briefly about (NAME's) death. I know it may be painful to talk about this but it is important that we get the right information	
8.45 How long after (NAME) became ill did he/she die from the illness? M=MONTHS; Y=YEARS; D=DONT KNOW	DURATION <input type="text"/> <input type="text"/>
8.46 Where was (NAME) buried? Was s/he buried in Nairobi (1), other urban area of Kenya (2), rural Kenya (3) or elsewhere (4, specify)? _____	<input type="checkbox"/>
8.47 How long after the death of (NAME) did the burial take place? D=Days; W=WEEKS; M=MONTHS; D=DONT KNOW	DURATION <input type="text"/> <input type="text"/>
8.48 Did you contribute financially to meet the funeral costs incurred by (NAME)'s death? (Y=YES; N=NO; IF 'NO' SKIP TO 8.53)	<input type="checkbox"/>
8.49 About how much would you say you have contributed to meet the funeral costs: Would you say it was all or nearly all (1), over half (2), half (3), less than half (4), or, very little or nothing at all (5)?	<input type="checkbox"/>
8.50 As a result of the funeral expenses, did you have to borrow any money to cover the funeral expenses? (Y=YES; N=NO)	<input type="checkbox"/>
8.51 As a result of the funeral expenses, have you had/did you have to sell any item or asset to cover the funeral expenses? (Y=YES; N=NO; IF 'NO' SKIP TO 8.53)	<input type="checkbox"/>
8.52 What asset(s) have you sold/did you sell? CIRCLE ALL MENTIONED	Household utensils/Clothing .....A Furniture(table/chair/stool/sofa) .....B Electronic household appliances .....C Production tools/Equipment .....D Livestock .....E Other (Specify) .....F Other (Specify) .....G
8.53 What or who has been the <u>primary</u> source of finances used to offset (NAME's) funeral costs? (CODE SHEET A ⁶)	<input type="checkbox"/>
8.54 What would you say was the <u>most</u> costly funeral item? _____	Transportation .....1 Mortuary fees .....2 Food .....3 Coffin .....4 Other (specify) .....8
OTHER COSTS AND SOCIAL SUPPORT	
8.55 What would you say is/was the <u>most</u> difficult task of providing care to (NAME)? CIRCLE ONLY ONE RESPONSE	Personal care (dressing/bathing/feeding) .....1 Physical (lifting, transportation, moving around) .....2 Health care (hospital visits, giving medicines) .....3 Financial (medical, funeral, foodstuff) .....4 Being helpless/Unable to assist .....5 Don't know/cannot determine .....6 Emotional (Bearing with the suffering) .....7 Other (specify) .....8

8.56 What would you say is/was the most costly item/aspect of providing care to (NAME)?	Foodstuff/groceries1 Medical costs2 Funeral costs3 Don't know/cannot determine4 Other (specify)8														
8.57 Are there any activities/social roles that you have been unable to perform because of providing care to (NAME)?	<input type="checkbox"/> (Y=YES; N=NO)														
8.58 As a result of providing care to (NAME), has it resulted in any friction between members of your household or family?	<input type="checkbox"/> (Y=YES; N=NO)														
8.59 Do you/did you or (NAME) experience any negative reaction from neighbours/community members as a result of his/her illness?	<input type="checkbox"/> (Y=YES; N=NO)														
The next few questions ask about what help or assistance you as a person who has provided care, received from other people or groups to assist you in providing care to (NAME) during their illness.															
	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Personal care</td> <td style="text-align: center;">Physical care</td> <td style="text-align: center;">Health care</td> <td style="text-align: center;">Financial care</td> <td style="text-align: center;">Emotional care</td> <td style="text-align: center;">Other</td> <td style="text-align: center;">No Support</td> </tr> </table>	Personal care	Physical care	Health care	Financial care	Emotional care	Other	No Support							
Personal care	Physical care	Health care	Financial care	Emotional care	Other	No Support									
8.60 What sort of help do/did you receive from your family/relatives during (NAME's) illness. PROBE: Any other help?	A.....B.....C.....D.....E.....F.....N...														
8.61 What sort of help do/did you receive from your neighbours/community during (NAME's) illness. PROBE: Any other help?	A.....B.....C.....D.....E.....F.....N...														
8.62 What sort of help do/did you receive from any NGO/CBOs during (NAME's) illness. PROBE: Any other help?	A.....B.....C.....D.....E.....F.....N...														
8.63 What sort of help do/did you receive from any religious groups/organizations during (NAME's) illness. PROBE: Any other help?	A.....B.....C.....D.....E.....F.....N...														
8.64 Who would you say was the most helpful to you during (NAME's) illness?	(CODE SHEET A ¹) <input type="checkbox"/>														
9 CARING FOR CHILDREN UNDER 15 YEARS															
9.1 Are you currently taking care of children who are not your biological children and who are less than 15 years of age?	<input type="checkbox"/> (Y=YES; N=NO; If 'NO' SKIP TO SECTION 10)														
9.2 In total, how many children under the age of 15 years are you taking care of?	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>														
9.3 Why did you end up caring for the children under your care?	<table border="0" style="width: 100%;"> <tr> <td style="width: 80%;"></td> <td style="text-align: right;">No other person to care for themA</td> </tr> <tr> <td></td> <td style="text-align: right;">No one else willing to care for themB</td> </tr> <tr> <td></td> <td style="text-align: right;">Out of choiceC</td> </tr> <tr> <td></td> <td style="text-align: right;">Children are orphanedD</td> </tr> <tr> <td></td> <td style="text-align: right;">Parent(s) living elsewhereE</td> </tr> <tr> <td></td> <td style="text-align: right;">Parent (s) refused to care for themF</td> </tr> <tr> <td></td> <td style="text-align: right;">Other, specify:G</td> </tr> </table>		No other person to care for themA		No one else willing to care for themB		Out of choiceC		Children are orphanedD		Parent(s) living elsewhereE		Parent (s) refused to care for themF		Other, specify:G
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	Out of choiceC														
	Children are orphanedD														
	Parent(s) living elsewhereE														
	Parent (s) refused to care for themF														
	Other, specify:G														
9.4 How many of the children whom you are caring for living with you in this household? (If ANSWER for 9.2 is EQUAL to ANSWER for 9.4, SKIP TO 9.6)	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>														
9.5 How many of these children are living elsewhere?	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>														

CHARACTERISTICS OF CHILDREN

Now I would like us to talk about the children under the age of 15 years who are currently living with you.

9.6	9.7	9.8	9.9	9.10	9.11	9.12	9.13	9.14	9.15	9.16	9.17	9.18
		IF ALIVE Where does (NAME'S) mother live? (Y=YES; N=NO; D=DON'T KNOW) A ₂	IF ALIVE Where does (NAME'S) mother live? (Y=YES; N=NO; D=DON'T KNOW) A ₂	IF ALIVE Where does (NAME'S) father live? (Y=YES; N=NO; D=DON'T KNOW) A ₂	IF ALIVE Where does (NAME'S) father live? (Y=YES; N=NO; D=DON'T KNOW) A ₂	For how long have (NAME) been living with you? (in years) A ₃	What is your relation- ship to (NAME)? (CODE) SHEET A ₄	Is (NAME) currently attending school? (Y=Yes; N=No) if NO GO TO SHEET A ₄	IF (NAME) > 5 years Which Level (L) and grade (G) is (NAME) in? (CODE) SHEET A ₄	How would you best describe (NAME's) health? 1=Very Good 2=Good 3=Neither good nor bad 4=Poor 5=very poor	How often does (NAME) feel unhappy or sad? 1=Often 2=Sometimes 3=Rarely 4=Never 5=DK	IF (NAME) > 5 years How often does (NAME) act disobediently at home? 1=Often 2=Sometimes 3=Rarely 4=Never 5=DK
1									L <input type="checkbox"/> G <input type="checkbox"/>			
2									L <input type="checkbox"/> G <input type="checkbox"/>			
3									L <input type="checkbox"/> G <input type="checkbox"/>			
4									L <input type="checkbox"/> G <input type="checkbox"/>			
5									L <input type="checkbox"/> G <input type="checkbox"/>			
6									L <input type="checkbox"/> G <input type="checkbox"/>			

10.0 SOCIAL NETWORKING					
I would like to ask you about social aspects of your life and also get your opinion on the community life in general. I will start with the social aspects of your life.					
TYPE OF NETWORK and COMMUNITY INVOLVEMENT					
10.1 How many people do you have whom you consider as close friends?					<input type="text"/>
10.2 Suppose you had a financial problem, whom would you turn to first for help? How is this person related to you?					<input type="text"/>
RECORD RELATIONSHIP (CODE SHEET A ⁴)					
10.3 Where does this person live?					<input type="text"/>
(RECORD CODE OF PLACE OF RESIDENCE) (CODE SHEET A ²)					
10.4 Suppose you needed to confide in someone you trust, whom would you turn to first? How is this person related to you?					<input type="text"/>
RECORD RELATIONSHIP (CODE SHEET A ⁴)					
10.5 Where does this person live?					<input type="text"/>
(RECORD CODE OF PLACE OF RESIDENCE) (CODE SHEET A ²)					
10.6 Do you belong to a self-help group such as merry-go-rounds or welfare organization? (Y=YES; N=NO)					<input type="text"/>
10.7 How often in the last 4 months have you met with a community leader?					
1. Never 2. Once or Twice a week 3. Once or twice per month					
4. Once or twice in last 4 months 5. Other (specify)					<input type="text"/>
10.8 How often in the last 4 months have you attended any group, club, society, union or organizational meeting?					
1. Never 2. Once or Twice a week 3. Once or twice per month					
4. Once or twice in last 4 months 5. Other (specify)					<input type="text"/>
10.9 How often in the last 4 months have you worked with other people in your neighborhood to fix or improve something or resolve a community issue?					
1. Never 2. Once or Twice a week 3. Once or twice per month					
4. Once or twice in last 4 months 5. Other (specify)					<input type="text"/>
10.10 What is your religious affiliation?					
1. Roman Catholic 2. Protestant/Other Christian 3. Muslim					
4. No religion [IF '4' SKIP TO 10.12] 5. Other (specify)					<input type="text"/>
10.11 Not including weddings and funerals, how often do you attend religious services?					
1. More than once per week 2. Once per week 3. Once or twice a month					
4. Only on special occasions 5. Once a year or less often 6. Never					<input type="text"/>
COMMUNITY PERCEPTION AND SECURITY					
Now we have a few questions about safety in the area where you live					
	VERY SAFE	SAFE	NEITHER SAFE NOR UNSAFE	UNSAFE	VERY UNSAFE
10.12 In general, how safe from crime and violence do you feel when you are alone at home? Would you say you feel very safe, safe, neither safe nor unsafe, unsafe, or very unsafe?	1	2	3	4	5
10.13 How safe do you feel when walking down a road in the community alone after dark? Would you say you feel very safe, safe, neither safe nor unsafe, unsafe, or very unsafe?	1	2	3	4	5

<p>11.6 Why do you think you have a MODERATE/GREAT chance of contracting HIV/AIDS?</p> <p>CIRCLE ALL MENTIONED</p>	<p>Do not use condoms A</p> <p>More than one sex partner..... B</p> <p>Many sex partners..... C</p> <p>Spouse has/suspected to have other sex partners..... D</p> <p>Had blood transfusion..... E</p> <p>Had injection/body piercing..... F</p> <p>Interacted with someone with AIDS G</p> <p>Lost weight H</p> <p>Have weak body resistance..... I</p> <p>Other J</p> <p>Does Not Know..... K</p>
<p>11.7 If a relative of yours becomes sick with the virus that causes HIV/AIDS, would you be willing to care for him or her in your own home? <input type="checkbox"/></p> <p>(Y=YES, N=NO, D=DON'T KNOW/UNSURE)</p>	
<p>11.8 If a married man becomes sick with HIV/AIDS, who should mainly be responsible for providing care to him?</p> <p>CIRCLE ONLY ONE RESPONSE</p>	<p>Spouse..... 1</p> <p>Parents..... 2</p> <p>Brother/Sister..... 3</p> <p>Parent-in-law..... 4</p> <p>Brother/sister-in-law..... 5</p> <p>Other family members..... 6</p> <p>Friends..... 7</p> <p>Government facilities..... 8</p> <p>NGOs/CBOs..... 9</p> <p>Religious group..... 10</p> <p>The community..... 11</p> <p>Other 12</p>
<p>11.9 If an unmarried man becomes sick with HIV/AIDS, who should mainly be responsible for providing care to him?</p> <p>CIRCLE ONLY ONE RESPONSE</p>	<p>Spouse..... 1</p> <p>Parents..... 2</p> <p>Brother/Sister..... 3</p> <p>Parent-in-law..... 4</p> <p>Brother/sister-in-law..... 5</p> <p>Other family members..... 6</p> <p>Friends..... 7</p> <p>Government facilities..... 8</p> <p>NGOs/CBOs..... 9</p> <p>Religious group..... 10</p> <p>The community..... 11</p> <p>Other 98</p>
<p>11.10 If a married woman becomes sick with HIV/AIDS, who should mainly be responsible for providing care to her?</p> <p>CIRCLE ONLY ONE RESPONSE</p>	<p>Spouse..... 1</p> <p>Parents..... 2</p> <p>Brother/Sister..... 3</p> <p>Parent-in-law..... 4</p> <p>Brother/sister-in-law..... 5</p> <p>Other family members..... 6</p> <p>Friends..... 7</p> <p>Government facilities..... 8</p> <p>NGOs/CBOs..... 9</p> <p>Religious group..... 10</p> <p>The community..... 11</p> <p>Other 98</p>

<p>11.11 If an unmarried woman becomes sick with HIV/AIDS, who should be the main person who should provide care to her?</p> <p style="text-align: center;">CIRCLE ONLY <u>ONE</u> RESPONSE</p>	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Spouse.....</td><td style="text-align: right;">1</td></tr> <tr><td>Parents.....</td><td style="text-align: right;">2</td></tr> <tr><td>Brother/Sister.....</td><td style="text-align: right;">3</td></tr> <tr><td>Parent-in-law.....</td><td style="text-align: right;">4</td></tr> <tr><td>Brother/sister-in-law.....</td><td style="text-align: right;">5</td></tr> <tr><td>Other family members.....</td><td style="text-align: right;">6</td></tr> <tr><td>Friends.....</td><td style="text-align: right;">7</td></tr> <tr><td>Government facilities.....</td><td style="text-align: right;">8</td></tr> <tr><td>NGOs/CBOs.....</td><td style="text-align: right;">9</td></tr> <tr><td>Religious group.....</td><td style="text-align: right;">10</td></tr> <tr><td>The community.....</td><td style="text-align: right;">11</td></tr> <tr><td>Other.....</td><td style="text-align: right;">98</td></tr> </table>	Spouse.....	1	Parents.....	2	Brother/Sister.....	3	Parent-in-law.....	4	Brother/sister-in-law.....	5	Other family members.....	6	Friends.....	7	Government facilities.....	8	NGOs/CBOs.....	9	Religious group.....	10	The community.....	11	Other.....	98
Spouse.....	1																								
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The community.....	11																								
Other.....	98																								
11.12 I don't want to know the results, but have you ever been tested to see if you have the virus that causes AIDS? (Y=YES; N=NO; D=DON'T KNOW; IF 'YES' SKIP TO 11.15)	<input type="checkbox"/>																								
11.13 Would you be willing to be tested for HIV/AIDS? (Y=YES; N=NO; D=DON'T KNOW; IF 'YES' SKIP TO 11.15)	<input type="checkbox"/>																								
<p>11.14 Why are you unsure/not willing to be tested for HIV/AIDS?</p> <p style="text-align: center;">CIRCLE <u>ALL</u> MENTIONED</p>	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Risk of contacting HIV is low.....</td><td style="text-align: right;">A</td></tr> <tr><td>Risk of contacting HIV is high.....</td><td style="text-align: right;">B</td></tr> <tr><td>Testing has no benefit.....</td><td style="text-align: right;">C</td></tr> <tr><td>Spouse/partner does not approve.....</td><td style="text-align: right;">D</td></tr> <tr><td>Not ready / fear of knowing the status.....</td><td style="text-align: right;">E</td></tr> <tr><td>Do not know place for testing.....</td><td style="text-align: right;">F</td></tr> <tr><td>Other.....</td><td style="text-align: right;">G</td></tr> <tr><td>Other.....</td><td style="text-align: right;">H</td></tr> </table>	Risk of contacting HIV is low.....	A	Risk of contacting HIV is high.....	B	Testing has no benefit.....	C	Spouse/partner does not approve.....	D	Not ready / fear of knowing the status.....	E	Do not know place for testing.....	F	Other.....	G	Other.....	H								
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Not ready / fear of knowing the status.....	E																								
Do not know place for testing.....	F																								
Other.....	G																								
Other.....	H																								
11.15 Would you say there are older people infected with HIV/AIDS in this community? (Y=YES; N=NO)	<input type="checkbox"/>																								
11.16 We have now come to the end of our discussion, Do you have any comments or questions you would like to ask me? _____																									
11.17 END TIME (24 HR-FORMAT) □ □ □ □																									
END THE INTERVIEW BY THANKING THE RESPONDENT																									
12.0 INTERVIEWER ASSESSMENT																									
INTERVIEWER, PLEASE COMPLETE THE QUESTIONS BELOW BASED ON YOUR OWN OBSERVATION AND ASSESSMENT OF THE ENTIRE INTERVIEW PROCESS AND OF THE RESPONDENT																									
12.1 What is your assessment of the respondent's cooperation? 1=Very good 2=Good 3=Moderate 4=Bad 5=Very bad	<input type="checkbox"/>																								
12.2 What is your evaluation of the accuracy and completeness of the respondent's answers? 1=Very high 2=High 3=Average 4=Low 5=Very low	<input type="checkbox"/>																								
12.3 What is your assessment of the respondent's comprehension of issues discussed? 1=Very good 2=Good 3=Moderate 4=Bad 5=Very bad	<input type="checkbox"/>																								
12.4 What is your assessment of the respondent's concentration and attentiveness during the interview? 1=Good 2=Moderate 3=Bad 4=Very bad	<input type="checkbox"/>																								
12.5 What is your assessment on the extent of the respondent digressing during the interview ? 1=To a very great extent; 2=To a great extent; 3=Neither great nor small extent 4=To a small extent; 5=To a very small extent	<input type="checkbox"/>																								

12.6 Questions with doubtful answers	(Explain) _____ _____ _____ _____ _____ _____
12.7 Questions needing follow-up or clarification from supervisor	(Explain) _____ _____ _____ _____ _____
12.8 What questions did respondent find difficult, embarrassing or confusing?	(Explain) _____ _____ _____ _____ _____
12.90 What questions did you the interviewer find difficult, embarrassing or confusing?	(Explain) _____ _____ _____ _____
12.10 INTERVIEWER NOTES	_____ _____ _____ _____ _____ _____ _____ _____

Appendix 4

Appendix Table 1 Explanatory Variables

<i>Label</i>	<i>Survey</i>	<i>Variable Number</i>	<i>Variable Type</i>	<i>Variable Categories</i>	<i>Description</i>
Gender	SSHOWOP	1.5	Binary	Male; Female	Gender of respondent
Age group	SSHOWOP	Derived from 1.4	Categorical	50-54; 55-59; 60-69; 70-79; 80+	Age of respondent – recoded from date of birth into continuous variable and then categorised
Marital status	SSHOWOP	Derived from 2.1, 2.3, 2.4	Categorical	Currently married; divorced/separated; widowed; never married	Marital status of respondent derived from 3 variables
Household size	NUHDSS	Derived from household members roster	Categorical	1; 2; 3; 4; 5+	Household size of respondent – members roster contains information of all members of the household – recoded from this into continuous then into categorical variable

Education level	NUHDSS		Categorical	Never attended school; primary; secondary; don't know	Highest educational level attained by respondent
Self-reported health	SSHOWOP	7.2	Categorical	Very good; good; moderate; bad; very bad	How respondent would rate health on day of survey
Receives monthly support from children	SSHOWOP	Derived from 3.14, 3.15	Categorical	Money; assistance with household chores; assistance with healthcare	Derived from 3.14 average money received by older person from children per month; 3.15 other ways children support respondent
Receives support from relatives	SSHOWOP	3.24	Binary	Yes; no	Whether respondent receive any kind of assistance or support from any relatives (other than children)
Receives support from external organisations	SSHOWOP	3.28	Binary	Yes; No	Whether respondent receive support from any groups or organisations that provide assistance such as financial, material or emotional support to older people in the community

Belongs to a self-help or welfare group	SSHOWOP	10.6	Binary	Yes; No	If respondent belongs to self-help group such as merry-go-rounds or welfare organisation
Older person provides assistance to children	SSHOWOP	Derived from 3.19, 3.20	Categorical	Financial support; caring for their children; domestic chores; material support; advice/counselling; education/schooling; healthcare	Derived from 3.19 and 3.20 – whether respondent assists children in different ways
Financial reciprocity	SSHOWOP	Derived from 3.14, 3.19	Categorical	Receive and give; receive only; give only; neither give nor receive	Derived from 3.19 – whether respondent assists child with financial support; 3.14 – average monthly cash payment from children collapsed to show whether or not respondent receives monthly cash payment from children
Provided care to chronically ill person in last 3 years	SSHOWOP	Derived from 8.1, 8.4	Binary	Yes; No	Derived from 8.1 – if respondent is currently taking care of someone who has had a prolonged illness; 8.4 – if respondent has

					cared for someone with a prolonged illness in the last 3 years
Caring for a non-biological child under 15 years	SSHOWOP	9.1	Binary	Yes; No	Whether respondent is currently taking care of children who are not their own biological children and who are less than 15 years of age
Type of work	SSHOWOP	Derived from 5.7	Categorical	Informal; formal; other; not in work	Derived from 5.7 – what activity respondent is currently engaged in: un-established own business; established own business; informal casual; informal salaried; formal salaried; formal casual; rural agriculture; urban agriculture; other – derived variable collapses categories
Regularity of work	SSHOWOP	5.8	Categorical	Throughout the year; seasonally; once in a while	How often respondent works throughout the year
Frequency of salary	SSHOWOP	5.11	Categorical	Monthly; weekly; daily; per job	When is respondent's salary paid

Contributes to pension scheme	SSHOWOP	5.12	Binary	Yes; No	Whether respondent has ever made any contribution to NSSF or any other pensions or retirement scheme
Receives pension payment	SSHOWOP	5.14	Binary	Yes; No	Whether respondent has been paid a pension or gratuities (only applicable if they had contributed in 5.12)
Familial reciprocity	SSHOWOP	Derived from 3.14, 3.15, 3.19, 3.20, 3.24	Categorical	Receive and give; receive only; give only; neither give nor receive	Derived from 3.14, 3.15 – whether respondent receives monthly support with money, household chores, healthcare; 3.19 – whether respondent gives money to children; 3.20 – whether respondent gives other forms of support to children; 3.24 – whether respondent receives support from other relatives (not children)
Difficulty with mobility	SSHOWOP	7.4	Categorical	None; mild; moderate; severe; extreme/can't do	The extent to which the respondent has had difficulty with moving around in the last 30 days

Source: Information from NUHDSS (2006), SHAL (2006), SSHOWOP (2006)

Appendix 5

Appendix Table 2 Comparing demographic characteristics of older people in the poorest and least poor quintiles

<i>Variable</i>		<i>Expenditure Quintile</i>	
		1 - Poorest	5 – Least Poor
Gender	Male	56.8	69.7
	Female	43.2	30.3
Employment type	Own business	48.0	43.7
	Informal	27.1	27.9
	Formal	9.4	19.6
	Other	7.2	5.2
	Not working	8.3	3.7
Receipt of pension	Yes	4.9	12.8
	No	95.1	87.2
Assists child with school related costs	Yes	10.7	7.9
	No	89.3	92.1
Sought healthcare in last three months	Yes	61.4	56.2
	No	38.6	43.8
Household size	1-2 people	7.9	74.7
	3+ people	92.1	25.3

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix 6

Appendix Table 3 Percentages of older people in absolute poverty within gender, according to different equivalence scales

	Male	Female
	%	%
<i>Per Capita</i>	65.6	74.1
<i>Adult Equivalence (used by APHRC)</i>	62.9	70.7
<i>Deaton and Zaidi Scale A</i>	56.3	63.9
<i>OECD - Equivalence</i>	56.8	64.9
<i>Deaton and Zaidi Scale B</i>	57.4	64.8
<i>OECD - Modified</i>	46.3	54.1
<i>OECD - Square Root</i>	36.6	47.5

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix Table 4 Percentages of older people in absolute poverty within age group, according to different equivalence scales

	50-54	55-59	60-69	70-79	80+
	%	%	%	%	%
<i>Per Capita</i>	67.0	68.2	69.4	73.9	80.5
<i>Adult Equivalence (used by APHRC)</i>	63.1	65.2	67.6	70.3	78.7
<i>Deaton and Zaidi Scale A</i>	55.3	58.3	63.0	67.7	78.2
<i>OECD-Equivalence</i>	55.7	60.9	63.0	64.7	78.2
<i>Deaton and Zaidi Scale B</i>	56.7	59.6	63.2	65.4	79.3
<i>OECD - Modified</i>	44.2	47.5	55.1	57.5	70.1
<i>OECD-Square Root</i>	35.0	38.9	46.9	49.7	64.4

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix 7

Appendix Table 5 Correlations among dwelling quality variables from SHAL and the floor quality variable selected for the dwelling dimension

	<i>Household has natural floor</i>
Household has natural floor	1
Household buys water	0.0879*
Household has mud/plastic for walls	0.5384*
Household uses a cooking fuel that creates smoke in the structure	0.2116*

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix Table 6 Percentage of people diagnosed with health problems

<i>Self-rated health status</i>	<i>arthritis, rheumatism or osteoarthritis</i>	<i>diabetes or high blood sugar</i>	<i>chronic lung disease</i>	<i>high blood pressure or hypertension</i>
Very good	7.9	0.0	1.6	0.1
Good	10.7	1.3	3.5	5.7
Moderate	23.7	5.3	7.3	12.4
Bad	29.9	7.7	17.0	15.3
Very bad	39.7	13.4	20.4	13.4

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix Table 7 Correlation matrix of diagnosed health conditions and self-rated health

	<i>Self-rated health status</i>	<i>Arthritis</i>	<i>Diabetes</i>	<i>Chronic lung disease</i>	<i>Hypertension</i>
Self-rated health status	1.000				
Arthritis	0.213*	1.000			
Diabetes	0.154*	0.077*	1.000		
Chronic lung disease	0.188*	0.139*	0.023	1.000	
Hypertension	0.156*	0.153*	0.160*	0.107*	1.000

Source: Author's own analysis of combined NUHDSS data file, 2006

Appendix Table 8 Correlations among functionality variables from SSHOWOP and the mobility variable selected for the health dimension

<i>Difficulty with:</i>	<i>Moving around</i>
Moving around	1
Learning a new task	0.44*
Standing for long periods	0.56*
Taking care of household responsibilities	0.52*
Concentrating for 10 minutes	0.40*
Walking a long distance	0.60*
Bathing/washing whole body	0.44*
Getting dressed	0.39*
Day to day work	0.49*

Source: Author's own analysis of combined NUHDSS data file, 2006

List of References

- Abdulrahim, S. and Asmar, K. (2012). Is self-rated health a valid measure to use in social inequities and health research? Evidence from the PAFAM women's data in six Arab countries. *International Journal for Equity in Health*. 11:53.
- Aboderin, I. (2004a). Intergenerational family support and old age economic security in Ghana. In Lloyd-Sherlock, P. (ed.), *Living Longer: Ageing, Development and Social Protection*. Zed Books, London, 210-29.
- Aboderin, A. (2004b). Decline in material family support for older people in urban Ghana, Africa: Understanding processes and causes of change. *Journal of Gerontology: Social Sciences*. 59B (3), 128-137.
- Aboderin, I. (2012). Aging and Development in sub-Saharan Africa. An APHRC Research Program Concept Note. African Population and Health Research Centre.
- Acock, A. (2006). *A Gentle Introduction to Stata*. College Station, Tex.:Stata Press.
- Adhikari, R. Soonthornhada, K. and Haseen, F. (2011) Labor force participation in later life: Evidence from a cross-sectional study in Thailand. *BMC Geriatrics*. 11:15.
- Alcock, P. (2006). *Understanding Poverty*. 3rd edition. Basingstoke: Palgrave Macmillan.
- Alkire, S. (2007). Choosing dimensions: the capability approach and multidimensional poverty. Chronic Poverty Research Centre. CPRC Working Paper 88.
- APHRC. (2002). Population and Health Dynamics Report. Published in Nairobi. Available from APHRC.
- APHRC. (2006). Study on the Migration, Poverty and Wellbeing of Older People. Fieldwork Manual. Available from APHRC.
- APHRC. (2008a). Annual report 2008. Published in Nairobi. Available from APHRC.
- APHRC (2008b). *The Economic, Health, and Social Context of HIV Infection in Informal Urban Settlements of Nairobi*. African Population and Health Research Center, Nairobi.
- APHRC. (2011). The Nairobi Urban Health and Demographic Surveillance System. APHRC website. Available online at: <http://www.aphrc.org/insidepage/?articleid=470> [accessed 18/08/11].

APHRC Email Correspondence (2012). Personal email correspondence with an APHRC data analyst who has worked on poverty measures for the Nairobi DSS data. From 15/10/12.

Asiyanbola, R. A. (2004). Social support/networks, urban condition and physical well being of the elderly in Africa: a preliminary survey in Ibadan, Nigeria. A paper presented at the International Conference on *Rapid Ageing and the changing role of the elderly in African households*. Organised by the Union for African Population Studies UAPS/UEPA (Senegal), the HSRC in collaboration with the Department of Social Development (South Africa) 18-20 August, 2004. Pretoria, South Africa.

Ateca-Amestoy, V. and Ugidos, A. (2013). The Impact of Different Types of Resource Transfers on Individual Wellbeing: An Analysis of Quality of Life Using CASP-12. *Social Indicators Research*. 110. 973-991.

Atkinson, Anthony B., E. Marlier, F. Monatigne, and A. Reinstadler (2010). Income poverty and income inequality. In Atkinson, A. and Marlier, M. (Eds.) *Income and Living Conditions in Europe*, Eurostat.

Atkinson, A. and Marlier, E. (Eds.). (2010). *Income and Living Conditions in Europe*. Eurostat Statistical Books. European Commission.

Ayad, M., Barrere, B. and Otto, J. 1997. *Demographic and Socioeconomic Characteristics of Households*. DHS Comparative Studies No.26. Calverton, Maryland: Macro International, Inc.

Baker, J. and Schuler, N. (2004). *Analysing Urban Poverty A Summary of Methods and Approaches*, World Bank Policy Research Working Paper 3399.

Barrientos, A. (2006). Ageing, poverty, and public poverty in developing countries: New survey evidence. Paper prepared for presentation at the *FISS 13th International Research Seminar on Issues in Social Security 'Social Protection in an Ageing World'*, Sigtuna, Sweden, 16-18th June, 2006.

Barrientos, A. (2007). Does vulnerability create poverty traps? CPRC Working Paper 76. Chronic Poverty Research Centre. ISBN Number: 1-904049-75-3.

Barrientos, A. (2009). Social Pensions in Low-Income Countries. In Holzmann, R. (Ed.), Robalino, D. (Ed.), Takayama, N. (Ed.). *Closing the Coverage Gap: Role of Social Pensions and Other Retirement Income Transfers*. Herndon, VA, USA: World Bank Publications.

- Barrientos, A., Gorman, M. and Heslop, A. (2003). Old Age Poverty in Developing Countries: Contributions and Dependence in Later Life. *World Development* Vol. 31, No. 3, pp. 555–570. doi:10.1016/S0305-750X(02)00211-5.
- Barrientos, A. and Mase, J. (2010). 'Poverty transitions among older households in South Africa and Brazil. Brooks World Poverty Institute Working Paper 150. Manchester: University of Manchester.
- Barrientos, A. and de la Vega, C. (2011). Assessing wellbeing and deprivation in later life: a multidimensional counting approach. Brooks World Poverty Institute Working Paper 151.
- Batana, Y. (2013). Multidimensional measurement of poverty among women in sub-Saharan Africa. *Social Indicators Research*. 112. 2. 337-362.
- Beguy, D., Bocquier, P. and Zulu, E. (2010). Circular Migration Patterns and Determinants in Nairobi Slum Settlements. *Demographic Research*. **23**, 20, 549-586.
- Bicket, M. and Mitra, A. (2009). Demographics and Living Arrangements of the Minority Elderly in the United States. *Applied Economic Letters*. 16. 10. 1053-1057.
- Bourguignon, F. and Chakravarty, S. (2003). The Measurement of Multidimensional Poverty. *Journal of Economic Inequality*. 1. 25-49.
- Bradshaw, J. and Finch, N. (2003). Overlaps in Dimensions of Poverty. *Journal of Social Policy*, 32, 4, 513–525. DOI: 10.1017/S004727940300713X.
- Brockhoff, M, and Brennan, E. (1998). The poverty of cities in developing countries. *Population and Development Review*, 24, 1, 75-114.
- Bryman, A. (2008) *Social Research Methods*. Third Edition. Oxford University Press.
- Burch T. and Matthews B. (1987). Household Formation in Developed Societies. *Population and Development Review*. 13, 3, 495-511.
- Burger, R. von Fintel, D. and Grun, C. (2010). The nexus between social grants and participation rates: Dynamics across generations in the South Africa labour market. Proceedings of the German Development Economics Conference, Hanover 2010. Number 26.
- Burholt, V. and Windle, G. (2006). The Material Resources and Wellbeing of Older People. Report from the Joseph Rowntree Foundation.

- Canning, D. (2011). The Causes and Consequences of Demographic Transition. *Population Studies: A Journal of Demography*. 65:3. 353-361.
- Chepngeno-Langat, G. (2008). HIV/AIDS and older people: a case of Nairobi city slums, Kenya. Thesis (Ph.D.). University of Southampton, School of Social Sciences.
- Chepngeno-Langat, G. Falkingham, J. Madise, N. and Evandrou, M. (2010). Socioeconomic Differentials Between HIV Caregivers and Noncaregivers: Is there a Selection Effect? A Case of Older People Living in Nairobi Slums. *Research on Aging*. 32 (1). 67-96.
- Chepngeno-Langat, G. Falkingham, J. Madise, N. and Evandrou, M. (2012). Concern about HIV and AIDS among Older People in the Slums of Nairobi, Kenya. *Risk Analysis*. 32 (9). 1512-1523.
- CIA (Central Intelligence Agency) (2012). Kenya. The World Factbook. Available online at: <https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html> [Accessed 17/06/12].
- Clarke, L. Evandrou, M. and Warr, P. (2005). Family and Economic Roles. In Walker, A. (Ed.). *Understanding Quality of Life in Old Age*; Open University Press: Berkshire.
- Coulter, F. Cowell, F. and Jenkins, S. (1992). Equivalence Scale Relativities and the Extent of Inequality and Poverty. *The Economic Journal*. 102 (414). 1067-1082.
- Davidoff-Gore, A. Luke, N. and Wawire, S. (2011). Dimensions of poverty and inconsistent condom use among youth in urban Kenya. *AIDS Care*.
- Dauids, Y. and Gouws, A. (2013). Monitoring Perceptions of the Causes of Poverty in South Africa. *Social Indicators Research*. 110. 1201-1220.
- Davis, M., Moritz, D., Neuhaus, J., Barclay, J. and Gee, L. (1997). Living Arrangements, Changes in Living Arrangements, and Survival among Community Dwelling Older Adults. *American Journal of Public Health*. 87, 3, 371-377.
- Dayton, J. and Ainsworth, M. (2004). The elderly and AIDS: coping with the impact of adult death in Tanzania. *Social Science and Medicine*. 59 (10), 2161-72.
- De Leeuw, E., Hox, J. and Dillman, D. (2008). *International Handbook of Survey Methodology*. New York: Lawrence Erlbaum Associates.

Deaton, A. (1997). *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*. Baltimore: Published for the World Bank by John Hopkins University Press.

Deaton, A. and Paxson, C. (1997). Poverty among children and the elderly in developing countries. Research Program in Development Studies. Princeton University.

Deaton, A. and Zaidi, S. (2002) Guidelines for Constructing Consumption Aggregates for Welfare Analysis. LSMS Working Paper 135. World Bank.

Degraft Agyarko, R., Kalache, A. and Kowal P. (2000). Older people, children and the HIV/AIDS nexus: the African situation. World Health Organization-Geneva, Health Promotion/NCD Prevention and Surveillance Department. Paper presented at the XIII International AIDS conference in Durban: 9-14 July 2000. Available online at http://www.who.int/ageing/publications/development/alc_olderpeople_andhiv_africa.pdf [Accessed December 21st 2010].

Demakakos, P., McMunn, A. and Steptoe, A. (2010). Wellbeing in Older Age: A Multidimensional Perspective. Chapter 4 in Banks, J., Lessof, C., Nazroo, J., Rogers, N., Stafford, M. and Andrew Steptoe (Eds); Financial Circumstances, Health and Well-Being of the Older Population in England. THE 2008 ENGLISH LONGITUDINAL STUDY OF AGEING (Wave 4); Institute for Fiscal Studies.

Desai, V. and Potter, R. (2002). *The Companion to Development Studies*. Arnold, London.

DFID (Department for International Development) (2007). How to measure poverty across countries. A DFID practice paper.

Disney, R., and Whitehouse, E. (2003). The Economic Well-being of Older People in International Perspective: A Critical Review. In Crystal, S. and Shea, D. (Eds). *Annual Review of Gerontology and Geriatrics: Economic Outcomes in Later Life—Public Policy, Health and Cumulative Advantage*. Vol. 22. New York, Springer Publishing.

Donkor, K. (2002). Structural adjustment and mass poverty in Ghana. In Townsend, P. and Gordon, D. (Eds.) *World Poverty: New policies to defeat an old enemy*. Bristol: Policy Press.

Dreze, J. and Srinivasan, P. (1997). Widowhood and Poverty in Rural India: Some Inferences from Household Survey Data. *Journal of Development Economics*. 54. 217-234.

Evans, M., Gough, I., Harkness, S., McKay, A., Thanh, H. and Thu, N. (2005). The Relationship between Old Age and Poverty in Viet Nam. UNDP Policy Dialogue Paper; Research Report for United Nations Development Programme in Hanoi; UNDP Hanoi and SDRC, University of Oxford.

Ezeh, A. Chepngeno, G. Kasiira, A. and Woubalem, Z. (2006). The situation of older people in poor urban settings: The case of Nairobi, Kenya. In National Research Council (Eds.). *Aging in Sub-Saharan Africa: Recommendations for further research*. Washington, DC: The National Academies Press, 189-213.

Falkingham, J. (2008). Measuring Child Poverty. Monetary Measures of Child Poverty. Presentation given to UNICEF. Centre for Global Health Population, Poverty and Policy (GPH3). August 19th 2008.

Falkingham, J. and Namazie. C. (2002). Measuring Health and Poverty: a review of approaches to identifying the poor. DFID HSRC.

Falkingham, J and Baschieri, A. (2009). Gender and Poverty: How misleading is the unitary model of household resources? An illustration from Tajikistan. *Global Social Policy*. Vol 9, No. 43.

Falkingham, J. Baschieri, A. Evandrou, M. and Grant, G. (2009). Left behind in transition? The wellbeing of older people in Tajikistan. Centre for Research on Ageing, School of Social Sciences, University of Southampton. CRA Discussion Paper no. 0901 CRA DP/0901.

Falkingham, J. Chepngeno-Langat, G. Kyobutungi, C. Ezech, A. and Evandrou, M. (2011). Does socio-economic inequality in health persist among older people living in resource-poor urban slums? *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. Vol. 88, Supp. 2.

Falkingham, J. Chepngeno-Langat, G. and Evandrou, M. (2012). Outward Migration from Large Cities: Are Older Migrants in Nairobi 'Returning'? *Population, Space and Place*. 18. 327-343.

- Faye, O. Baschieri, A. Falkingham, J. and Muindi, K. (2011). Hunger and food insecurity in Nairobi's slums: an assessment using IRT models. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. Vol. 88, Supp. 2.
- Ferreira, M. (2006). The differential impact of social pension income on household poverty alleviation in three South African ethnic groups. *Ageing and Society*. 26 (3). 337-354.
- Ferreira, F. and Lugo, M. (2012). Multidimensional poverty analysis: looking for a middle ground. Society for the Study of Economic Inequality. Working Paper Series. ECINEQ WP 2012 – 251.
- Ferreira, M. and Daichman, L. (2013). Empowerment and social participation of older people in Argentina and South Africa. Presentation at the International Longevity Centre Global Alliance Symposium. International Longevity Centre (ILC) Singapore and Tsao-NUS Ageing Research Initiative. June 21st 2013.
- Field, A. (2009). *Discovering Statistics using SPSS (and sex and drugs and rock 'n' roll)*. 3rd Edition. London: Sage.
- Fillenbaum, G. (1984). *The Wellbeing of the Elderly: Approaches to Multidimensional Assessment*. WHO Offset Publication no.84.
- Filmer, D. and Scott, K. (2012). Assessing Asset Indices. *Demography*. Vol. 49. (3). 359-392.
- Fotso, J.C. and Kaute-Defo, B. (2006). Household and community socioeconomic influences on early childhood malnutrition in Africa. *Journal of BioSocial Sciences*. 38, 289-313.
- Fotso, J.C. Holding, P and Ezeh, A. (2009). Factors conveying resilience in the context of urban poverty: The case of orphans and vulnerable children in the informal settlements of Nairobi, Kenya. *Child and Adolescent Mental Health*. 14 (4). 175-182.
- Fry, C. (2000). Culture, age, and subjective well-being: Health, functionality, and the infrastructure of eldercare in comparative perspective. *Journal of Family Issues*, 21, 6, 751-776.
- Gasparini, L., Alejo, J., Haimovich, F., Olivieri, S. and Tomarolli, L. (2010) Poverty among the Elderly in Latin America and the Caribbean. Background paper for the World Economic and Social Survey 2007 The World Ageing Situation.

- Giang, T. and Pfau, W. (2009) Aging, Poverty and the Role of Social Pensions in Vietnam. *Development and Change*. 40 (2). 333-360.
- Glennester, H. Hills, J. Piachaud, D. and Webb, J. (2004). One hundred years of poverty and policy. Joseph Rowntree Foundation.
- Government of Kenya (2005). MDGs Status Report for Kenya, 2005. Prepared by the Government of Kenya, spearheaded by the Ministry of Planning and National Development in partnership with United Nations Development Programme (UNDP), Kenya and the government of Finland.
- Government of Kenya (2012). Ministry of Gender, Children and Social Development; [Older Persons Cash Transfer Programme](http://www.gender.go.ke/index.php/SP-Programmes/older-persons-cash-transfer-programme.html); Available online at: <http://www.gender.go.ke/index.php/SP-Programmes/older-persons-cash-transfer-programme.html> [Accessed 08/06/12].
- Gribble, J. and Bremner, J. (2012). Achieving a Demographic Dividend. *Population Bulletin*. Population Reference Bureau. 67 (2).
- Groves, R. (2004). *Survey Methodology*. Hoboken, NJ: J. Wiley.
- Haddad, L. Hoddinott, J. and Alderman, H.(Eds.) (1997). *Intrahousehold Resource Allocation in Developing Countries. Models, Methods and Policy*. Published for the International Food Policy Research Institute. The John Hopkins University Press. Baltimore and London.
- Hake, A. (1977). *African Metropolis: Nairobi's self-help city*. London: Chatto and Windus for Sussex University Press.
- Haughton, J. and Khandker, S. (2009). *Handbook on Poverty and Inequality*. The International Bank for Reconstruction and Development/ The World Bank. DOI: 10.1596/978-0-8213-7613-3.
- HelpAge International. 1999. *Ageing and Development Newsletter* 3: May.
- HelpAge International (2000). *Strengthening village and neighbourhood organisations: safety networks for the vulnerable*. Dar es Salaam, March. HelpAge International.
- HelpAge International (2002). *State of the world's older people 2002*. HelpAge International: London.

HelpAge International. (2004). Memorandum Submitted by HelpAge International. February 2004. House of Commons International Development Committee. Kenya: DFID's Country Assistance Plan 2004-07 and Progress Towards the Millennium Development Goals. Fourth Report of Session 2003-04. HC 494 (incorporating HC 494-i). Report, together with formal minutes, oral and written evidence. Published May 2004.

HelpAge Kenya (2009). The work of HelpAge Kenya in Kenya and their involvement with projects in slum settlements. Stakeholder discussion with: Jennifer Baird, HelpAge Kenya Office, Nairobi, Kenya. July 2nd 2009.

Hermalin, A. I., Ofsetdal, M. B. and Chang, M. C. (1996). Types of Supports for the Aged and their Providers in Taiwan. In Hareven, T. K. (Ed.). *Aging and Generational Relations: Life-course and cross-cultural perspectives*. Walter de Gruyter, Inc: New York.

Holmes, W. and Joseph, J. (2011) Social participation and healthy ageing: a neglected, significant protective factor for chronic non communicable conditions. *Globalization and Health*. 7:43.

Hosegood, V. and Timaeus, I. (2005). The impact of adult mortality on the living arrangements of older people in rural South Africa. *Ageing and Society*. 25. 431-444.

Hulme, D. Moore, K. and Shepherd, A. (2001) Chronic Poverty: meanings and analytical frameworks. Chronic Poverty Research Centre Working Paper 2. ISBN Number: 1-904049-01-X.

Ice, G. Zidron, A. and Juma, E. (2008). Health and Health Perceptions Among Kenyan Grandparents. *Journal of Cross-Cultural Gerontology*. 23, 111-129.

International Monetary Fund (IMF) (2012a). Kenya: Poverty Reduction Strategy Paper—Progress Report. January 2012. IMF Country Report No. 12/10.

Isiugo-Abanihe, U.C. (1991). Parenthood in sub-Saharan Africa: child fostering and its relationship with fertility. In Locoh, T. and Hertrich, V. (eds), *The Onset of Fertility Transition in Sub-Saharan Africa*. Derouaux Ordina Editions, Belgium, 163-74.

International Social Security Association (ISSA). (2007). Social Security Programs throughout the World: Africa, 2007.

International Social Security Association (ISSA). (2009). Social Security Programs throughout the World: Africa, 2009.

Izugbara, C. and Ngilangwa, D. (2010). Women, poverty and adverse maternal outcomes in Nairobi, Kenya. *BMC Women's Health*. 10, 33.

Jenkins, S. and Cowell, F. (1994). Parametric Equivalence Scales and Scale Relativities. *The Economic Journal*. 104 (425). 891-900.

Jylha, M. Volpato, S. and Guralnik, J. (2006). Self-rated Health showed a Graded Association with Frequently Used Biomarkers in a Large Population Sample. *Journal of Clinical Epidemiology*. 59 (5). 465-471.

Kakwani, N. and Subbarao, K. (2007). Poverty among the elderly in sub-Saharan Africa and the role of social pensions. *The Journal of Development Studies*. 43 (6). 987-1008.

Kakwani, N., Son, H. and Hinz, R. (2006). *Poverty, old-age and social pensions in Kenya*. International Poverty Centre. July, 2006. United Nations Development Programme. Working Paper number 24. Available online at: <http://www.ipc-undp.org/pub/IPCWorkingPaper24.pdf> [Accessed December 21st 2010].

Kaneda, T. Lee, M. and Pollard K. (2011). SCL/PRB Index of Wellbeing in Older Populations. Final Report Global Aging and Monitoring Project; Population Reference Bureau (PRB) and Global Aging Program at the Stanford Centre on Longevity (SCL).

Keizi, L. (2007). Can universal pension help in reducing poverty in old age in Kenya?. *Policy Working Paper*. Retirement Benefits Authority, Research Department.

Kenya National Bureau for Statistics (KNBS) (2006). Kenya Integrated Household Budget Survey (KIHBS) 2005/06 (revised edition) Basic Report. ISBN: 9966-767-07-X.

Kenya National Commission on Human Rights (KNCHR) (2009) Growing Old in Kenya: Making it a Positive Experience. Second State of Human Rights Report of the Kenya National Commission on Human Rights.

KIHBS (2007). Kenya Integrated Household Budget Survey, 2005/06. Revised edition. Basic Report. ISBN: 9966-767-07-X.

Kim, E. and Cook, P. (2011). The continuing importance of children in relieving elder poverty: evidence from Korea. *Ageing and Society*. 31, 953-976.

- Kinsella, K. and Wan, H. (2008). *An Aging World: 2008*. International Population Reports, P95/09-1. US Census Bureau. Available online at; <http://www.census.gov/prod/2009pubs/p95-09-1.pdf> [Accessed September 9, 2009].
- Kleinbaum, D. (1994). *Logistic Regression: A self-learning text*. New York: Springer.
- Kleinbaum, D. (1998). *Applied Regression Analysis and Other Multivariable Methods*. Third edition. Pacific Grove, California: Duxbury Press.
- Kleinbaum, D., Kupper, L., Nizam A. and Muller, K. (2008). *Applied Regression Analysis and Other Multivariable Methods*. Fourth edition. Belmont, CA: Brooks/Cole Cengage Learning.
- Knodel, J. and Ofstedal, M. (2003). Gender and aging in the developing world: where are the men? *Population and Development Review*. 29(4), 677-698.
- Knox-Vydmanov, C., Leon, R. and McPherson, A. (2012). Social Protection for Older Kenyans. Pension Watch. Briefings on Social Protection in Older Age. Briefing No. 10. HelpAge International, London.
- Kodzi, I. Gyimah, S. Emina, J and Ezeh, A. (2010). Religious involvement, social engagement, and subjective health status of older residents of informal neighbourhoods of Nairobi. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. Vol. 88, Supp. 2.
- Kodzi, I. Gyimah, S. Emina, J. and Ezeh, A. (2011). Understanding ageing in sub-Saharan Africa: exploring the contributions of religious and secular social involvement to life satisfaction. *Ageing and Society*. 31. 455-474.
- Kreager, P. (2004). Where are the children?. In Kreager, P. and Schroeder-Butterfill, E. (Eds.), *Ageing without children: European and Asian Perspectives*. Berghahn, New York, 1-45.
- Kreager, P. (2006). Migration, social structure and old-age support networks: a comparison of three Indonesian communities. *Ageing and Society*. 26, 37-60.
- Kumar, S. (2002). Round pegs and square holes: mismatches between poverty and housing policy in urban India. In Townsend, P. and Gordon, D. (Eds.) *World Poverty: New policies to defeat an old enemy*. Bristol: Policy Press.

Kwena, R. and Turner, J. (2013). Extending Pension and Savings Scheme Coverage to the Informal Sector: Kenya's Mbao Pension Plan. *International Social Security Review*. 66. 2/2013.

Kyobutungi, C., Ziraba, A.K., Ezeh, A., Ye, Y. (2008). The burden of disease profile of residents of Nairobi's slums: results from a demographic surveillance system. *Population Health Metrics*, 6, 1. Available online at <http://www.pophealthmetrics.com/content/pdf/1478-7954-6-1.pdf> [Accessed September 9, 2009].

Kyobutungi, C. Ezeh, A. Zulu, E. and Falkingham J. (2009). HIV/AIDS and the health of older people in the slums of Nairobi, Kenya: results from a cross-sectional survey. *BMC Public Health*. 9:153.

Kyobutungi, C., Egondi, T. and Ezeh, A. (2010). *The health and well-being of older people in Nairobi's slums*. Global Health Action Supplement 2, 2010. DOI: 10.3402/gha.v3i0.2138. Available online at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2957141/pdf/GHA-3-2138.pdf> [Accessed December 20th 2010].

Lam, D. Leibbrandt and Ranchhod, V. (2006) Labor force withdrawal of the elderly in South Africa. In National Research Council (Eds.). *Aging in Sub-Saharan Africa: Recommendations for further research*. Washington, DC: The National Academies Press, 214-249.

Lanjouw, P. and Ravallion, M. (1994). Poverty and Household Size. Policy Research Working Paper, 1332. The World Bank Policy Research Department Poverty and Human Resources Division.

Lanjouw, J. Lanjouw, P. Milanovic B. and Paternostro, S. (2004). Relative Price Shifts, Economies of Scale and Poverty during Economic Transition. *Economics of Transition*. 12 (3). 509-536.

Lenoir, R (1974). *Les Exclus*. Paris: Editions du Seuil.

Li, S., Song, L. and Feldman, M.W. (2009). Intergenerational support and subjective health of older people in rural China: A gender-based longitudinal study. *Australasian Journal on Ageing*. 28(2). 81-86.

Lino, V. Portela, M. Camacho, L. Atie, S. and Lima, M (2013). Assessment of social support and its association to depression, self-perceived health and chronic diseases in

elderly individuals residing in an area of poverty and social vulnerability in Rio de Janeiro City, Brazil. *PLoS ONE* 8(8): e71712.

Lister, R. (2004). *Poverty*. Polity Press.

Lloyd-Sherlock, P. (2002). Nussbaum, Capabilities and Older People. *Journal of International Development*. 14 (8). 1163-1173.

Lloyd-Sherlock, P. (2010). *Population ageing and international development: from generalisation to evidence*. Policy Press.

Magadi, M. (2010). Risk Factors for Severe Child Poverty in the UK. *Journal of Social Policy*. 39. 297-316.

Magadi, M. and Middleton, S. (2007). *Severe Child Poverty in the UK*. Published by Save the Children Fund. London.

Masset, E. and White, H. (2003). Are chronically poor people being left out of progress towards the Millennium Development Goals? A quantitative analysis of older people, disable people and orphans. *Journal of Human Development*. 5:2, 279-297.

McGregor, J.A. (2006). *Researching wellbeing: from concepts to methodology*. ESRC Research Group on Wellbeing in Developing Countries. WeD Working Paper 20.

McLigeyo, S. (2002). Ageing population in Africa and other developing communities: a public health challenge calling for urgent solutions. *East African Medical Journal*. June 2002. 281-283.

MGCSD (Ministry of Gender, Children and Social Development). (2009). *The National Policy on Older Persons and Ageing*. Republic of Kenya. Printed by the Government Printer, Nairobi.

MGCSD (Ministry of Gender, Children and Social Development). (2011). *Kenya National Social Protection Policy*. Kenya Vision 2030. Republic of Kenya.

Moller, V. (2011). *Perceptions of Fortune and Misfortune in Older South African Households: Social Pensions and the 'Good Life'*. Institute of Social and Economic Research. Rhodes University. Research Report Series No.16. ISBN No. 97808 681 047 06.

Morciano, M. Hancocl, R. and Pudney, S. (2012). *Disability Costs and Equivalence Scales in the Older Population*. Institute for Social and Economic Research (ISER).

Morgan, W. (1967). *Nairobi: City and Region*. Nairobi ; London : Oxford University Press

Mugambe. B. (2006). A Social Protection agenda for Uganda's Poorest of the Poor. CPRC Uganda Policy Brief.

Mwanyangala, M. Mayombana, C. Urassa, H. Charles, J. Mahutanga, C. Abdullah, S. and Nathan, R. (2010). Health Status and Quality of Life among Older Adults in Rural Tanzania. *Global Health Action*. INDEPTH WHO-SAGE Supplement 2.

NACC and NASCOP. (2012). Kenya AIDS Epidemic update 2011. Joint report from the National Aids Control Council and the National AIDS and STI Control Programme. Nairobi, Kenya.

Najjumba-Mulindwa, I. (2003). Chronic poverty among the elderly in Uganda: perceptions, experiences and policy issues. Chronic Poverty Research Centre-Uganda. Presented at Staying Poor: Chronic Poverty and Development Policy, Institute for Development Policy and Management, University of Manchester, 7-9 April 2003. Chronic Poverty Research Centre (CPRC), Manchester, UK, iii + 38 pp

Narayan, D. with Patel, R. Schafft, K. Rademacher, A. and Koch-Schulte, S. (2000). *Voices of the Poor: Can Anyone Hear Us?* New York, N.Y.: Published for the World Bank, Oxford University Press.

National Council for Law Reporting. (2010). *The Constitution of Kenya*. Kenya Law Reports (KLR). Published by the National Council for Law Reporting with the Authority of the Attorney General.

Nelson, N. (1987). Rural-urban child fostering in Kenya: migration, kinship ideology and class. In Eades, J. (ed.) *Migrants, Workers, and Social Order*. Tavistock, London, 181-98.

Nhongo, T. (2004). The changing role of older people in African households and the impact of ageing on African family structures. *The Ageing in Africa Conference*, Johannesburg. 18-20 August, 2004.

Nicholson, J. (1976) Appraisal of Different Methods of Estimating Equivalence Scales and their Results. *Review of Income and Wealth*. 22 (1). 1-11.

Noumbissi, A. (2004). Poverty Among the Elderly in South Africa. African Conference on Ageing , Johannesburg, South Africa, 18 - 20 August 2004; Department of Social

Development, the Human Science Research Council (HSRC) and the Union for African Population Studies (UAPS).

NSSF. (2010). National Social Security Fund Financial Statements for the Year Ended 30 June 2010. Board of Trustees. Annual Report and Accounts 2009-2010.

NSSF website. (2013). NSSF Benefits and Grants. National Social Security Fund website. Available online at: <http://www.nssf.or.ke/benefits-and-grants> [Accessed 25/04/13]

Nussbaum, M. (2006). Poverty and Human Functionings: Capabilities as Fundamental Entitlements. In Grusky, D., Ravi Kanbur, M. and Sen, A. (Eds.) *Poverty and Inequality*. Stanford University Press.

OECD (2001). The DAC Guidelines Poverty Reduction, International Development. Available online at: <http://www.oecd.org/dac/povertyreduction/2672735.pdf> [Accessed 04/04/2012].

OECD (2011). What are equivalence scales? *OECD Project on Income Distribution and Poverty*. Available online at: www.oecd.org/els/social/inequality. [Accessed 08/05/12].

Olum, G. H. (2007). Report on status and implementation of national policy on ageing in Kenya. Prepared for United Nations Department of Economic and Social Affairs. Available online at: <http://www.un.org/ageing/documents/workshops/Vienna/kenya.pdf> [Accessed December 20th 2010].

Ondigi, A. and Ondigi, S. (2012). The Influence of Poverty and Wellbeing of the Elderly People in Nyanza Province, Kenya. *Asian Social Science*. 8 (2). 211-220.

ONS (Office for National Statistics). (2013). Poverty and Social exclusion in the UK and EU, 2005-2011. [Part of Poverty and Social Exclusion in the UK and EU, 2005-2011 Release](#). ONS website. Accessed online at: <http://www.ons.gov.uk/ons/rel/household-income/poverty-and-social-exclusion-in-the-uk-and-eu/2005-2011/rpt--poverty-and-social-exclusion.html> . [Accessed 04/08/2013].

Pal, S. and Palacios, R. (2006). Old Age Poverty in the Indian States: What do the Household Data Tell Us? The World Bank.

Palloni, A. (2000). Living Arrangements of Older Persons. Centre for Demography and Ecology, University of Wisconsin. Paper presented at the United Nations *Technical*

Meeting on Population Ageing and Living Arrangements of Older People. New York, February 8-10, 2000.

Pang, L. de Brauw, A. and Rozelle, S. (2004). Working until dropping: Employment behaviour of the elderly in rural China. No 2004-14. Department of Economics Working Papers. Department of Economics, Williams College.

Peace, R. (2001). Social exclusion: a concept in need of a definition? *Social Policy Journal of New Zealand*. Issue 16.

Pedace, L. Pisani, M. and Zaidi, A. (2010) Employing the Capability Approach to Compare Pensioners Wellbeing across UK Countries. Treasury Economic Working Paper No.7. HM Treasury.

Piachaud, D. (1981). Peter Townsend and the Holy Grail. *New Society*.

Powers, D. and Xie, Y. (2008). *Statistical methods for Categorical Data Analysis*. Second Edition. Bingley: Emerald Group Publishing Limited.

Pozzi, F. and Robinson, T. (2007). Poverty and Welfare Measures in the Horn of Africa. IGAD Livestock Policy Initiative. IGAD LPI Working Paper. No. 08-08.

Price, D. (2006). The Poverty of Older People in the UK. *Journal of Social Work Practice: Psychotherapeutic Approaches in Health, Welfare and the Community*. 20:3. 251-266.

Ramashala, M. (2001). Living arrangements, poverty and the health of older persons in Africa. Population Bulletin of the United Nations. *Ageing and Living Arrangements of Older Persons: Critical Issues and Policy Responses*. Special Issue Nos. 42/43 2001.

Ravallion, M. (2011). On Multidimensional Indices of Poverty. Policy Research Working Paper 5580. The World Bank.

Republic of Kenya. (2012). The Kenya Social Protection Sector Review Report. Ministry of State Planning, National Development and Vision 2030.

RHVP, HelpAge International and UNICEF Swaziland. (2010). Swaziland Old Age Grant Impact Assessment. Joint study between the Regional Hunger and Vulnerability Programme (RHVP), HelpAge International and the United Nations Children's Fund (UNICEF). Available online at <http://www.helpage.org/what-we-do/social-transfers-a-critical-strategy-to-meet-the-mdgs/swaziland-old-age-grant-impact-assessment/>

[Accessed 01/09/11].

- Ringen, S. (1988). Direct and Indirect Measures of Poverty. *Journal of Social Policy*. Vol. 17, No.3. PP 351-365.
- Rowland, D. (2003). *Demographic Methods and Concepts*. Oxford: Oxford University Press.
- Rutstein, S. and Johnson, K. (2004). The DHS Wealth Index. DHS Comparative Reports No. 6. ORC Macro, Calverton, Maryland, USA.
- Satterthwaite, D. (2003). The Millennium Development Goals and urban poverty reduction: great expectations and nonsense statistics. *Environment and Urbanisation*. 15(2), 181-190.
- Satterthwaite, D. (2004). The under-estimation of urban poverty in low- and middle-income nations. Poverty Reduction in Urban Areas Series. Working Paper 14. International Institute for Environment and Development (IIED).
- Saunders, P. and Lujun, S. (2006). Poverty and Hardship among the Aged in Urban China. *Social Policy and Administration*. 40 (2). 138-157.
- Scharf, T. Phillipson, C. and Smith, A. (2005). Social Exclusion of Older People in Deprived Urban Communities of England. *European Journal of Ageing*. 2: 76-87.
- Schroder-Butterfill, E. and Marianti, R. (2006). A framework for understanding old-age vulnerabilities. *Ageing & Society* 26, 2006, 9–35. doi:10.1017/S0144686X05004423.
- Sen, A. (1983). Poor, relatively speaking. *Oxford Economic Papers*. 35. 153-169.
- Sen, A. (1993). Capability and Well-Being. In Nussbaum, M. and Sen, A. (Eds.) *The Quality of Life*. Clarendon Press.
- Shiundup, A. (2009). Laws to be Amended over Aging Policy. Article for *Daily Nation*. Available online at: <http://allafrica.com/stories/200909140653.html> [Accessed 04/09/11].
- Short, K, Garner, T. Johnson, D. and Doyle, P. (1999). Experimental Poverty Measures: 1990 to 1997. U.S. Census Bureau, Current Population Reports, Consumer Income, P60–205.
- Silver, H. (1994). Social Exclusion and Social Solidarity : Three Paradigms. *International Labour Review*. 133/5-6:531-78.

Slum Care Home. (2009). The role of a Slum Care Home in caring for older people in Korogocho slum. Discussion with Stakeholder, Slum Care Home, Nairobi, Kenya. June 30th 2009.

Spicker, P., Alvarez Leguizamón, S. and Gordon, D. (2006). *Poverty: an International Glossary*. Editors. Second edition. London: Zed.

Srivastava, A. and Mohanty, S. (2012). Poverty Among Elderly in India. *Social Indicators Research*. 109:493-514.

SSengonzi, R. (2009). The Impact of HIV/AIDS on the Living Arrangements and Well-being of Elderly Caregivers in Rural Uganda. *AIDS Care*. 21, 309-314.

Suri, T., Tschirley, D., Irungu, C., Gitau, R. and Kariuki, D. (2008). Rural Incomes, Inequality and Poverty Dynamics in Kenya. WPS 30/2008. Tegemeo Institute of Agricultural Policy and Development.

Tati, G. (2011). Population ageing and participation of the elderly in the labour force of South Africa. Ageing Populations in the South. Family, living conditions, public and private solidarity. Proceedings of the international symposium, Meknes. Morocco 17-19 March 2011.

Townsend, P. (1979). *Poverty in the United Kingdom*. Harmondsworth: Penguin.

Townsend, P. (1993). *The International Analysis of Poverty*. Brighton: Harvester Wheatsheaf.

United Nations (2002). Political Declaration and Madrid International Plan of Action on Ageing. Second World Assembly on Ageing, Madrid, Spain, 8-12 April, 2002. United Nations. New York.

United Nations, (2005). *Living Arrangements of Older Persons Around the World*. Department of Economic and Social Affairs, Population Division. Available online at: <http://www.un.org/esa/population/publications/livingarrangement/report.htm> [Accessed June 10th 2006].

United Nations (2009a). Assessing Progress in Africa toward the Millennium Development Goals, 2009. MDG Report 2009. European Commission for Africa, African Union, African Development Bank Group. Available online at: <http://www.un.org/millenniumgoals/reports.shtml> [Accessed 04/04/2012].

United Nations (2009b). *World Population Ageing, 2009*; Department of Economic and Social Affairs, Population Division; New York: UN. Accessed online at: <http://www.un.org/esa/population/publications/ageing/ageing2009chart.pdf> [Accessed 01/09/11].

United Nations (2009c). Population Ageing and Development Factsheet, 2009. *Department for Economic and Social Affairs*. Population Division.

United Nations (2013). Millennium Development Goals website. Accessed online at: <http://www.un.org/millenniumgoals/> [Accessed 14/05/13].

UN-HABITAT. (2010). The State of African Cities 2010. Governance, Inequality and Urban Land Markets. United Nations Environment Programme.

United Nations Development Group (UNDG) (2003). Indicators for Monitoring the Millennium Development Goals. Definitions, Rationale, Concepts and Sources. United Nations: New York.

United Nations Development Programme (UNDP) (1995). Report of the World Summit for Social Development. Copenhagen, Denmark, 6-12 March 1995. Available online at: <http://www.un.org/documents/ga/conf166/aconf166-9.htm> [Accessed 04/04/2012].

United Nations Development Programme (UNDP) (2012). Millennium Development Goals. Eradicate Extreme Poverty and Hunger. Available online at: http://www.undp.org/content/undp/en/home/mdgoverview/mdg_goals/mdg1.html [Accessed 04/04/2012].

UNDESA United Nations Department of Economic and Social Affairs. (2013). World Population Prospects: The 2010 Revision. Population Division, Population Estimates and Projections Section. Available online at: <http://esa.un.org/wpp/unpp/p2k0data.asp> [Accessed 07/05/2013].

UNDESA United Nations Department of Economic and Social Affairs. (2007). Development in an Ageing World. World Economic and Social Survey. /2007/50/Rev.1 ST/ESA/314. New York.

United Nations Environment Programme. (2013). Nairobi City Profile. Available online at: http://www.unep.org/roa/Nairobi_River_Basin/About_Nairobi_River_basin/cityProfile.asp [Accessed 11/05/2013].

UNECE United Nations Economic Commission for Europe (2009). Integration and participation of older persons in society. Working group on ageing. UNECE Policy Brief on Ageing. No 4. November 2009.

United Nations Population Fund [UNFPA] 2002. Population Ageing and Development: Social, health and gender issues. *Population and Development Strategies Series*. 3.

UNFPA and HAI [United Nations Population Fund and HelpAge International]. (2012). Ageing in the Twenty-First Century: A Celebration and A Challenge. Published by the United Nations Population Fund (UNFPA), New York, and HelpAge International, London.

Van Tilburg, T. De Jong, J. Gierveld, L. Lecchini & Marsiglia, D. (1998). Social integration and loneliness: A comparative study among older adults in the Netherlands and Tuscany, Italy. *Journal of Social and Personal Relationships*, 15, 6, 740-754.

Velkoff, Victoria A. and Paul R. Kowal, (2007) Population Aging in Sub-Saharan Africa: Demographic Dimensions 2006. U.S. Census Bureau, Current Population Reports, P95/07-1, U.S. Government Printing Office, Washington, DC.

Verbrugge, L. and Chan, A. (2008). Giving help in return: Family reciprocity by older Singaporeans. *Ageing and Society*. 28. 1. 5-34.

Visaria, P. with Pal, S. (1980). Poverty and Living Standards in Asia: An Overview of the Main Results and Lessons of Selected Household Surveys. Living Standards Measurement Study Working Paper No. 2, World Bank.

Vlachantoni, A. (2012). Financial Inequality and Gender in Older People. *Maturitas*. 72. 104-107.

Wangmo, T. (2010). Changing expectations of care among older Tibetans living in India and Switzerland. *Ageing and Society*. 30. 879-896.

WBPA Benin. (2003). Benin Poverty Assessment. Report No. 28447-BEN.

WBPA Ethiopia. (2005). Ethiopia Wellbeing and Poverty in Ethiopia. The role of Agriculture and Agency. Poverty Reduction and Economic Management 2 (AFTP2). Report No. 29468-ET.

WBPA Kenya. (2009). Kenya Poverty and Inequality Assessment: Executive Summary and Synthesis Report. Poverty Reduction and Economic Management Unit, Africa Region, The World Bank. Report No. 44190-KE.

WBPA Malawi. (2007). Malawi Poverty and Vulnerability Assessment. Investing in Our Future. Report No. 36546-MW.

WBPA Uganda. (2006). Uganda Poverty and Vulnerability Assessment. Report No. 36996-UG.

WBPA Zambia. (2007). Zambia Poverty and Vulnerability Assessment. Report No. 32573-ZM.

Wenger, C. (2001). Interviewing Older People. In Gubrium, J. and Holstein, J. (Eds.) *Handbook of Interview Research: context and methods*. Thousand Oaks, California: Sage Publications.

White, H. and Masset, E. (2003). The importance of household size and composition in constructing poverty profiles: an illustration from Vietnam. *Development and Change*. 34(1), 105-126.

World Bank (2001). World Development Report 2000/2001 Attacking Poverty. World Bank: Oxford University Press.

World Bank (2004). Technical Note Measuring Poverty and Analysing Changes in Poverty Over Time. World Bank.

World Bank (2012). World Development Indicators for Kenya. Accessed online at: <http://data.worldbank.org/country/kenya>; [Accessed 19/06/12].

World Health Organisation (WHO). (2002). Active Ageing: A policy framework. Report number WHO/NMH/NPH/02.8. World Health Organisation, Geneva.

World Health Organisation (WHO). (2006a). *WHO Study on global AGEing and adult health (SAGE) SAGE Survey Instruments 2006*. World Health Organisation website. Available online at <http://www.who.int/healthinfo/systems/sage/en/index.html> [Accessed September 8, 2009].

WHO (2006b). *World Health Organisation: Impact of AIDS on older people in Africa: Zimbabwe Case Study*. Report number WHO/NMH/NPH/ALC/02.12. World Health Organisation, Geneva.

WHO. (2011). *Definition of an older or elderly person*. Proposed Working Definition of an Older Person in Africa for the MDS Project. Health statistics and health information systems. Available online at:

<http://www.who.int/healthinfo/survey/ageingdefnolder/en/index.html> [Accessed 04/09/11].

Zaidi, A. (2008). Well-being of older people in ageing societies. Aldershot: Ashgate.

Zaidi, A. and Burchardt, T. (2005). Comparing incomes when needs differ: equivalisation for the extra costs of disability in the UK. *Review of Income and Wealth*. Series 51, Number 1.

Zaidi, A. and Zolyomi, E. (2011). Active Ageing. Research note 6/2011. Social Situation Observatory – Income distribution and living conditions Applica (BE), European Centre for Social Welfare Policy and Research (AT), ISER – University of Essex (UK) and Tárki (HU).

Zaidi, A., Makovec, M., Fuchs, M., Lipszyc, B., Lelkes, O., Rummel, M., Marin, B. and de Vox, K. (2006). Poverty of Elderly People in EU25. First Report; European Centre for Social Welfare Policy and Research.

Zimmer, Z. (2008). Poverty, Wealth Inequality and Health among Older Adults in Rural Cambodia. *Social Science and Medicine*. 66; 57-71.

Zimmer, Z. and Dayton, J. (2005). Older adults in sub-Saharan Africa living with children and grandchildren. *Population Studies*. 59, 3, 295-312.

Zulu, E. Beguy, D. Ezech, A. Bocquier, P. Madise, N. Cleland, J. and Falkingham, J. (2011). Overview of migration, poverty and health dynamics in Nairobi City's Slum Settlements. *Journal of Urban Health*. Bulletin of the New York Academy of Medicine. 88, supplement 2.

