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Learning with Older People about their Transport and Mobility Problems in Rural Tanzania

Final Report

HelpAge International Tanzania

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Cover Photo: A blind, older woman travelling to a medical centre by bicycle *(Photo: Paul Starkey).*

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Abstract

HelpAge conducted a study in Kidabaga, Mwatasi and Mhanga villages, Kilolo District, in Iringa region to build baseline data to promote and monitor mobility-focused interventions for rural older people. Three approaches were used to conduct the study:

1. Ten older people co-researchers were trained to shape the survey tools used in Kibaha ensuring it was suitable for the three villages

2. 13 Research Assistants led by four older peer researchers conducted household surveys with 358 older people to collect quantitative data

3. 31 key informants representing health professionals, village leaders and transport providers were interviewed to triangulate the survey data.

The findings show that current access of older people to health services is substantially constrained by their poor access to transport services (affected both by cost and availability). Only Kidabaga has a clinic, while Mwatasi has a small dispensary, with no health facilities in Mhanga. Walking is the most common means of reaching health facilities by older people in all villages, with trip durations ranging from 15 minutes to over 4 hours. For 64% of older people surveyed in Mhanga, and for 30% of older people surveyed in Mwatasi, travel is the key barrier to accessing healthcare, where by contrast, in Kidabaga the user fee was found to be the main problem. Due to lack of transport, older farmers have limited livelihood opportunities and depend on traders who come to the village. Nevertheless, the influx of boda-bodas, particularly in Kidabaga and Mwatasi, has significantly improved the mobility of older people, especially in the provision of emergency transport, despite the high fares.

Key words

Mobility, Health, Ageing, Disability, Older People, Rural, Co-investigation

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Acronyms

AFCAP	Africa Community Access Partnership
ART	Anti-Retroviral Therapy
CHF	Community Health Fund
DED	District Executive Director
DFID	Department for International Development
GAWI	Global Age Watch Index
IFRTD	International Forum for Rural Transport and Development
IMT	Intermediate Means of Transport
MP	Member of Parliament
NCD	Non Communicable Disease
NHIF	National Health Insurance Fund
OCR	Older People Co-researchers
OVC	Orphans and Vulnerable Children
PMO - RALG	Prime Minister's Office Regional Administration and Local Government
RA	Research Assistants
RC	Regional Commissioner
SPSS	Statistical Package for Social Sciences
TANROADS	Tanzania National Roads Agency
TASAF	Tanzania Social Action Fund
Tsh	Tanzania shilling (USD 1 ≈ TZS 2000; GBP 1 ≈ TZS 3000)
TZS	Tanzania shilling (USD 1 ≈ TZS 2000; GBP 1 ≈ TZS 3000)
VEO	Village Executive Officers
WEO	Ward Executive Officers
WHO	World Health Organization

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1 Executive summary

This report presents findings from the research conducted in three villages of Kidabaga, Mwatasi and Mhanga, Kilolo district, in Iringa region. The study was conducted to build a baseline of data to promote and monitor mobility-focused interventions for rural older people to achieve better health and well-being. Three approaches were used to conduct the study:

1. 10 older people co-researchers were trained to shape the survey tools used in Kibaha ensuring it was suitable for the three villages
2. 13 Research Assistants led by four older peer researchers conducted household surveys with 358 older people to collect quantitative data
3. 31 key informants representing health professionals, village leaders and transport providers were interviewed to triangulate the survey data.

The study drew on previous experience of involving older people as co-investigators, from a previous AFCAP funded study conducted in Kibaha district, Tanzania. In the analysis, some reference has been made to the Kibaha study to make comparisons between the two datasets. As was the case in Kibaha, efforts were made to ensure the mix of targeted villages reflected the varied road network characteristics. Kidabaga is accessible by public transport while Mwatasi was less directly accessible by bus, and Mhanga was very difficult to access by either bus or boda boda (motorcycle taxi).
The findings show that current access of older people to health services is substantially constrained by their poor access to transport services (affected both by cost and availability issues). Only Kidabaga has a clinic, while Mwatasi has a small dispensary, with no healthcare facility in Mhanga. Walking was the most common means of getting to health facilities for all villages with trip duration ranging from 15 minutes to over 4 hours. For 64% of respondents in Mhanga, and for 30% in Mwatasi, travel has been cited as the key barrier to accessing healthcare. By contrast, the village with better healthcare access, the user fee was cited as the main problem. Livelihood opportunities are also affected due to lack of transport with older farmers having to depend on traders who come to the village. Even in the case of older people residents in Kidabaga, many will have poor access due to residential location at a distance from the clinic and/or other factors such as infirmity and associated limited mobility.
In terms of health indicators, the district has a 103 per 1,000 Infant Mortality Rate, Children under Five Years Mortality Rate of 170 per 1,000 children, HIV/AIDS prevalence rate of 12.4%, Doctor/Population Ratio of 27,266 people per doctor, and Hospital Bed/Population Ratio of 1,124 patients per bed.

The district has a total road network of 884 km with about 211 km maintained by the Ministry of Works through the Tanzania National Roads Agency (TANROAD), about 455 km district roads and 218 km feeder roads maintained by The Prime Minister's Office Regional Administration and Local Government (PMO - RALG) through the district council. Most of the roads in the district are maintained by the District Authority and are mostly unpaved.

The questionnaire survey captured many aspects of older people's use of health services in the 3 settlements. Substantially more people surveyed in Kilolo than in Kibaha district had not accessed health services in the last year, which may well be a factor of poorer physical access in Kilolo district, associated with limited transport.

In the month prior to the survey, figures for the use of health services by respondents were highest in Kidabaga (25%), lower in Mwatasi (22%) and lower still in the village without any health service, Mhanga (13%), which reflects the transport and access conditions and the availability of health services in these settlements.

Respondents who had used health services within the last year were asked in the survey about their reason for going, the type of health centre used and the time it took them to get to the health centre. The main stated reasons for seeking health advice or treatment were swollen joints and legs (16%), chest pain (11%), and malaria (9%). In Kibaha, malaria led in the list of health issues (17%), followed by swollen joints and leg problems. Diabetes was also recorded as the direct cause of a health-related trip by one woman in the sample.

A tendency for travel time to increase with age was observed, as might be expected since increasing age is often accompanied by increasing infirmity.

Women tended to travel to the health centre with one other adult family member (42%) or alone (39%). The majority of men travelled alone (45%) or with one other adult family member (27%).

The cost of the journey to the health centre varied considerably, but 69% of both women and men said they had walked to obtain medical treatment, and thus incurred no direct cost for travel. Bus and motorcycle otherwise dominated travel: 10% of women and 14% of men travelled by boda-boda; and another 3% of women and 1% of men by private motorcycle. Twelve percent of women and 10% of men were found to travel by bus. Just one woman and one man travelled by bicycle, and just one woman by bicycle taxi.

Overall health and livelihood are intertwined and poor infrastructure, lack of motorized transport and user fees were found to significantly affect households of older people. Good health enables older people to work to support themselves and those in their care, while access to livelihoods provides the funds to pay for health care.

For many older people, health problems bring substantial associated livelihood problems. In particular, domestic load carrying can be particularly burdensome for older people, but is necessary in order to maintain the household and thus enable people to go about their daily business of making a living. Unless children or grandchildren are available to assist on a regular basis, carrying water, firewood and farm produce can be a major hurdle for older people.
Access to good health services is likely to bring improved well-being and enables many older people to work well into their 70s, an important factor in communities where the caring role of older people is so significant. Family and community support play a great role in filling this gap. Multi-sectoral policy interventions are required to address the livelihood and health access issues that significantly affect older people's wellbeing.

2 Background

HelpAge International has a **vision** of a world in which all older people can lead dignified, active, healthy and secure lives. Its **mission** is to work with partners in Government, civil society and research and academic institutions to ensure that people everywhere understand how much older people contribute to society and that they must enjoy their right to healthcare, social services and economic and physical security. HelpAge's 2015-2020 strategy[1] is set to enable older people to:

- Have regular income to meet their basic needs
- Enjoy the best possible health and quality of life
- Feel safe and secure, free from discrimination
- Have their voices heard

In 2012 with support from AFCAP and in collaboration with the University of Durham and the Good Samaritan Social Services Trust (a local organisation of older people), HelpAge conducted a study: **Learning with older people about their transport and mobility problems in rural Tanzania: focus on improving access to health services and livelihoods, in Kibaha District, Pwani Region.** This three phase study commenced with training of 12 older people as peer researchers. They subsequently identified key questions for in-depth qualitative and survey research conducted by an academic-led research team. Full findings based on research in 10 settlements (one on the paved road, nine off-road) were presented in a report to AFCAP in 2012, and in a journal paper (Porter et al, 2013).

HelpAge has been using the research outcomes from the Kibaha study to influence policy and practice in national and local government, civil society and United Nations programming. However, these findings are limited by the mobility evidence base coming from just one district, given the size and diversity of the population of Tanzania. The Kilolo district research study has helped consolidate findings through improved representation, while gaining particular strength from the linkages now in place with the NGO Amend, which has conducted complementary research on motorcycle taxis in Kilolo district. The opportunity to triangulate between studies will provide substantial added value and contribute to wider discussions with Transaid and IFRTD, who are also members of this Tanzania transport services network.

The mobility study in Kilolo district provides a significant complement to HelpAge's earlier findings from the Kibaha study by bringing new insights from a very different location and context to support older people's health and well-being related mobility needs. HelpAge always pursues such studies in tandem with local grassroots partners in order to ensure continued support by local organizations after the studies. It also works to mainstream the recommendations of the studies in local government plans and budgets. Since the study was conducted in Kibaha, interventions aimed at improving access to health services, particularly focusing on Non-Communicable Diseases, are underway. Through this intervention, older people are currently benefiting from the effective implementation of the free health care policy, which have resulted in increased diagnosis and referral through health camps and dedicated older people's clinic days supported by volunteer home based care givers who provide advice, counselling and links to health services.

While an indepth comparative analysis is expected to be carried out at a later date, some initial comparison on key issues of mobility and transport with reference to access to health care and livelihood have been made in this report.

[1] Further information on HelpAge International's global strategy can be found at: http://www.helpage.org/download/4c462c38a1e92

3 Research objective

The mobility study in Kilolo district aimed to complement the Kibaha study in providing further empirical evidence for older people's health and well-being related mobility needs. Focusing on three villages: Kidabaga, Mwatasi and Mhanga, which are remote and isolated areas with poor infrastructure and limited motorised transport, the objectives of the study were:

- To identify and promote mobility focused interventions that will enable rural older people and those in their care to achieve better health and well-being
- To provide an extended evidence base on how older people's access to rural transport impacts on their health and livelihoods
- To ensure the findings reach key policy makers and practitioners locally, nationally and internationally, who then act on them

HelpAge will use this evidence based study to promote its advocacy and policy influencing activities with health and transport focused policy makers as well as wider stakeholders addressing poverty, exclusion and marginalisation to increase awareness so that policies and practices recognise and respond to the unique mobility and transport needs and rights of older people.

4 Review of literature

4.1 The Century of Ageing

People are growing older in a world which is increasingly unequal, but also one where the demand for participation in decision-making and accountability is ever stronger. A world of longer lives presents both opportunities and challenges, calling on society at large to rethink its views of ageing and how it responds to their needs. Individuals, economies and societies will need to make far-reaching changes to address population ageing.

Even Africa, considered the ''young'' continent is experiencing the demographic transition as it is home to 60 million older men and women (over 60 years old). Tanzania as part of the global community is also reaping the benefits of economic prosperity and longevity with widening levels of inequality due to age, gender, location, disability and other factors, threatening the cohesiveness of society. As an organisation working to promote the wellbeing and inclusion of older women and men, and reduce poverty and discrimination in later life, the long term change (our theory of change) that HelpAge International is working towards is:

- Equity for older people in development planning and programmes
- The adoption and implementation of policies that address the opportunities and challenges of ageing societies and support older men and women
- Changed attitudes, practices and behaviours – by authorities in local and central government and societies at large towards older people and those of individuals towards their own and others' ageing

4.2 Our ageing world – embracing opportunities and challenges

Our world is changing rapidly in many ways. In all countries, rich or poor, economic, social and demographic shifts are changing what it means to grow old. A world of longer lives presents both opportunities and challenges, calling on us all to rethink our view of ageing and later life and how we need to respond. Individuals, economies and societies will need to make far-reaching changes to address population ageing. Incentives for decent work, supportive health care systems, initiatives to

ensure equity in old age as well as the involvement of older people in their communities and wider societies, all need their place. Health and income are the two most common problems older people in developing countries often cite.

4.2.1 *Ageing, work and income*

As populations age across the world, the debate on old age income security has also grown. While formal sector work and retirement have become the norm in the developed world, in developing countries many people, especially the poorest, go on working well into old age. In many countries older people contribute significantly to family incomes, and in some cases become the household's main breadwinners.

Governments in both developed and developing countries are beginning to recognise that enabling decent, safe and secure work, and support to income security in old age, has benefits across generations. Pensions in old age can tackle broader social inequality and support economic growth. Educational opportunities throughout life can improve work prospects at all ages. Policy change in these areas will have significant benefits both for individuals and wider development.

Of the 2.5 million Tanzanian older people (National Bureau of Statistics, 2012) only 4% have access to a pension income. The vast majority of older people who worked in the informal sector lack access to any form of income, this not-withstanding the fact that 40% of Tanzania's Orphans and Vulnerable Children (OVC) live with and are cared for by older people (UNICEF, 2007).

4.2.2 *Ageing and health transitions*

Patterns of health and disease are also changing. The rise of non-communicable diseases (NCDs) such as heart disease and stroke, cancer and Alzheimer's disease, once seen as only a challenge for high income countries, is affecting all societies; low and middle-income countries now have the highest global prevalence (and lowest treatment rates) for major NCDs. The challenges of physical and mental frailty are also growing with increasing longevity. In many countries this means that the extra burden of NCDs is added to the existing diseases of poverty in old age. In addition, more people living with HIV are accessing anti-retroviral therapy enabling increasing numbers to live into older age with the virus.

Few health systems either in the developed or developing world have responded adequately to the changing health and care needs of older populations. Physical access to clinics and hospitals, a lack of awareness of health conditions and social care needs in old age, or prejudice, are all barriers faced by older people seeking health care.

Over the last two years, Tanzania has declared free health care services to people aged over 60 years old. However, implementation is weak, with chronic shortage of drugs, inadequate skills among health workers and poor transport infrastructure and services affecting older people's access to affordable and age friendly health care. Due to sustained advocacy by organisations of older people, with support from HelpAge International, an increasing number of health service providers are beginning to introduce age friendly health services by taking initial steps to address some of the barriers.

4.2.3 *Wider literature*

Our research was built not only on the Kibaha study but also on concepts and issues arising from the literature on older people in Africa and on an earlier research study focused on child mobility (www.dur.ac.uk/child.mobility). In this child mobility study, conducted in Ghana, Malawi and South Africa, approximately 20% of the 1000 child respondents surveyed in each of the three countries lived with people other than their parents. In South Africa, Malawi and Ghana respectively, 14%, 9% and 9% lived with grandparents (usually grandmothers alone); the remainder lived with other relatives/foster

parents, many of whom are older people. In HIV and AIDS and other contexts, many older carers whom we interviewed lack financial support from the child's parents and struggle to provide for children in their care. HelpAge's Cost of Love Study (2004), carried out in Tanzania, which focused on the negative impacts of HIV and AIDs on older people, highlights the care-giving responsibility for grandchildren older people must take on after the death of children with AIDS. HelpAge's 'Building Bridges' study (2007), builds upon the Cost of Love project in highlighting the existing gaps towards integration of older people in the HIV and AIDS interventions and goes on to demonstrate a model of how inclusion for older people and those they live with can be achieved. HelpAge and other agencies, in collaboration with local government authorities, are using the intervention model in their work. Although there is a growing literature on this role of older people as carers (Ingstad, 2004; Schatz, 2007; HAI, 2007; Kamya and Poindexter, 2009; Ipingbemi, 2010; Pettersson and Schmokker, 2010), the mobility constraints older people face, which will impact strongly on their ability to act effectively in this role, constitute a major knowledge gap. The transport-focused findings for Kibaha district (Porter et al, 2013) contribute to a broader understanding of how changing inter-generational relationships (Vanderbeck, 2007) affect mobility and poverty transmission issues.

Mobility, or lack of it, is likely to be implicated in many facets of older people's lives (Schwanen and Paez, 2010). Income poverty, in particular, is a common characteristic of Africa's older people, especially in societies like Tanzania where governments do not provide universal social security in old age and where family support for them is assumed (Apt, 1997; van der Geest, 1998; Heslop and Gorman, 2002; Barrientos, Gorman and Heslop, 2003; Aboderin, 2004). The Non-contributory pension feasibility study undertaken in Tanzania by HelpAge (2010), in collaboration with the Ministry of Labour, Youth Employment and Development, demonstrated the levels of poverty within older person headed households and suggests that, should a non-contributory pension be paid, the levels of poverty nationally would decrease significantly. The study demonstrates how a non-contributory pension facilitates economic growth, cohesion in the nation and enables older people to access health services, subsequently leading to better nutrition, health and education for their grandchildren. The study goes on to demonstrate affordability and ways of finding money to pay the pension. The National Poverty Reduction Strategy (2011-2015) included a goal of paying the non-contributory pension within this period.

In the current context of lack of old age social security, continuing access to livelihoods is vital, not just for the elderly to support themselves, but also to support young orphans and others in their care (Clacherty, 2008). Access to a secure livelihood is often particularly difficult for older people: in rural areas income from farming is frequently insecure, and is likely to become more insecure with climate change. Multiplex livelihoods and off-farm income are widely recognised to provide a route out of rural poverty (Bryceson, 1999; 2002; Gladwin et al, 2001; Canagarajah et al, 2001; Yaro, 2006) but livelihood diversification, especially in rural areas, often requires travel to the nearest market or service location. In West Africa this has been found to cause particular difficulties for elderly women traders (Apt et al, 1995; Grieco et al, 1996; Ipingbemi, 2010; Porter, 2011). Lack of reliable low cost transport and restricted mobility may severely affect older people's access to clinics, pension points (where pensions are provided), paid work, livelihood opportunities, churches, participation in social networks, and other facilities and services important to their lives, with negative impacts on their health and well-being. Long walks to access a transport route or to services are likely to present a serious hurdle, particularly to less fit or older people with disabilities, and especially where the route crosses difficult terrain, and in the rains. Even in larger rural service-centres, distances to required services – health services in particular - may be so long and transport so infrequent that access is low (Grieco et al, 1996; Ipingbemi, 2010). Where regular transport is available, low incomes and poverty may still limit access. Older people, especially women carers, often appear to be among the poorest, thus probably those least able to afford transport fares (Kakwani and Subbarao, 2007).

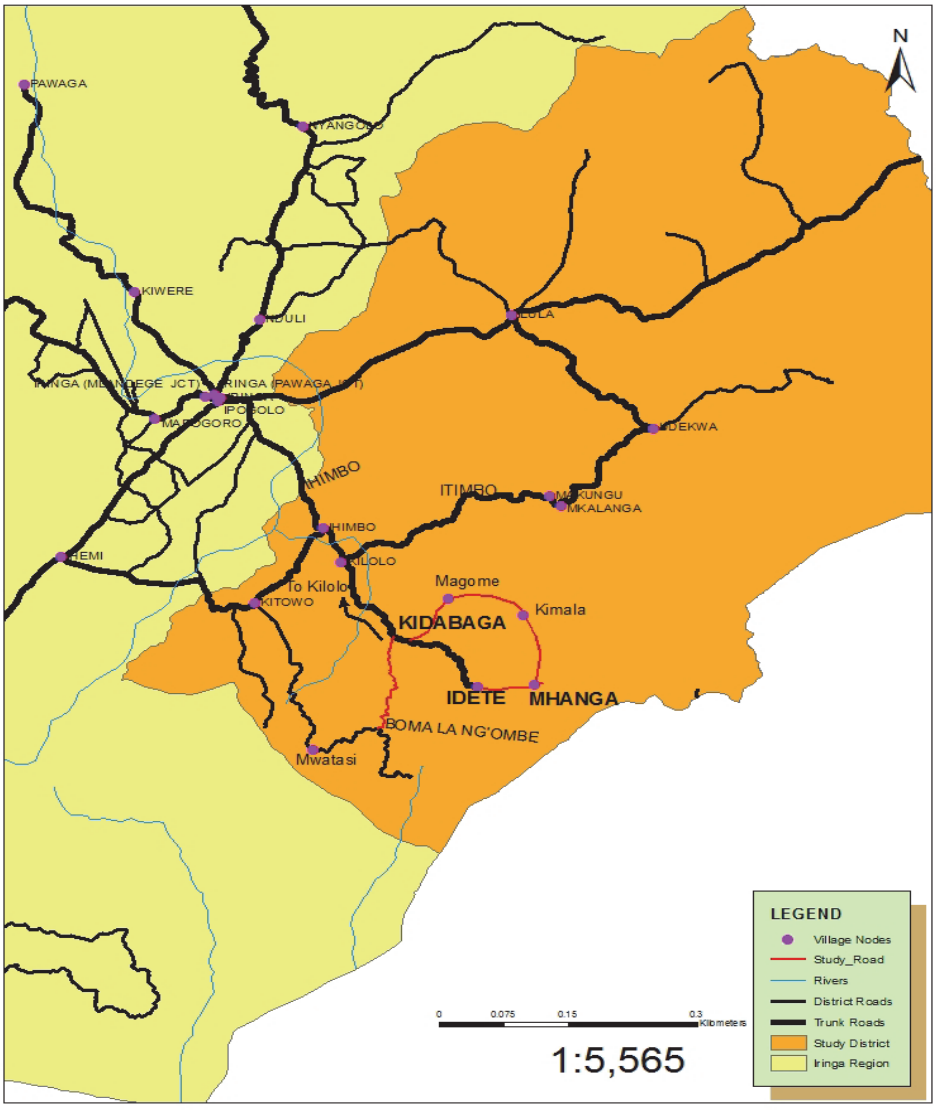
The Global Age Watch Index of 2013 and 2014 ranks Tanzania 91 out of 92 countries and 92 out of 96 countries respectively. The index is the first of its kind in measuring the progress of countries in supporting their older populations, and highlights gaps in international and national data sets, and points to appropriate policies. The index ranks countries against four domains that include income security, health status, capability and enabling environment. Tanzania has instituted a free health care policy for people aged 60 years and above, and is scoring better in health status (standing 69th out of 96 countries), although it is performing poorly in income security, capability and enabling environment (Global Agewatch Index, 2013 & 2014).

5 Methodology

5.1 Research Areas

The identified research areas and their characteristics are summarised as follows, and shown on the map in Figure 1:

Figure 1: Map of the Area Showing the Study Sites



- Mhanga Village, Idete Ward – representing remote rural villages with no all-season road and no rural transport or other social services
- Mwatasi Village, Boma la Ng'ombe – representing villages with an all-season road but only minimal services, including dispensaries stocking drugs and only motorised once a day by one bus.
- Kidabaga Village, Kidabaga Ward – representing rural villages with a health centre and accessible by public transport

5.2 Study site characteristics

Like the general characteristics of Kilolo district, the study sites are mountainous with steep hills, ridges, valleys and escarpments. The characteristics are significant for the study because of the direct relationship between the landscape and the nature of the roads and the overall topography. The study site lies within the Highlands Zone, which is a continuation of the Udzungwa Mountain Ranges with an altitude ranging from 1,600 – 2,700 meters above sea level, temperatures below 15^0C, and heavy rainfall per annum. Administratively, the study sites lie within Mahenge division of the 3 district divisions (the other two being Mazombe and Kilolo divisions).

5.2.1 *Overall Kilolo district population and other key statistics:*

Kilolo district is located at the north eastern end of Iringa Region; with the district council office located about 37 km from the regional headquarters. It lies adjacent to the eastern borders of Iringa Rural and Iringa Municipal Council, sharing borders with Mpwapwa District (Dodoma Region) in the North, Kilosa district (Morogoro Region) in the North East, Kilombero District (Morogoro Region) in the East, and Mufindi District in the south.

According to the 2012 Population Census, the district has an average population density of 32 persons per sq. km with a total population of 156,673 people made up of:

Table 1: District Population figures

Age Cohorts	Total	Male	Female	% of total popualtion
Children <18 years old	107320	55078	52242	52
Young people (18-29) years old	39534	18745	20789	19
Older People 60+ years old	9819	4421	5398	5
	156673	78244	78429	

Source: Kilolo District officials

According to iadditional nformation gathered from the district officials, the district has 45,337 households with an average household size of 4.5 people. The district has one private hospital, two health centers (1 private) and 50 (16 private) dispensaries. The population figures for the study sites and the ratio of health facilities against population are provided in Table 2 and Table 3 respectively.

Table 2: Population Distribution, Health Facilities (HFs) and Road Network in the Study Sites

Study site	Population			No. of OP			Health Facility		Road network		
	Total	F	M	Total	F	M	H/C	Dispensary	TANROAD	DC-R	Feeder -R
Kidabaga	7,787	4,087	3,700	274			1	0	1	1	2
Mwatasi	2,263	1192	1071	116	64	52	0	1	0	1	2
Mhanga	1612	854	758	137	78	59	0	0	0	0	2

Source: Kilolo District officials

Table 3: Ratio of Health Facilities against population

Division	2002				2012			
	Total Population	Total Number of HFs	Mean Average Population Per h.f.s	HFs per 10,000 people	Total Population	Total Number of HFs	Mean Average Population Per HFs	HFs per 10,000 people
Mazombe	76,173	13	5,888	2	83,494	15	5,566	2
Mahenge	24,751	11	2,260	4	27,993	10	2,799	4
Kilolo	103,448	21	4,937	2	106,643	28	3,809	3

Source: Kilolo District officials

In terms of health indicators, the district has an Infant Mortality Rate of 103 per 1,000, Children under Five Years Mortality Rate of 170 per 1,000 children, HIV/AIDS prevalence rate of 12.4%, Doctor/Population Ratio 27,266 people per doctor and Hospital Bed/Population Ratio of 1,124 patients per bed.

The district has a total road network of 884.1 km with about 211 km maintained by the Ministry of Works through the Tanzania National Roads Agency (TANROAD), about 455 km district roads and 218.1 km feeder roads maintained by the Prime Minister's Office Regional Administration and Local Government (PMO - RALG) through the district council. The majority of the district roads are maintained by the District Authority and are mostly unpaved.

5.3 Survey Design

A mixed methods approach was adopted in the study, comprising both quantitative and qualitative data collection. For the former, a household survey targeting older people (60+ years of age) residing in the study villages was conducted. Qualitative data were also collected, to triangulate the information from the household survey.

The study tools used in the Kibaha study were adapted for use in Kilolo. The older people co-researchers assisted to moderate and contextualize the Kibaha tools for use in this study. Although the older people co-investigators helped shape the content of the survey questions, our preliminary investigations suggested that the issues were likely to be similar to those discussed in Kibaha. The survey instruments (4 different modified checklists) used are attached to this report.

The quantitative survey (Annex G) is sub-divided into the following four main sections:

i. Demographic profile of the respondents
ii. Means of transport used and spatial autonomy
iii. Use of and travel to health facilities
iv. Journeys and livelihoods

Qualitative data was collected using the key informant checklists (see Annexes A-F). The following were interviewed in each village:

i. Health professionals (one in each village)
ii. Village leaders (at least one per village)
iii. Transport providers (at least 3 *boda boda* and owners of public vehicles per village)
iv. Older people opinion leaders focusing on health and transport movement (6 in each village)

Thirty-one key informant interviews were conducted: 11 in Mwatasi, 11 in Kidabaga, 9 in Mhanga

Both the quantitative survey and the key informant (qualitative checklists) instruments were piloted by the older people co-researchers (OCR) before the commencement of data collection.

The ten older peer researchers attended three days of training to familiarise themselves with the subject of the study, and the various tools that were used in the Kibaha study to ensure they were able to review and customise them for use in the Kilolo study. Following their input, the tools were modified and they were piloted prior to their application in the field. Four of the older peer researchers identified from among the 10 OCR were then used to support the field interviews with the thirteen research assistants that worked in the three villages.

5.3.1 *Sampling*

Cross-sectional simple stratified random sampling was followed to select the older people to participate in the survey. Given the 2012 Census figures, the following sample size was proposed.

Table 4: Sample Size

Study site	Total OP Population	Total sample (at 95% confidence and 5% interval) (http://www.surveysystem.com/sscalc.htm)
Kidabaga	274	160
Mwatasi	116	89
Mhanga	137	101
Total	**527**	**350**

At a confidence interval of ±5% given a confidence level of 95%, plans were made to select a sample of 350 households to participate in the study. In each household, only one older person was selected for interview. Moreover, learning from the sampling used in Kibaha, the same transects approach used in Kibaha villages i.e. sampling across the settlement, roughly N-S, then E-W, then S-W to N-E etc. was used to achieve the quota. This ensured coverage extended beyond the heart of the settlement and into different neighbourhoods and especially that it reached remoter compounds on the edge of each settlement.

6 Research Findings

Qualitative interview data from the peer research studies and the RA interviews were analysed thematically and the information for key themes triangulated with findings from the Statistical Package for the Social Sciences (SPSS) survey data analysis.

A total of 358 questionnaires were completed and statistical analyses conducted (principally cross-tabulations) on key themes. The study cohort exhibited the following characteristics.

Sex distribution of surveyed population: 64% female; 36% male - this is probably a fair representation of population distribution by sex for the 60+ age group in the survey settlements.

Age distribution of surveyed population:

60-65 = 30.9%
66-70 = 19.3%
71-75 = 19.0%
76-80 = 12.7%
81-85 = 9.3%
86-90 = 4.0%
91+ = 4.8%

Marital status: under 4% single, 42% married, 49% widowed, 2% divorced.

6.1 Basic living conditions

Availability of fuel, electricity, drinking water and sanitation are all significant factors shaping older people's living conditions in the 3 study settlements. The survey data (N=358) indicates the basic patterns of availability.

Main fuel of household: This is almost entirely wood, gathered locally (Kidabaga 100% wood; Mwatasi 99% wood; 1% charcoal; Mhanga 100% wood).

Electricity, availability in the house: 77% none; 15.7% solar power; 5.1% paraffin; 1.7 % mains electricity or generator (only available in Kidabaga where it is the source of power for 3.8% of households).

Drinking water availability to household: 1% piped water to dwelling; 14% community standpipe; 44% borehole; 29% surface water only (river, stream etc.); 11% springs. Piped water is minimal in all settlements. Local community standpipes are most common in Kidabaga (23%), less common in Mwatasi (14%) and non-existent in Mhanga. Qualitative data points to a USAID project in Mwatasi which has led to the particularly high (77%) use of borehole water by households in this settlement.

Living arrangements also strongly impact on older people's wellbeing: 5% of women are living alone, 2% of men. Those living alone or caring for orphaned grandchildren tend to be the most vulnerable older people. One farmer in Mwatasi observed that about 10% of older people are living alone because their families have migrated: their houses are falling down and *'their lives are horrible'.* Nearly half of respondents (49%) in Kidabaga say they are sole carers of children and figures for Mwatasi (43%) and Mhanga (30%) are also disturbingly high. Thirty-five percent of respondents have male grandchildren in the house (ranging from 40% in Kidabaga to 27% in Mhanga) and 34% have female grandchildren in the house (ranging from 40% in Kidabaga to 25% in Mhanga), so it is likely that there are other family members also resident in some of these households, rather than simply grandparents looking after young children alone. Some respondents referred to their responsibilities in qualitative interviews: one man of 74 years in Kidabaga, who had been a civil servant and has a number of young children in his care, observed that high blood pressure is common among older people '*due to many thoughts, especially poverty and taking care of grandchildren; the burden is huge'.*

Table 5 has been compiled by triangulation of information from both the survey and the qualitative research interviews. In the survey, we used 15 minutes' walk as the manageable distance for assessing older people's access to public transport. Earlier discussions with older people indicating that beyond 15 minutes, the effort required of older people was considered excessive. Regular transport type could be either bus or motorcycle taxi; the key point was that the transport [whatever its type], should be within 15 minutes' walk of the person's home base.

Table 5: Road access, transport and local service availability

Settlement	Road access	Households located over 15 mins walk from regular transport	Provision of motorcycle taxi services	Availability of other motorised transport	Access to markets	Access to grinding mills
Kidabaga	All season access	48%	Numerous, always available	Bus daily to and from Iringa. Lorries are frequent and also transport passengers sometimes	Major markets accessible by regular transport	In the settlement
Mwatasi	Accessible in the dry season but difficult by car during wet season.	52%	Uncertain, operate informally	Daily bus to and from Iringa. Private motorcycles operate for hire if needed	Monthly market	A mill in each hamlet: 7 in total
Mhanga	Very poor access – the villagers are building paths locally to connect the hamlets and farms. Had a grant to improve the Kimala – Idunda road and have completed 12 km – Idete to Itonya	99%	Uncertain, rare.	Virtually none – lorries occasionally visit in the dry season to collect produce. Otherwise, necessary to walk to Idete (19 km) to catch a bus.	Main markets are Iringa and Morogoro	4 mills: 1 in each hamlet

6.2 Access to Health Services

The findings show that current access of older people to health services is substantially constrained by their poor access to transport services (affected both by cost and availability issues). Only Kidabaga currently has a clinic, while Mwatasi has a small dispensary. Mhanga has no health facilities. Even in the

case of older people who reside in Kidabaga, many will have poor access due to their residential location at a distance from the clinic and/or other factors such as infirmity and associated limited mobility.

The questionnaire survey captured many aspects of *older people's use of health services* in the 3 settlements:

- Older people accessing health services in the last month: F=19%; M= 23%
- Older people accessing health services in the last 12 months but not in the last month: F=50%; M=40%
- Older people only accessing health services over a year ago: F=24%, M=24%

Substantially more people in Kilolo than in Kibaha district had not accessed health services in the last year, which may well be a factor of poorer physical access in Kilolo district study settlements, associated with limited transport.

In the month prior to the survey, figures for use of health services were highest in Kidabaga (25%), lower in Mwatasi (22%) and lower still in the village without any health service, Mhanga (13%) i.e. roughly mirroring transport and access conditions and the availability of health services in these settlements.

> *"I would rather stay home than endure the pains of having to walk all the way to Itonya. Alternatively, I resort to tradition herbs"* (A respondent in Mhanga)

Respondents who had used health services within the last year were asked in the survey about their reason for going, the type of health centre used and the time it took them to get to the health centre. The main stated reasons for seeking health advice or treatment were swollen joints and legs (16%), chest pain (11%), and malaria (9%). In Kibaha, malaria led in the list of health issues (17%), followed by swollen joints and leg problems. Diabetes was also recorded as the direct cause of a health-related trip by one woman in the sample.

The majority of older people in Kilolo district used a local clinic or dispensary (F=54%; M=47%).

Time taken to reach the health facility varied substantially between villages, as shown in Table 6. The pattern emphasizes the relative remoteness of Mhanga from health services. Time taken relates to the journey, irrespective of mode of transport employed [i.e. whether walking, using a motor cycle taxi etc.]

Table 6: Time taken to reach clinic on most recent visit (N=233)

	Up to 15min (%)	16 to 45 min (%)	46 min to 1h 30 (%)	1h 31 to 2h 30 (%)	2h 30 to 4h (%)	Over 4h (%)
Kidabaga	13	39	19	8	15	2
Mwatasi	8	41	18	16	2	4
Mhanga	0	1	2	12	41	20

There was no discernable pattern by gender but a tendency for travel time to increase with age was observed, as might be expected since increasing age is often accompanied by increasing infirmity.

Women tended to travel to the health centre with one other adult family member (42%) or alone (39%). A majority of men travelled along (45%) or with one other adult family member (27%). Thus, women were somewhat more likely than men to travel with an accompanying adult.

The *cost* of the journey to the health centre varied considerably, but 69% of both women and men (that had accessed health services) said they had walked to obtain medical treatment, and thus incurred no direct cost for travel. Bus and motorcycle otherwise dominated travel: 10% of women and 14% of men travelled by boda-boda; and another 3% of women and 1% of men by private motorcycle. Twelve percent of women and 10% of men travelled by bus. Just one woman and one man travelled by bicycle, and just one woman by bicycle taxi. Again, however, it is useful to look at the variation in pattern across the villages (see Table 7).

Table 7: Main mode of travel to health centre (N=264)

		Main mode of transport for health services										
		Walk-ing	*carried by pedest (1)*	*carried by pedest. stretcher*	*motor taxi (hire/ shuttle)*	*Motor-cycle (pvt) (2)*	*Motorcycle taxi (boda boda)*	*bicycle (pvt)*	*bicycle taxi*	*Amb. (3)*	*public bus / minibus*	*Total*
KIDABAGA	Count	70	1	0	0	0	10	1	0	1	16	99
	% within village	71%	1%	0%	0%	0%	10%	1%	0%	1%	16%	100%
MWATASI	Count	40	0	0	2	6	18	1	1	0	13	81
	% within village	49%	0%	0%	3%	7%	22%	1%	1%	0%	16%	100%
MHANGA	Count	71	2	4	1	0	1	0	0	0	5	84
	% within village	85%	2%	4.8%	1%	0%	1%	0%	0%	0%	6%	100%
Total	Count	181	3	4	3	6	29	2	1	1	34	264
	% within village	67%	1%	1.5%	1%	2%	11%	1%	1%	1%	13%	100%
	% of Total	69%	1%	2%	1%	2%	11%	1%	1%	1%	13%	100%

1 Pedest = pedestrian 2 Pvt = Private 3 Amb = Ambulance

Respondents were then asked in the survey what was their *principal* difficulty in accessing health services (main reasons shown in Table 8) (N=338):

Table 8: Difficulty in accessing health services

Principal difficulty	**None**	**Travel difficulty**	**Travel cost**	**No one to accompany**	**User fees/ medicinecost**	**Quality of service**	**Preference for traditional healers etc.**	**Too busy**
F	28%	31%	13%	7%	13%	0%	<1%	5%
M	29%	31%	10%	2.5%	17%	2%	0%	4%

*Any perceived *physical* constraint on travel

Clearly, the journey to the health centre is the most important issue in accessing health services both for women and men in Kilolo district study settlements and is, above all, a matter of logistics (more than cost). This overall picture contrasts somewhat with the Kibaha survey, where health service user fees dominated as the most important barrier, with travel difficulties and cost of travel lower down the scale. An analysis of Kilolo data by village, however, shows that the principal difficulty of accessing health services in Kidabaga (the village with best physical access to health services), actually was heath

treatment fees. However, by contrast, in both Mwatasi and Mhanga it is travel which dominates as the largest problem (for 64% of respondents in Mhanga, and for 30% in Mwatasi) and thus dominates when we consider responses for the three settlements as a whole.

6.2.1 *Access to healthcare in Kidabaga*

At Kidabaga, the clinical officer observed that most older people travel to their clinic in the village on foot. Currently, there is no functional ambulance to bring in people from outlying hamlets. However, it was cost of medicines and treatment, rather than travel difficulties, which were emphasized in qualitative interviews, reflecting the survey results. The middle-aged village chairman pointed to a lack of medicines at the health centre on some occasions: this was confirmed by the clinical officer at the health centre, who noted that whenever there is no medicine at the centre, people have to go to the pharmacy to buy it. Moreover (as was the case in Mwatasi), she seemed confused about who should have free treatment. '*there is no clear database for older people. Hence it's hard sometimes to identify who is eligible for free treatment*'. She suggested that older people are only eligible if they have National Health Insurance Fund (NHIF) or Community Health Fund (CHF). However, a disabled widow of 76 years, who said she always gets free treatment at the health centre, is ashamed as she falls sick frequently: '*I feel shy because they are treating me for free, and I don't want to look like a beggar.'* An ambulance for referral to Iringa regional hospital costs c. 60-75,000 shillings, but has to be requested from the district office, Kilolo, as the one based at the health centre is broken. Most people currently rely on hiring a private car (at a very high charge). In the wet season transport can reportedly get stuck on the way to Iringa hospital.

6.2.2 *Access to healthcare in Mwatasi*

Although Mwatasi has a dispensary, respondents observed the high cost of treatment. A pastor with his own car, living in Mwatasi, bemoaned the high cost of medication even to older people who are supposed to be treated without charge, while a woman aged 75 years said she does not go for medication for her injured leg because she doesn't have money and *'they haven't given us any card'*. The assistant doctor at the dispensary in Mwatasi seemed unclear as to whether all older people or only those who are very poor were entitled to free treatment: she observed, '*there is no data base to indicate who is or is not eligible for free services'*. There is a schedule for home visits for older people unable to get to the dispensary in this village but they are clearly too understaffed to provide adequate care under this system, though there is now reportedly some follow-up of older people who have been treated at the dispensary through phone calls with their relatives. There is also no power at the dispensary, so it is closed in the evening. People reportedly find the services better at the health centre at Mfindi (approximately 4 km and will travel there, if they can, according to a young boda-boda operator. He carries sick older people occasionally (three in the last six months), but notes that then he has to '*contend with three people on the motorcycle – one person to hold the old person in place while I ride*'.

6.2.3 *Access to healthcare in Mhanga*

The harshness of the situation in Mhanga is well described by the ward councilor there who points out how very sick older people unable to walk will depend on family or other 'well-wishers' carrying them on a traditional stretcher to the health post: '*an older person without this support will likely not access medication and will grow weak until death*'. The village chair, a middle-aged man, observed that young men have to be called in to carry sick older residents to the health centre: '*the young men will only show up to help in emergencies'.* One very old man from Mhanga, a widower, described how the community contributed Tsh 60,000 for his transport to travel for treatment at the hospital in Iringa, but

then he had to travel around to find the medicine '*from one pharmacy to another.'* The widower had to call his grandson, who sent him Tsh 20,000 by MPesa[2] to travel back home.

An older woman of 73 years in Mhanga talked about sick people having to be taken to the road to wait for a boda-boda to pick them up: '*You must call boda-boda, otherwise they never come here'.* Both these stories show the significance of mobile phones in making transport arrangements. There is one village health worker in Mhanga, but her role is in the maternal and child health sector: '*I very rarely provide health service to older people. We neither have facilities nor medicine'.* The nearest state-run clinics are at Idete and Itonya, but a (reportedly better) private clinic is available around 4 hours walk away at Nchombe.

Interestingly, preference for traditional healers is low in Kilolo district and in more accessible locations may be a last resort when older people have no funds for travel, or when hospital treatment has been ineffective (the situation according to Kibaha informants). However, in Mhanga, the distance to any heath facility encourages more reliance on traditional healers. A married man of 75 years who cares for a young orphan girl of 10 years observed: '*when I feel sick, the first thing I think of is herbal medicine. I go to hospital after traditional medicine has totally failed. Health centre is too far away*'. When the young child was ill the previous month, however, he had walked with her to the dispensary.

6.3 Livelihood implications for older people

In the current context of lack of old age social security, continuing access to livelihoods is frequently vital, not just for older people to support themselves, but also to support young orphans and others in their care. Transport, health and livelihoods are interconnected in many respects. Good health enables older people to work to support themselves and those in their care while, at the same time, access to livelihood opportunities provides the funds to pay for health care. Access to good health services is likely to bring improved well-being enabling many older people to work well into their 70s, an important factor in communities where the caring role of older people is so significant.

For many older people, health problems bring substantial associated livelihood problems. In particular, these problems are associated with the domestic load carrying which is necessary in order to maintain the household and thus enable people to go about their daily business of making a living. Unless children or grandchildren are available to assist on a regular basis, these tasks – carrying water, firewood, food from the farm etc. - are a major hurdle. This is discussed in some detail in the next sections.

6.3.1 *Domestic and subsistence activities*

Transport is needed to access a wide range of services and goods and for social visits - these may involve walking or motorized transport. However, transport is also needed for domestic tasks such as carrying water, firewood, refuse and farm produce within the settlement. This usually requires pedestrians to carry the loads, unless there are wheelbarrows, carts or bicycles available for the task. No older people in the survey referred to owning or using any form of cart (whether a hand cart or an animal drawn cart), or wheelbarrow, although in qualitative interviews the village chairman in Kidabaga said he owns a wheelbarrow and uses it for carrying building blocks and other general purposes. In Mhanga we were told the terrain is too steep for either carts or wheelbarrows. Consequently, domestic loads are a major burden to older people as shown in Table 9.

[2] MPesa is a mobile phone based money transfer service.

Table 9: Domestic activities

	Access to Water Sources							Firewood		
Village	Piped water (%)	Standpipe (%)	Borehole (%)	Rivers, lakes etc (%)	Distance walked for water (dry season only) (%)			Distance walked for firewood (%)		
					<10 mins	10-30 mins	>30 mins	<10 mins	10-30 mins	>30 mins
Kidabaga	1	23	19	42	14	55	30	4	13	84
Mwatasi	2	13	77	6	28	43	28	6	14	80
Mhanga	0	0	53	29	38	38	23	6	26	78

Water: In the dry season water transport is a particular problem, in the absence of piped water in most settlements (see above): Even a short journey can be difficult for an older person, given the (20kg) weight of the standard 20 litre container used to carry water. In Mwatasi a woman of 75 years with an injured leg complained about the distance of her home from a water source:

> *'There is no water here. We have to go down to the river. I can't go to fetch water, my grandchildren do. When my grand children are not here, I have to wait till they get back'.*

We asked whether anyone helps to carry water, given that this is usually a major daily task. 36% of women and 24% of men carried all their water themselves; the remainder had assistance from children, grandchildren and (where they do not have family nearby) neighbours. A relatively low proportion (15% of women and 13% of men, much lower than in Kibaha) said they carried water every day:

> 'M*y grandchildren fetch water: when they are not around I carry water, 5 litres'* (woman 78 years, Mhanga).

Firewood: Since virtually every older person households depend on firewood for fuel, this is clearly an important item for consideration in assessing domestic loads. Firewood in Africa is normally carried home just a few times each week, because it has to be brought over long distances from the farm or bush. It is often the heaviest load carried and in many regions is seen as a woman's load, unless it is being collected for sale. In the survey, 41% of women and 33% of men said they carry their firewood entirely by themselves (a much lower proportion than in Kibaha), usually just one journey every few days. Overall 81% of respondents travel over 30 minutes to find firewood. The 75 year old woman from Mhanga with the injured leg, discussed above in the context of carrying water has a similar problem getting firewood*. 'I just carry only one piece of firewood because of my leg. If I carry load, my back aches a lot.'*

Household waste is a much lighter load and is usually disposed off close to the house. 87% of women and 96% of men carry waste entirely by themselves.

Farm produce: As with water and firewood, in Kilolo district much farm produce after harvest is carried by other family members, rather than by older people themselves. Only 26% of women and 21% of men said they carried their own farm produce, and only 8% of women and 9% of men said they had travelled every day in the previous week to cultivate their fields, with respondents mostly going to the farm a few days each week. This may be because fields tend to be far from the house (much further than in Kibaha district, probably due to the dissected topography characteristics of Kilolo district). Over three quarters of respondents' fields are located over 30 minutes' walk from home (84% in Kidabaga, 71% in Mwatasi

and 77% in Mhanga). A large proportion of older people estimated that a single journey to their fields takes over 2 hours to walk: 24% in Kidabaga, 18% in Mwatasi and 37% in Mhanga.

A woman of 78 years in Mhanga who suffers from backache after carrying loads described walking home (using a stick) from her farm, about 30 minutes from the homestead, with 10kg of maize:

> *'I went with my grandson Thomas* (10 years old), *each of us carried. Although it is not far, my body is not very strong to carry heavy loads…carrying heavy loads affects my health'.*

Grinding mills are mostly located in the study settlements, but on average 70% of women and 87% of men surveyed in all villages had not visited a grinding mill in the last week.

Respondents were asked for a rough approximation of the heaviest weight carried – the most common quantity cited was 10kg or 20kg. No discernible pattern was evident by settlement. The load type carried most *often* (as opposed to the heaviest load), was water for women and firewood for men. Almost no loads were carried for money. One woman in Kidabaga reported being paid to carry water, and another 73 year old widow in Mhanga reported carrying and packing timber as a part-time job.

A majority of older people in the survey said they had experienced problems of tiredness or pain (principally waist and back pain) which they associated with load carrying. Women tend to carry on their head, but some men reported carrying on their shoulder in this district, which might perhaps explain why fewer men get headaches from carrying but neck pain is equal among women and men. A man of 80 years old in Mhanga talked about the loads of maize he carries home on his shoulder from the farm*: 'I can feel (it) for two or three days and then I get better after resting'.*

When asked about the main impact they associated with load carrying, the following responses were received:

Table 10: Impact of load carrying (n=314)

Most important load carrying impact in week prior to survey	**No problems (%)**			**Headache (%)**			**Waist/back pain (%)**			**Tiredness (%)**		
Village	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
F (n=198)	32	25	21	13	7	13	16	27	25	19	14	19
M (n=116)	35	31	15	8	6	5	10	12	20	20	19	35
Total (n=314)	33	27	18	11	7	10	14	23	23	19	15	25

1 = Kidabaga; 2 = Mwatasi; 3 = Mhanga

In Kidabaga an 83 year old man who still works as a blacksmith described taking his iron tools to market once a month and to customers weekly, resulting in tiredness, fever and backache:

> '*I go alone but if I have a heavy load I go with my grandchild… I do carry loads but I can't carry very heavy loads now. I can't carry more than 10kg. If there is a heavy load, for example charcoal, Atu my grandchild carries for me.'*

A man of 79 years in Mwatasi who depends entirely on his children stated:

> '*I used to carry but I no longer carry due to age. I can't even lift 5kgs. My hand cannot allow. It's painful*.'

Some relatively young men, however, are also no longer able to carry loads:

> *'I used to carry farm produce when a little younger. But for now my physical energy has deteriorated and I don't carry any heavy luggage. (Because of porterage work in the past) my shoulders are now stiff and I have painful hands and therefore don't carry any loads. My son and grandson assist with heavy loads'* (man aged 68 years, Mwatasi).

A middle-aged woman health worker in Kidabaga also noted accidents and health problems associated with carrying heavy loads*:*

> *'backache, and when you probe they say they have been carrying heavy loads like firewood, carrying water from the river, also chest pains'.*

The topography in this district makes load carrying particularly difficult:

> '*There are steep slopes. They can cause chest ache climbing them every day while you have load on your head*' (man 61 years old who still carries 20kg sacks of maize for about 90 minutes when walking home from his farm).

6.3.2 *Income earning opportunities*

Income sources among older people are limited. Farming is the main occupation reported. The survey found that an average of 81% of respondents were farmers (80% of women and 82% of men surveyed), with just 13% reporting that they were unemployed. Farming is the major occupation of older people surveyed in all settlements (over 70%), but only an average of 16% of both men and women said they work full-time.

> *'I work by forcing myself. If I don't work, who will feed my family? (though) I am not very enthusiastic because of dwindling physical fitness and body pains that come with age.'*
> (man 68 years, Mdendesa hamlet, living with wife, son and grandson).

The highest proportion of full-time work (29%) is in Kidabaga, probably as a result of the potential for crop sales here. Crops grown in Kidabaga include maize, peas and potatoes and fruit. Some older people also grow trees on their land for sale. However, poor roads even here are blamed for perishable crop losses (e.g. potatoes).

In Mwatasi there is potential to grow irrigated crops in the dry season in the wetlands and near to water points, but the marketing situation is worse than in Kidabaga, due to poor feeder roads, and even the main road becomes inaccessible after heavy rains. Consequently, it is difficult to make a living from cash crop sales, though peas are a profitable crop if they can be transported. There is a small stock/poultry project (goats and chickens) to support widows in Mwatasi.

In Mhanga bananas, beans and maize are grown and there is some commercial forestry, though most older people are no longer physically able to engage in timber cutting. Some older people sell their crops such as beans and bananas locally, although the business is limited to the dry season (July - October) as it's the only season when trucks can manage to get through. Nevertheless, during this season, prices are not competitive, and thus not favourable to farmers. The main markets are in Iringa and Morogoro, however, access to these markets is a major issue. According to respondents in the qualitative interviews, to reach Iringa market for instance, goods have to be head-loaded to Idete (about 5 hours walk) to catch a bus to Kilolo or Iringa market which departs the following day as there is only one travel opportunity in a day. Farmers have to sleep at Idete and proceed home (to Mhanga) by foot the following day as the bus arrives at around 1730hrs. Morogoro market is relatively good compared to Iringa market, however access is only by foot which takes about 2 - 2.5 days in each direction according to interview respondents. Consequently, older people sell their produce to visiting

traders at very low prices. In the dry season conditions are better and lorries take beans and timber out to markets, but the area is impassable in the wet season.

A vehicle stuck on a Road from Mhanga Village

> *'Due to poor infrastructure, I am forced to sell my farm produce to Idete because lorries won't access the village. However, due to age I can't carry the farm produce and therefore rely on younger people to ferry on my behalf. This costs me more – carrying the loads - as it eats into my profits.'*
> (man aged 75 years, looking after a 10 year old step daughter whose father has died).

A widow aged 73 years who lives with her son and granddaughter spoke about assisting with voluntary community work on road and path improvements by carrying and packing timber (they are building a road to Morogoro and according to the village officer are within 7 km of completing it).

Limited livelihood opportunities are in large part due to poor market access, but they can also be related, in some part, to educational levels, which are low in all the study settlements:

- 70% reported that they had had no education whatsoever (F=80%, M= 51%)
- 9% had completed primary education (F=3%, M=18%)
- <1% had completed secondary education

Educational levels widely varied by village and by gender. Mwatasi has a high rate of illiteracy among women (64%) while Mhanga has the highest rate of illiteracy among men (25%) with almost none for both genders secondary level education.

Pensions and other grants and remittances: help some older people substantially, but 60% say they have no pension or any form of grant (F=56%, M=67%). As many as 38% reported in the survey that they receive remittances (F=41%, M=31%) and 2% grants. The survey data suggests that women are slightly more likely to obtain external support than men. A higher proportion of remittances are received by older people in Kidabaga (46%) than in Mwatasi (34%) and Mhanga (29%). Remittances, also mentioned

in some qualitative interviews, seem to mostly come from children in Dar es Salaam or other towns, and are increasingly sent by MPesa.

Land ownership and cultivation: although farming is the major livelihood source for most older people, and 84% overall own land (81% of women and 89% of men), the scale of land ownership and cultivation is relatively modest. In terms of land acreage, cultivation levels are relatively low: 9% of women and 5% men who responded cultivate less than one acre; 54% women and 44% men cultivate just 1-2 acres, according to the survey. Only 2% of women and 3% of men cultivate over 5 acres. In qualitative interviews, older people often emphasized that this is because of their limited strength to cultivate and the expense involved in employing labour. As one 78 year-old widow in Mhanga who sells bananas and has a bad leg observed: '*my children told me to quit (farming, but) hunger doesn't rest. .. My child told me to employ a casual labourer but I cultivate myself one quarter hectare.'*

Typical Path Ways and Terrain in Mhanga Village

In the absence of substantial funds from market sales, employment of farm labour is hardly feasible: only 16% of older people reported employing labourers on their farms (F=16%; M=16%).

Kibaruwa: A small proportion of older people who lack resources undertake *kibaruwa* (casual wage labour), which is undertaken usually when people need immediate cash. Just 9% of women and 5% of male respondents said they had undertaken kibaruwa to earn money in the last year. A majority of this kibaruwa was conducted in Kidabaga, where 19% of women and 11% of men had been involved in the past year, compared to neither women nor men in Mhanga and just 3% of women in Mwatasi. Figures overall are much lower than in Kibaha and this may well be because there is simply a lack of casual work available in these remoter settlements, rather than a lack of older people needing to earn money.

6.3.3 *Transport beyond the village*

We asked respondents in the survey about their attitude to the means of transport that they use – what features they like and dislike about each mode and any associated dangers. This drew attention particularly to older people's experiences of using transport beyond the village area, and has important implications both for their livelihoods and well-being.

Pedestrian travel dominates journeys both inside and outside the village. The main advantage of walking is reported as being the fact that it saves money, and the biggest disadvantage is the fact that it is so tiring. Moreover, in Kilolo district the poor availability of transport and limited access by vehicle to markets means that pedestrian transport may include carrying heavy loads.

Cycling is a rare activity in Kilolo district according to the survey data. No survey respondent, male or female, reported owning a bicycle and usage is extremely low, probably because of the topography of the district (see Table 11). However, according to the Kidabaga village chairman, c. 80% of households in Kidabaga own a bicycle but they are not used much now that boda-boda are available. One man of 74 years who was interviewed said he has a bicycle but it's in poor condition and he cannot ride it because of an operation, but also '*because of the hilly nature of the village*'.

Table 11: Bicycle Usage

***BI*CYCLES**	**Use every day**	**1-3X per week**	**Less than once a week**	**Never use**
F	0%	<1%	<2%	98%
M	<1%	<1%	<2%	97%

Only a quarter of men and less than 2% of women surveyed said they know how to ride a bicycle. They cited a lack of bicycle and the lack of time to learn as reasons for this.

Bicycle taxis: In the survey, not one respondent referred to having ever used a bicycle-taxi. However, one 60 year old woman reported in a qualitative interview that she had used one the previous year to go to the farm, but it seems to have belonged to a family member.

Motorcycles/motorcycle taxis: Only one male respondent said he owns a motorcycle-taxi (with one woman and one man owning a motorcycle not used as a taxi). A small proportion of respondents in the Kilolo study settlements regularly use motorcycle-taxis (see Table 12) which are becoming increasingly common in the region (though by no means to the extent that was observed in Kibaha district, where only 12% of men and 12% of women had never used one).

Table 12: Motorcycle Usage

Motorcycle taxis	**1-3X per week (%)**			**Less than once a week (%)**			**Never use (%)**		
Village	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
F	7	2	0	28	12	0	65	86	100
M	10	0	2	31	12	0	59	88	98
Total	8	1	1	29	12	0	63	86	99

1 = Kidabaga; 2 = Mwatasi; 3 = Mhanga

We also asked in the survey whether people had used a boda-boda in the specific week prior to the survey –only 4 women and 4 men had done so. Of these 8 people, 5 lived in Kidabaga, 2 in Mwatasi and just one in Mhanga. Motorcycle taxis are liked particularly because of their speed in terms of getting to places quickly, but are disliked for the risk of accidents.

The village chairman at Kidabaga said that boda-boda are available '*all the time*' in this settlement and are now widely used in preference to bicycles. A 60 year old widow who was interviewed, used boda boda to go to funerals and to the health center when her daughter was sick. It is her favourite means of

transport: *'it is fast, you don't have to wait for long, you can get it anytime unlike buses that you have to wait until they come from town and sometime you may miss them.'* She has no fear of using the boda-boda, but notes that the costs rise in the wet season and she generally walks because of the cost. Another (married) woman of 72 years in Kidabaga is less happy with boda-boda and much prefers the bus:

> '*boda-boda gives me a chill down my spine. They ride recklessly and very fast…. I fear getting an accident… I normally have arguments when travelling with boda-boda, telling them to slow down. They sometime listen, sometime they don't.'*

Two young boda boda drivers, interviewed in Kidabaga, both observed that they find it easier to transport older men than older women:

> '*men can balance and adjust easily… men are confident. It is easy to communicate with them when something goes wrong; men can help in case of accident…. Women do not have good balance and sometimes can cause accidents. Women (are) fearful as passengers. (and) not as helpful in certain situations, for example the motorcycle can get stuck in a place that is not very safe, and a woman will just be there watching'* (driver, 24 years).

This man, who owns his own motorcycle also observed that boda boda drivers are '*careless and drive roughly*' and that older people are at particular risk because they cross the road slowly. He also noted the dangers of driving in the wet season when road accidents are more likely to occur on the rough, slippery terrain. He had personally had a minor accident in the rain when transporting a passenger.

One man in Kidabaga (c. 66 years) owns a bajaj (three-wheel motor tricycle) which he hires out (with a driver) for carrying loads and, occasionally passengers, but he observed that it is not safe as a passenger vehicle because it is small and the back is open like a pick-up.

In Mwatasi there are reportedly no formal boda-boda services but many private motor cycle owners will loan them out: *if you are in need you can ask them and they will take you to your destination* (middle-aged Pastor). This man subsequently observed that he was the first person to own a motorcycle here and drove it for 15 years, and had carried people around on it, including a very sick old man whom he had had to tie on with a *khanga* (a piece of cloth). However, *'our young drivers here are reckless. We have people who have died due to boda-boda accidents'.*

Another respondent here noted that *'many riders do not have licence'* (man aged 60 years). Further discussion with a young man with his parked motorcycle alongside other motorcycles at the bus stop, suggested that there are boda-boda operating in the village but they are wary of identifying themselves as such because of the licensing issue: *'if you want him to take you some where you just talk and negotiate'.* Another young man of 25 years who rents a motorcycle from his brother is clearly operating a boda-boda business, alongside his work as a farmer. He charges c. Tsh 5000 for a journey of 10 km, but observed that '*you can go a week without a customer. This is not like town, very few boda bodas due to less demand… due to poverty people prefer walking.'* A woman of 60y in Mwatasi observed that she sometimes hires a motorcycle but, mostly she walks, *not because I like it but because of lack of money.* It seems that older people use boda-boda when they are sick, however, and the young 25 year old driver above noted having carried three sick older people in the previous six months (in each case with a third person holding them on behind). Thus, motorcycles are used to take sick people about 20 km to Kihesa where they can catch a bus to town. The assistant doctor observed that boda-boda are not only very costly here but are mostly only available in the evening (presumably when motorcycle owners return from town).

In Mhanga, where the survey indicates hardly any use of boda-boda by older people, references to boda-boda are also very sparse in the qualitative transcripts. The ward councilor observed that it costs Tsh 15,000 to hire a boda-boda to Idete – Tsh 30,000 for a return trip. One man (c. 95 years) reported that he had taken a boda-boda, spending Tsh 30,000 to get to Lukosi where he caught a bus to town for medical treatment.

Buses are more commonly used than motorcycle-taxis where they are available, in Kidabaga and Mwatasi (see Table 13). They are popular with respondents because of their speed in getting to places, but they are viewed as expensive and accidents are considered as a major danger.

Table 13: Use of Bus

BUS	Use every day (%)			4-6X per week (%)			1-3X per week (%)			Less than once a week (%)			Never use (%)		
Village	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
F	0	2	0	1	0	0	4	0	0	75	11	16	19	87	84
M	0	0	0	0	0	0	4	0	2	91	20	7	6	80	90
Total	0	1	0	1	0	0	4	0	1	81	13	13	14	83	86

1 = Kidabaga; 2 = Mwatasi; 3 = Mhanga

Bus and Trucks at Kidabaga Village Bus Terminus

Bus use predominates in Kidabaga where many use the bus to go to Iringa and only 14% have never used the bus, compared to Mwatasi where 85% have never taken the bus, and Mhanga where 86% have never taken one. The village chair in Kidabaga noted, however, that in the wet season the bus is less frequently available. One 72 year old woman in Kidabaga observed that she much prefers the bus to boda-boda: '*Bus is more comfortable and not as speedy'.*

In Mwatasi, the one bus goes daily to Iringa and comes back in the evening but *'if it breaks down we all get stuck'* (man 69 years). This man, a village councilor, noted that a meeting had taken place with a local Member of Parliament to try to get additional buses; this had not as yet been successful. Another respondent said that as the bus leaves at 4 a.m., it is still dark and potentially dangerous walking and '*if you have luggage you can be mugged*' (woman, c. 90 years).

In Mhanga, there is no bus transport available and people have to walk to Idete (19 km through shorter route that goes through forest, 24 km by the designated road) to board the bus for Iringa. One 95 year old man who had taken a motorcycle to Idete, then a bus to town, observed that he didn't like overcrowding and *'there's a very bad smell in the bus'.*

Traffic accidents: Because of growing concerns about road safety we asked about traffic and travel accidents. 93% of women and 89% of men surveyed had never experienced a traffic accident of any type. Just one woman and one man had had a motorcycle accident as a passenger, one man had had a bicycle accident and 5 women and 4 men had had accidents as passengers in vehicles. Additionally, four women and five men had been injured as pedestrians. The village chairman at Kidabaga reported a recent accident in which an older woman was recently knocked down by a boda-boda driver and broke her leg, '*However, we have held a meeting with boda boda drivers about safety'*.

6.3.4 *Transport and mobile communications*

Mobile phones are now a key communication tool in the study settlements – they are often clearly used in place of transport i.e. where messages and discussions can be conducted by phone instead of through face-to-face meetings; to order boda-boda transport where this is available (i.e. not in Mhanga); and to send money. This latter is a feature of growing importance, especially since it allows children in the city to easily send money to their parents where the parents are looking after grandchildren.

Access to mobile phones: 43% of women and 46% of men in the survey said they have a phone in their own home which is available for them to use, even if it is not owned by them. The highest level of ownership was found in Kidabaga, where 56% live in a household with a working phone (compared to 44% in Mwatasi and 39% in Mhanga). However, even where older people do not have a phone in the household, it is common for them to have access to that of a neighbour or friend.

Table 14: Levels of phone use

Use of phone	**Ownership of phone (%)**			**Never use (%)**			**Used last week (%)**			**Not used last week but used last month (%)**			**Only used over a month ago (%)**		
Village	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
F	32	18	9	27	31	71	61	45	14	4	17	8	7	7	6
M	36	17	21	16	35	53	49	30	32	20	35	9	15	0	6
Total	33	18	14	23	32	65	57	41	21	10	22	8	10	5	6

1 = Kidabaga; 2 = Mwatasi; 3 = Mhanga

Ownership: Only 21% of women own their own mobile phone and 28% of men own one. In qualitative interviews gifting by children or grandchildren was often mentioned. Many women borrow the phone of a household member (17%) or another relative or friend (20%). Men without a phone borrow from another household member (11%) or another relative or friend (30%). The highest personal ownership is in Kidabaga (33%) and the lowest in Mhanga (14%).

Purposes: The reasons given for phoning over the last year in the survey were diverse and often cover numerous categories (social calls, health-related, urgent news, emergencies etc.). The largest single

category was social calls. In qualitative in-depth interviews with older people, the importance of the mobile phone was a common theme, as evidenced by the following anecdotes.

Kidabaga:
In Kidabaga, the benefits in terms of transport organisation are particularly evident and many older informants noted the value of being able to call for a boda-boda. The combination of boda-boda services with mobile phone access has clearly had a remarkable impact over the last few years. Even though many older people do not enjoy travelling by motor cycle taxi, when used in conjunction with mobile phones it offers enormous benefits, in terms of timeliness and speed of service.

> '*we were given (mobile phone) by our children. We use it to communicate with family and friends. We use it more than three times a day … I can call a boda-boda any time in case of emergency and they come, and you don't have to walk to access them* (woman, 72 years).
>
> *When I want to travel I just ask Rahab, my daughter (who has a phone), to call for me a boda-boda driver to come pick me up* (woman, 60 years).

Moreover, some respondents observed in the qualitative interviews that they travel less overall than used to be the case, because of their access to phones, and thus may save money which had to be spent previously on transport:

> *I once travelled to Morogoro to visit a family only to reach there and be told that they travelled the same morning to visit me in Kidabaga! With mobile phone this cannot happen again. You can get medicine at Iringa by sending Mpesa to a friend who will send the medicine via bus. You don't have to travel* (man 74 years).

Very occasionally, however, there were evident tensions around phone use:

> *One of my grandchildren (living elsewhere in the village) has two phones, I asked him to give me one but he refused. But they shamelessly normally come here and eat my food! (*disabled woman 76 years, looking after three granddaughters who are orphans).

Mwatasi:

> '*Phone is very important... Today, reaching my children is just a phone call away.'* (man 68 years).
>
> *'We borrow (brother's) phone in case of an important issue. It has helped communication and reduced turn-around for issues.'* (woman 90 years).
>
> '*Mpesa has really made life manageable…you do not have to make unnecessary trips. You can send money in real time and save life instead of wasting it on the road*' (man 60 years). Other benefits noted by this man included reducing loss of money concealed in letters, now sent through Mpesa, and fraud in remittance transfers, since the sender can confirm receipt by phone.

Mhanga:
It was observed that people in Mhanga may actually travel more now because they hear about events such as funerals or celebrations in time to make their plans and go. Here it was also noted that the phone has increased travel to Idete, 19 km away, because many older people who are sent remittances by their families go there to collect their money through Mpesa services located there.

> *'I have a phone my son has bought for me… I use it every day.'* (man 80 years)

'I received a call that my daughter was ill. I then called my other child who lives in Dar es Salaam who eventually travelled to care for her sibling. I did not have to travel. Just a phone helped me reach.' (woman 75 years)

'*When I have money problem I call my brother or my child, they send to me by using Mpesa and I send my grandchildren to Lukosi (15 km) to transact the money.'* (woman 78 years).

7 Conclusions

Transport is clearly a major hurdle for many older people in the study settlements, and particularly in Mhanga, especially for access to health services. Transport, health, livelihoods and well-being are interconnected in many respects. The long distance to water points is of particular concern, given older people's limited capacity to carry much water, since insufficient water access will contribute to water borne diseases including digestive problems, while limited awareness of hygiene associated with prevailing low education levels is likely to increase exposure to infection.

Meanwhile, the prevailing poverty which results from low agricultural production and poor access to good markets (also closely associated with transport constraints) is likely to reduce nutritional status. However, relationships between older people and their children and grandchildren (which has important implications in a mobility context), is a key redeeming feature for many households. Many older people are caring for grandchildren; at the same time, their locally resident children and grandchildren assist them too in very many ways - older people often gain access to goods and services, including medicines, domestic needs etc., indirectly through both adults and children in the community. However, for older people without immediate resident family, living conditions can be severe, as was observed by respondents.

Although our principal focus in this field work has been to pursue the research agenda of building a baseline data set, it is important that we use the information collected, in collaboration with key stakeholders at national and local level, to develop an agenda for action. Concerted policy and practice changes in transport, health, social welfare and the overall development agenda will be required to ensure older men and women's constraints due to mobility and physical inability are understood and addressed.

7.1 Key observations

Drawing on existing literature and our prior experience, some specific points related to transport constraints were identified for consideration in the Kibaha study and we return to these in the context of current research in Kilolo district**:**

1. Older people may face numerous difficulties when they are unable to access public transport. Some of these difficulties are probably similar to those reported by children in the child mobility study, such as harassment, being cheated on fares by operators, having to stand up and keep balance in an unstable vehicle when all the seats are taken etc. www.dur.zck.uk/child/mobility/. Older travellers may also face other difficulties around specific problems sometimes associated with old age such as urinary incontinence among women due to earlier obstetric problems (e.g. obstetric fistula and related conditions).

   We found no evidence of harassment or cheating on fares in Kilolo district study villages, but the bus services are sparse and the difficulties and cost of travel by the main alternative available transport mode in this area–the boda-boda- are substantial for older people.

2. The mobility and access constraints experienced by older people may impact negatively not only on themselves but also on the educational, health and livelihood opportunities of children and young people in their care and thus reduce overall long-term potential for poverty eradication (Willilo and Starkey, 2012; Willilo and Starkey, 2013). For instance, mobility and access constraints are likely to impact strongly on older people's ability to earn income, with consequent impact on their ability to feed, clothe and educate children. Access to livelihoods has been inadequately considered in an older people's context (they are often treated by government, academics and others as if they are outside the working population but they need livelihoods to survive).

   Older people's livelihoods in the survey area are principally built around farming, but they are clearly restricted in this work by distance to farms, limited resources and (with the exception of Kidabaga) by a lack of transport to local markets. Arguably, older people experience diminished strength and energy because of the effort required to collect domestic water and firewood, as well as the care of grandchildren. This in turn reduces their farm productivity, despite having grand children in their care who often help before or after school.

3. Older people may gain access to services not only directly but also indirectly through both adults and children in the community. The relationship between children and older people's lives has been considered in general terms (Whyte et al, 2004; Hopkins and Pain, 2007), but requires analysis in a mobility context (Turner and Kwakye, 1996). Thus, impacts on older people of other households and community members' mobility both need to be considered, especially regarding migration, which may affect indirect access to services via family helpers.

   Many older people's lives and mobility patterns in the study settlements are intimately bound up with other adults and children. In some cases older people have to care for and in large part support young grandchildren. In turn, young people carry their messages, collect medicines, go to the grinding mill, help carry water and firewood etc. There is a symbiotic relationship in a difficult context (the need for young adults –the parents - to migrate to the city for work, plus a high incidence of HIV/AIDS).

4. In some regions the demands of load-carrying on women from childhood and onwards *appear* to impact severely on health and quality of life as they enter and experience old age (though we are unaware of any published evidence base to support this hypothesis). The implications of Africa's transport gap and consequent dependence on pedestrian head-loading (often designated a female activity), has received remarkably little attention. The particular plight of older women in accessing fuel wood, water and markets needs further investigation (Porter, 2010).

   Load carrying is widely prevalent not only among women but also among older men in the study settlements. Water and fuel loads present a major transport burden for the younger cohort of older people (those in their 60s and 70s) and carrying is associated particularly with waist and back pain.

5. Road traffic accidents are a major cause of injury and death across Africa. Older people are likely to be at disproportionate risk because of age-related physical and cognitive changes (Amosun et al, 2007; Mabunda et al, 2008).

   Road traffic accidents were only rarely reported in our study settlements and few involved older people: nonetheless, given the short period within which the boda-bodas have been in operation, this is potentially a very significant issue. The boda-boda drivers who are the main transport operators are mostly young men and the group most susceptible to accidents. Older people say they

insist on the driver travelling slowly, and the young drivers seem to take care when carrying older passengers, but accidents have already occurred and older women, in particular, do not seem to be welcomed as passengers.

6. Very old and infirm people, in particular, may face a lack of power and access to wider decision-making processes (similar to that experienced by children). Their views are then less likely to be heard and their transport and mobility needs even less likely to be met than those of other groups.

   Many older people are in charge of their households and grandchildren in the absence of their children and thus arguably have significant decision-making powers, though this has to be balanced against the highly resource-constrained context in which most live and make decisions.

7. We can expect considerable diversity of experience amongst older people, according to age, gender, ethnicity, socio-economic status, family composition (dependents etc.), occupational history, infirmity/health, personal mobility status, density of service provision, etc. It is important to assess how this diversity impacts on transport usage, suppressed journeys, mobility, access to services and other elements important to older people's well-being.

   The diversity of older people's experience has some impact on transport usage, most notably perhaps in terms of socio-economic status (most are relatively poor compared to the community average, but there also appear to be a few with above average wealth, especially in Kidabaga). Older people living in the more accessible settlement (Kidabaga) and those living in remote settlements, especially Mhanga which has virtually no road access as yet and virtually no transport services, have reported very different experiences. Gender seems to be a less significant factor shaping transport access than in many West African contexts. The impact of age is difficult to assess from the survey data, in part because numbers in the higher age groups are very low. The qualitative work suggests that while the very old are mostly highly immobile, they commonly receive substantial mobility support from family and – where family are absent- neighbours and the wider community.

8. Potential routes to improving mobility among older men and women are likely to differ from those open to younger people in their communities. Bicycle usage, for instance, may be impossible for older women who have never had time/opportunity to learn to cycle. Older people with disabilities are particularly disadvantaged, such that even mobile service provision to settlement centres may not serve them adequately: adapted wheelbarrows with invalid seats might assist in some contexts (Grieco, 2001).

   Boda-boda are clearly already changing lives in Kidabaga and Mwatasi (especially in conjunction with mobile phone use). In the absence of alternatives it has brought improved mobility – at least in emergency contexts – even for very old people, despite the high fares. It is important to explore how boda-boda might be adapted to make it safer and more comfortable to older people in the study settlements, and to examine feasible alternatives that enable sick older people to reach health centres. Descriptions of sick older people's travel to clinics and hospital by motorcycle taxi, sandwiched between the driver and a relative at the back to keep them from falling off, have to be of concern to transport and health professionals. Attention also needs to be given to domestic water and fuel transport and the means by which this can be improved, so that older people are able to reduce their carrying burden and, should they wish, devote more effort to their farms. Through improved food availability, this could have important impacts on health for both older people and those in their care. Market access appears to be a massive issue in the study settlements and here boda-boda are unlikely to be of much value, given that only small loads can be carried by motorcycle.

9. Ill-health and infirmity may introduce further problems for older people, in a walking world where pedestrian transport dominates among all ages (Porter, 1988; 1997; 2002a; Porter, et al, 2013). Reduced pedestrian mobility due to infirmity and the unaffordable cost of motorised transport may help to limit older people's access to work and vital health care, thus reinforcing their poverty: a vicious circle in which mobility restrictions form a key component. At the same time, care-giving responsibilities of older people (especially women), who have adult children affected by HIV/AIDS may require prolonged travel to care for the sick (Ssengonzi, 2009).

   The pattern of infirmity limiting many older people's access to work and vital health care is evident in all three study settlements. Lack of funds to pay for boda-boda means that many sick older people have to walk long distances to the health centre (or forfeit the journey altogether), despite illness - though in emergency situations, communities will often offer assistance. The imposition of user fees at the health centres (even though older people over 60 years are supposed to be treated free) when compounded by high transport costs and a difficult journey seems to substantially reduce older people's efforts to access health services. Travel to undertake care of the sick is rarely mentioned in interviews (though there is frequent reference to travel to funerals).

10. In the context of limited work potential, ill health and lack of social security, social bonds are likely to be essential to securing care and financial support in old age. In many African societies, giving money is a way younger kin traditionally pay respect and show affection and care for the elderly, but when the younger generation have migrated elsewhere, it may be difficult for older people to achieve the sustained interaction necessary to maintaining such links. In particular, where parents are alive and resident in town, they may prefer to keep their working-age children with them, rather than sending them to help a grandparent in a remote village (Alber, 2004). Again, mobility and access to affordable transport are likely to be key factors in sustaining social networks, though it is possible that mobile phones also now play a growing role in this respect.

    Many of the younger generation in the study settlements have migrated to the city. However, their children often reside in the villages with grandparents and this pattern of stretched households seems to actually contribute to sustained interactions between town and village. Mobile phones have become a key element in maintaining such family (and other) social networks: this is strongly evident from our field study findings. Although some older people suggested that their travel has reduced as a result of mobile phone access, overall levels of interaction between distantly located family members seems strong.

11. There appears to be considerable potential for mobile phone use (expanding dramatically across Africa) to substitute virtual for physical mobility (Porter et al, 2013) to the advantage of older people in health and other contexts, which has shown to be the case in Kilolo district.

    As noted in 10 above. This particularly impacts on access to boda-boda transport services in Kidabaga, and consequently on speedy access to health services in emergencies. It also has relevance in other emergency contexts and potentially perhaps for organising transport of farm produce to markets in the future.

8 Relevance to Rural Transport Policy

The findings from this small study may have important implications for national rural transport services. The following points are particularly relevant:

8.1 The significance of older people's transport needs

Many older people's lives and mobility patterns in the Kilolo district study settlements, as we found in our earlier Kibaha study, are intimately bound up with the lives and mobility patterns of other adults and children: this is likely to be the case across much of rural Tanzania. HelpAge's experience of work in other rural areas in Tanzania suggests that many older people live in similar contexts of limited resources and substantial caring responsibilities. There is often a symbiotic relationship between generations which allows people to cope in difficult situations (the need for young adults –the parents - to migrate to the city for work, plus a high incidence of HIV/AIDS). Attention to older people's transport needs is thus important, not only for assisting that age-group, but for assisting the grandchildren and other young people in their care and for the lives of their children living elsewhere: it thus has very wide implications for national development.

8.2 The importance of recognising the diversity of user transport needs

The diversity of older people in the survey area in terms of gender, age and socio-economic status substantially affects their ability to access transport services. This point has wider application to other rural areas and other groups of transport users: it is important not to assume homogeneity in user needs even by age and gender.

In terms of *socio-economic status*, most older people we interviewed are relatively poor compared to the community average, but there also appear to be a few with above average wealth: this obviously affects their ability to pay fares. There were also important differences associated with *residential location*, especially between Kidabaga which is relatively accessible, compared to Mhanga where there is an almost total absence of motorised transport. *Gender* seems to be a less significant factor shaping older people's access to transport than might have been predicted. The impact of *age* within the wider older people age category is difficult to assess from the survey data, in part because numbers in the higher age groups are very low. The qualitative work suggests that while the very old are mostly highly immobile, they commonly receive substantial mobility support from family and – where family are absent- neighbours and the wider community. However, differential access to transport and mobility, across age groups, requires emphasis.

8.3 Transport interventions needed to reduce domestic transport burdens

Older people's livelihoods in the survey area and elsewhere in rural Tanzania are principally built around farming. It is likely that in many regions a similar situation pertains to that in Kilolo and Kibaha whereby many older people probably do not cultivate all their land because of limited resources and diminishing strength. Arguably, their energy/strength available for farming is much reduced by the transport needs associated with obtaining domestic water and fuel supplies (and, in many cases, the care of grandchildren, whether they belong to children now living in town, or are orphaned). Grand children in their care often help before or after school, load carrying is still surprisingly prevalent not only among older women but also among older men in the study settlements: again, observation suggests this is also a widespread phenomenon. Load-carrying presents a major transport burden for the younger cohort of older people (those in their 60s and 70s) and is associated particularly with waist/back pain which reduces capacity for farm work and other occupations.

It is important to explore the potential to make interventions that can aid load carrying for domestic purposes (notably water and fuel wood carrying) or which substitute load carrying with improved accessibility to water and firewood. Such interventions could substantially improve the lives of rural older people and their families, not only through freeing time for more productive activities including farming but also by reducing the pain and exhaustion associated with carrying heavy loads. Moreover, it is important to point out that the domestic load-carrying burden also affects younger age groups, with

potentially damaging effects: interventions focused on older people are also likely to help other age groups. Efforts to reduce people's pedestrian transport burden so that they have to do less transporting of water and wood themselves and are thus less likely to fall ill as a result of the carrying burden could normally be focused on IMT (Intermediate Means of Transport) interventions (possibly including adaptation of motorcycle taxis) for carrying intra-village water and firewood. Given the dissected topography of the Kilolo district, it would probably make far more sense to increase the number of boreholes (as has already been occurring in Mwatasi) and to plant more local firewood plantations close to village settlements, so that older people do not need to travel long distances to collect wood at their farms.

8.4 Inter-village and regional transport services: the role of motorcycle taxis

Motorcycle taxis have effected a transport revolution over the last few years, not only in our study settlements in Kilolo district and in Kibaha district (especially where they operate in conjunction with mobile phones) but also, from observation, in many other parts of rural Tanzania. In the absence of alternative modes of transport in off-road areas in particular, older people – along with other age groups- are increasingly taking advantage of this development, despite the relatively high fares charged. They are proving particularly beneficial in emergency health contexts when a patient needs urgent transport to health services. However, a) these services do not cater well for the specific needs of older people; and b) our study points to wider issues associated with the expansion of motorcycles taxis.

a) Older people's transport by motorcycle taxi: The difficulties and cost of travel by this, the main available transport mode, apart from a daily bus in two of the three settlements, are substantial for older people, especially when they are unwell or need to carry goods such as farm produce to market.

   It is important to explore if/how boda-boda might be adapted to make it safer and more comfortable to older people, and to examine feasible alternatives, especially in the context of travel of sick older people to health centres. Descriptions of sick old people's widespread travel to clinics and hospital by motorcycle taxi, sandwiched between the driver and a relative at the back to keep them from falling off, will be of concern to transport and health professionals from a safety point of view. Modified seats, harnesses and/or use of trailers attached to motorcycles in which sick people can be transported should be explored.

b) Lack of funds to pay for boda-boda, where it is available, means that many sick older people have to walk long distances to the health centre, despite illness - though in emergency situations, communities will often offer assistance. The imposition of user fees at the health centres (despite the free health care policy for 60 years and above) when compounded by high transport costs and a difficult journey seems to substantially reduce older people's efforts to access health services. The enforcement of the free health care policy in public health facilities including improvement of drug supply will reduce the financial burden on older people and their family who struggle to find money for transport, user fees and drugs.

c) Road traffic accidents were only rarely reported in our study settlements and few involved older people: nonetheless, given the short period within which the boda-bodas have been in operation in these villages, this is potentially a very significant issue and with widespread implications across rural Tanzania, wherever boda-boda is now prevalent. The boda-boda drivers who are the main transport operators are mostly young men and the group most susceptible to accidents. Many older people say they insist on the driver travelling slowly, and many young drivers say they take particular care when carrying older passengers, but accidents have already occurred in the study area, as elsewhere in Tanzania. Regulating the licensing of the boda boda operators with adequate

training on adoptable services to meet the needs of different population groups including people with poor mobility and physical ability can go a long way in reducing fatalities from boda bodas whose numbers continue to rise.

d) Older people tend to produce only small farm surpluses for sale, and have difficulty transporting their produce to market. Consequently, many older people obtain very poor prices because they have to rely on farm-gate sales. Cooperative transport/marketing arrangements for farm crops, possibly using boda-boda operators in the bulking process, could improve access to markets and improved prices i.e. contracts for boda-boda to collect from farms and take to a central bulking point would be worth experimentation – then onward lorry transport (and all utilizing mobile phone communication).

8.5 Other relevant transport-related interventions

Community 'Transport to health' clubs (similar to funeral clubs) where small regular contributions are made by individuals and/or the Tanzania Social Assistance Fund towards emergency hospital transport could help older people and other vulnerable groups to prepare for health emergency expenditures.

Discussions with local bus transport providers are needed regarding improved seating for elderly/sick/disabled passengers, assistance with boarding/leaving vehicles, easier boarding steps/low floor vehicles, more pick-up and drop-off points. Additional discussions with the area MP as well as private investors is needed to encourage bus owners to increase their routes to these highly underserved areas by motorized transport.

Road improvements appear to be urgently needed in the case of all three study settlements: a preliminary road engineering review of necessary technical specifications and associated financial costs would seem appropriate.

8.6 The role of mobile phones for improved transport services and as a transport substitute

Mobile phones have become a key element in maintaining family (and other) social networks: this is strongly evident from our field study findings. There appears to be considerable potential for mobile phone use (expanding dramatically across Tanzania) to substitute virtual for physical mobility in many areas, to the advantage of all i.e. in health and other contexts: current and potential uses need further investigation. Mobile phone usage is already impacting on access to boda-boda transport services, and consequently on speedy access to health services in emergency: it also has relevance in other emergency contexts and for organising transport of small loads of farm produce to market. It may be possible to reduce the need to travel for health care through direct m-Health care via mobile phones. According to UNFPA "Tanzania is setting the stage worldwide for integrating Health as a component of the national health system". HelpAge is an active member of the mHealth Community of Practice (CoP) which brings together a range of players promoting the use of mobile to increase access to health care for various population groups. The work of this group is coordinated by the Ministry of Health. Although the mHealth interventions are predominantly focusing on maternal health, malaria and HIV and AIDS, studies such as this are likely to inspire the technologists to develop new software with potential to benefit older people with limited mobility receive advice, follow-up and treatment in some cases without enduring painful journey.

8.7 Other non-transport interventions which would complement these measures

Though not seemingly a direct transport intervention, one key intervention needed to *reduce people's travel* for health is improved medical supplies at local clinics i.e. to reduce the need for patient travel to other locations.

Other means are also needed to increase the affordability of boda-boda and other transport among older people and other commonly disadvantaged groups. Older people-friendly income generating activities such as phone airtime unit selling, MPesa agencies or local chicken rearing may be worth investigation. The travel required to collect remittances at MPesa agencies at a distance was raised in a number of interviews. (HelpAge Tanzania has successful stories from Songea in Southern Tanzania where older people had raised income in diverse ways including for agriculture, animal keeping and small businesses with the assistance of grandchildren living with them).

If the long awaited universal pension system is put in place, it will provide older people with the much needed income to meet their basic needs including access to health care with increased ability to pay for transport and medication. Furthermore regular income will enable older people to build assets hence increasing their ability to engage in livelihood activities for improved nutrition and food security for themselves and those who depend on them.

9 Next Steps

- It is important to disseminate the findings of this study with relevant stakeholders at the local and national level. While at the local level the evidence generated through this study can elicit some actions to address the transport and mobility constraints older people experience, at the national level the information generated will be instrumental in influencing policies related to social welfare, health, transport and infrastrucre sectors.

- Developing a comparative analysis of the findings of the study conducted in Kibaha in 2012 and in Kilolo will broaden the evidence base, allowing information generated from two different contexts to be widely discussed and reported on.

- Explore the impact of the free health care policy for older people over 60 years, the universal pension (when it is instituted in Tanzania) and access to social welfare provided by the Tanzania Social Action Fund (TASAF) on older people's mobility and their ability to travel to health facilities and other social services.

- The introduction of regular outreach programmes where remote and inaccessible areas such as Mhanga village benefit from visiting nurses and doctors for diagnosis, refereral and treatment services.

- Mobilise, train and involve private transporters such as boda-boda operators to provide timely transfer of patients to nearest health facilities in an arrangement which allows older persons and their care givers to contact transporters (via mobile phones) during emergency sicknesses. This could involve an investigation into improved passenger seating arrangements or options for motorcycle trailers in order to transport the sick and elderly.

- Development of community arrangements towards improved emergency night transport are needed in remoter settlements. These could be based on designated community cell phone links with a small number of local private boda-boda operators, drawing on experience from northern Nigeria of private sector transport support currently being used to increase rural women's access to emergency maternal care.

- Road engineering focused on improving rural roads with specific reference to motorcycle taxi usage appears to be rare (i.e focused particularly on improving 2-wheel vehicle access). Insufficient attention has been paid to road access for motorcycles, despite their massively expanding role in Tanzania's rural transport system. Writing a post on the Rural-transport-development network (18/9/2009), Rob Petts noted that motorcycles need a firm, cambered running surface and that loaded motorcycles have a high ground pressure which can cause problems in the rains. He refers to personal observations from Vietnam where communities have constructed their own (1.4 metre) concrete roads which can allow two motorcycles to pass at normal speed, and 0.5 metre concrete or fired clay brick tracks in remote areas where motorcycles are unlikely to have to pass each other regularly.

- Promotion of animal drawn carts or three wheelers where the landscape may allow including introduction of wheel barrows can go a long way as a complementary mobility support to reduce the load carrying burden for daily necessities such as water, firewood and farm produce.

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Annex A: Qualitative Guide for Settlement Leaders

Notes for field assistants

Key informants may include settlement political leaders, traditional leaders, transport union officials, police (especially re road safety, road accident data), extension workers, other government staff working in the settlement, women's group leaders, church leaders, NGO staff working in the settlement etc. [Separate key informant checklists have been prepared for each of the following: health workers and public and private transport owners.] Efforts should be made to include interviews with women and men of varying ages, ethnic background etc.

The key informant interview offers an opportunity to introduce the project, its goals etc. and answer questions as well as collecting information for triangulation with other data sources.

It is not necessary to discuss every general theme on the check sheet with every key informant: if the respondent is only willing to give limited time obtain the basic information, then go for questions where the person concerned may have key knowledge. If an area of new information/insights opens up that looks promising for our study of mobility, then explore this, even if it means omitting some other issues. It is better to make sure that you give the informant enough time to respond fully to your questions, and to make sure you understand the responses fully, rather than try to rush through to fit everything in. *It is NOT necessary to stick to a rigid schedule.*

Interviews may be conducted in whichever language the informant seems most comfortable. Responses of informants should be reported as far as possible in full, giving a direct **English** translation of their words, even if their responses seem self-evident, irrelevant or wrong. For important terms where there is no direct English translation, use the local term but provide an explanation on a note at the end of the interview sheet. Take as full notes as possible during the interview, probing where appropriate to get more detail. However, do not prompt unless it is necessary. If you don't manage to get everything the respondent says written down, leave space for additional detail then review and revise as necessary, immediately after the interview and before you start the next interview.

We need detailed notes, **in English,** of each interview, including your phrasing of the questions asked and any prompts given (i.e. so we can put the responses in that context). These should be typed up as soon afterwards as possible. If you wish to tape record then do so, but given the time that tape transcription requires (6-8 hours per 1 hour interview) we recommend that tape recording is used principally as a back-up to check on specific points made.

Write two to three sentences after the interview about how this interview takes forward our ideas about children and mobility and raises new questions. Add any new issues to the checklist and discuss these additions at the next meeting with your country project leader.

CHECKSHEET FOR SETTLEMENT LEADERS

[The RA should note the following information [from observation] before the interview commences]

Name of study settlement:
Date of interview:
Name of interviewer:
Road access to settlement:
[on a major paved all-season highway/ on a secondary all-season paved road/ on a minor all-season paved road/ on a good quality, non-paved all-season road/within an hour's walk from a good quality all-season road/on a poor quality road, and more than an hour's walk from an all-season road]
Condition of main local access road to settlement at time of interview:
Transport services to/from settlement (frequency, types):
Presence/absence of transport repair services (including cycle repair) in settlement (details):
Presence/absence of mains electricity in settlement:

Basic information required
(as far as possible where culturally appropriate or appropriate to the situation)
Name of settlement leader:
Place of interview:
Sex:
Position/occupation:
Approx age (do not ask, RA to just estimate):
Length of residence in settlement:

Topics for general discussion with settlement leaders

a) Characteristics of settlement

- Size of settlement (population)

POPULATION	
Number of households	
Total population	
Population of Male / female	
Population of those aged 0-18	
Population of those btw 19 – 59 years	
Population of those btw 60 – 79 years	
Population of those btw 80+	
Population of those 60+ who are looking after children under 18 years in their house	

- Socio-economic situation of settlement: key economic factors, key current socio-economic problems (briefly) and impact on settlement life
- Basic wage rates in settlement (state if daily or hourly rate, a) for women, b) for men.
- Location of nearest grinding mill
- What development programmes are currently underway in this village (e.g WFP or other NGO activities)?
- Ethnic and religious make-up of population

b) Older people in the settlement

- Current quality of life of older people in the settlement: main advantages, main disadvantages
- How many older people caring for young orphans or other young children? Ask for rough percentages.
- Have many older people been left alone because younger family have recently migrated (by themselves) to other places because conditions are very hard? [seasonally? permanently]
- Percentage of a) older men and b) older women living alone without any family in the settlemen

c) Roads and transport

- Road access conditions at time of visit
- Road access conditions in other seasons
- Availability, frequency and cost of transport at time of interview
- Availability, frequency and cost of transport in other seasons
- Rough % of households owning a working bicycle
- Rough % of households owning a motor vehicle

d) Distance to health care services and impacts on older people's access

- General travel problems getting to health services (cost, time, danger, etc.) Discuss any seasonal differences.
- Importance of travel problems versus other problems of health service use (cost, work demands etc.) Discuss any seasonal differences.
- Perceptions of a) older men and b) older women's current patterns of travel to health centres and hospitals (modes of transport, distances travelled, etc.)
- If health services were nearer / easier to get to, would more older people go / go more regularly or are other factors more important? [make it clear we can't do anything to change provision]

e) Views on transport, mobility and movement

- Ownership or availability of bicycles to key informant (details):
- Ownership or availability of any carts, wheelbarrows, animals used for transport, etc to key informant (details):
- Ownership or availability of any motorised vehicles to key informant (details):
- Ownership or availability mobile phone by key informant (details):
- Views about local road accident levels and road safety among older people
- Perception of older men and women's work loads in the settlement and impact on health and well-being
- Views of child-care responsibilities of older people here and its impact on their lives
- Views on problems faced by older people with disabilities

f) Communications impact

- Percentage of households in settlement with mobile phone ownership?
- Views on impact of mobile phones on settlement life in general and impacts on older people's lives in particular? (details)
- Have phones changed travel patterns in any ways? (details)
- Have phones changed older people's travel patterns in any way? (details)
- Views on impacts of media (radio, TV, internet, newspapers) on settlement life?

Annex B: Qualitative Guide for Older People (Health)

Notes for field assistants

This check sheet is for use with older people. Aim for a mix of men and women of varying ages, ability/disability, ethnic background etc. in each settlement. You are required to follow the project's ethical guidelines provided to you e.g. do not try to force anyone to respond against their will (but keep a count of refusals by age and sex).

The interviews with older people offer an opportunity to introduce the project, its goals etc. and answer questions as well as collecting information for triangulation with the questionnaire survey and other data sources. Some of the questions may be almost identical to those which will be asked later in the questionnaire survey, but the aim here is to obtain detailed responses to the issues raised in the older person's own words.

It is not necessary to discuss every theme on the check sheet with every older person: if the respondent is only willing or able to give limited time, obtain the basic information, then go for questions where the personconcerned may have key knowledge. If an area of new information/insights opens up that looks promising for our study of mobility, then explore this, even if it means omitting some other issues. It is better to make sure that you give the person enough time to respond fully to your questions, and to make sure you understand the responses fully, rather than try to rush through to fit everything in. *It is NOT necessary to stick to a rigid schedule. This checklist is simply a guide to the kind of questions you might ask.*

Responses should be reported as far as possible in full, giving a direct English translation of the person's words, even if their responses seem self-evident, irrelevant or wrong. For important terms where there is no direct English translation, use the local term but provide an explanation on a note at the end of the interview sheet. Take as full notes as possible during the interview, probing where appropriate to get more detail. However, please do not prompt unless it is necessary. If you don't manage to get everything the person says written down, leave space for additional detail then review and revise as necessary, immediately after the interview and before you start the next interview.

We need detailed notes, in English, of each interview, including your phrasing of the questions asked and any prompts given (i.e. so we can put the responses in that context). These should be typed up as soon afterwards as possible. If you wish to tape record then do so, but given the time that tape transcription requires (6-8 hours per 1 hour interview) we recommend that tape recording is used principally as a back-up to check on specific points made.

Write two to three sentences after the interview about how this interview takes forward our ideas about mobility and raises new questions.

CHECK SHEET FOR USE WITH OLDER PEOPLE (60+) LIVING IN STUDY SETTLEMENT

Name of study settlement:
Date of interview:
Name of interviewer:

Older person's details: (i.e. essential background , including family context)
Name (first name or nickname is sufficient):
Place of interview:
* Distance of compound where resident from an all-season road with regular public transport: [note whether within 5 minutes walk, between 5 and 15 minutes walk, over 15 minutes walk]
Sex:
Approx age:
Marital status:
Ethnic group:
Religion:
Any disability:

Age structure of household where currently living (including any children, grandchildren with approx age and sex of each):
Any orphans living with you? (details incl. age and sex of each)
Any other fostered children living with you? (details, incl age and sex of each):
Caring responsibility for any grandchildren or foster children? (detail)
Financial responsibility for any grandchildren or foster children? (detail)

School level (if any) achieved:
Current occupation (if any):
Past occupations:
Length of residence in settlement:
Permanent or temporary resident:
Who is considered the head of your household

Ownership or availability of bicycles in household (details):
Ownership or availability of any carts, wheelbarrows etc in household (details):
Ownership or availability of any motorised vehicles in household (details):
Ownership of any phone in household:

HEALTH

Older person's knowledge of illnesses and their causes
What are the main illnesses that affect older people in this settlement?
Distinguish between illnesses according to how serious they are, and how prevalent.
Perceived causes of different illnesses

Knowledge of different health services and where they are
What different health services are available in the neighbourhood?
State-run clinic?
Private clinic
Hospital?
Village-based health workers?

Mobile (visiting) health workers?
Medicines sold in local shops or by itinerant sellers?
Traditional healers?
Faith healers?
Home remedies
Any others?

What are the advantages and disadvantages of each?
Which kinds of health services / providers are suitable for which kinds of illnesses?
Where are these different services located?
How easy/difficult is it to get to each of them?
Does this affect which services you choose to use?
Are there any health services that are particularly difficult to reach? E.g. hospital referrals?
What difficulties, other than distance, might affect whether older people are able to use these services?

Own experiences of illness and treatment
When were you last ill?
Prompt for different kinds of illness (fever/malaria, diarrhoea, other…)
Distinguish between illnesses according to the seriousness (minor / incapacitating / life-threatening, etc.)
For all illnesses experienced recently (i.e. within last year, or a period over which can recollect well), get the older person to tell the story of what happened and why, to include (among other things):
What was the illness?
What caused the illness?
Who diagnosed?
Was treatment sought and why / why not?
Which treatment and why?
How did they get to the treatment provider? What means of transport? With whom?
Any problems accessing the treatment (transport or other)?
Who paid the costs (transport and other)
What was the outcome and what happened next? (e.g. other treatments?)
Evaluation of the process- mostly good or bad experience?

Own experiences of going to health services and accompanying others
[In conjunction with the section above]
When did you last visit the various health providers available to people in this settlement (include different kinds of health providers, as identified above)?
Was it on own account, or accompanying others? [details]
Tell the story of how got there, what happened, who was treated.
Any difficulties or dangers experienced travelling to health services?

Comparisons with treatment of other family members
Does the treatment of illnesses among other family members differ from own (details and reasons)?

More general questions on health service access
Discuss constraints on visits to local health facilities for him/her (and differences compared to other family members re access?)
how important is physical access (distance to health services) compared with other constraints? (*i.e. ask for ranking, starting with biggest obstacle)*

If the health services were closer / easier to get to, would you be likely to use them more often? Why / why not?
Do other people go to get medicines for you on your behalf? [Who? Why? When? Means of transport they use?]

Load carrying (porterage) and health
Discuss older person's porterage work currently and in the past
Do they still carry heavy loads (What? How often? How far? How heavy?)
Do they suffer any physical impacts from this load-carrying? What? *(if necessary to probe re health, tiredness, please indicate in your notes)*
Have they obtained any treatment in the last 6 months for pain associated with load carrying? If so, from whom? Where? What was the treatment?

TELECOMMUNICATIONS USE AND MEDIA

Telephones
Does they have any access to a mobile phone? If so, who does it belong to? Who do they call (Friends? Family? Other?) How often? For what purpose (e.g. social, emergency)?
If there's a mobile phone accessible to them in the community has it changed their travel patterns or life in any way? Can they give an example?

Media
Do they have access to / use any of the following: radio, TV, internet, newspapers? If so, which is the one they use most often? What impact has it had?

Role of transport and communications
Does transport availability affect what you do? (details)
Would better transport availability change your life in any way? How?
Would better transport bring any negative impacts to this settlement?
What would be the best way to improve transport serving your settlement (*Make it clear that we are not in a position to effect any changes*)
Would better telecommunications (e.g. phone provision, internet, radio) change your life in any way?
Would better telecommunications (e.g. phone provision, internet, radio) bring any negative impacts to this settlement?

Participation and Decision-making
Have you ever expressed your views about travel problems, work problems etc. to anyone before? If so, to whom? any effect? if not, why not?
How do you participate in family decision-making? (details of an actual example)
Do you ever participate in any way in community decision-making? (details of actual example)
Do you belong to any older people's or other community groups which try to influence policy (details)?

R.A. OBSERVATION ONLY [i.e. do NOT ask]:
Estimate of family's socio-economic status (i.e. average/ below average/better than average for this settlement):

Annex C: Qualitative Guide for Older People (Activities)

Name of study settlement:
Date of interview:
Name of interviewer:

Older person's details: (i.e. essential background , including family context)

Name (first name or nickname is sufficient):
Place of interview:
* Distance of compound where resident from an all-season road with regular public transport: [note whether within 5 minutes walk, between 5 and 15 minutes walk, over 15 minutes walk]

Sex:
Approx age:
Marital status:
Ethnic group:
Religion:
Any disability:

Age structure of household where currently living (including any children, grandchildren with approx age and sex of each):
Any orphans living with you? (details incl. age and sex of each)
Any other fostered children living with you? (details, incl age and sex of each):
Caring responsibility for any grandchildren or foster children? (detail)
Financial responsibility for any grandchildren or foster children? (detail)

School level (if any) achieved:
Current occupation (if any):
Past occupations:
Length of residence in settlement:
Permanent or temporary resident:
Who is considered the head of your household

Ownership or availability of bicycles in household (details):
Ownership or availability of any carts, wheelbarrows etc in household (details):
Ownership or availability of any motorised vehicles in household (details):
Ownership of any phone in household:

ACTIVITY PATTERNS

Schedule of older person's own activities yesterday

Ask the person to describe what (s)he did yesterday
(e.g. what tasks, including any looking after grand children etc., – i.e. a rough schedule of what was done, at what time, where (note multiple/overlapping activities). Start when the person first got up, and work through the day until they went to bed.

- What was good, what was bad and why?
- How did the person *feel* when doing the different activities and why?
- Did the person do the tasks alone, or with someone else? Whom? How did this make the person feel?
- Money earned? (if so, who obtained money?)

- What decisions re jobs and time allocation made on own, how much directed by others? Why? How did they feel about this?

Variation in the older person's tasks/activities by day and season

- Was yesterday a typical day, in terms of tasks done? If not, why not and how was it different from a typical day?
- What day was it yesterday? Week-day / weekend day / market day / holiday / Sabbath?
- Is there a difference in what tasks / activities the person does on different kinds of days? For example, week-day versus weekend? Details…
- Is there a difference in what tasks / activities s/he does at different times of year (i.e. rainy season, dry season, etc.)? Details…

Identifying regular tasks

- What work does the person do regularly? List tasks and indicate if done on own or with other(s): **(i.e.** other older person (M/F?) (older/younger?) (same household / different household?); own children; own grandchildren; others?)
    - For whom do they do the work?
    - Who asks them to do this work?
    - Which of these tasks take place outside the home/home compound?
    - Which of these jobs takes the most time and which the least time?
    - Which are the most enjoyable tasks the older person does regularly, if any? Why? How does the person feel when doing these jobs?
    - Which are the least enjoyable tasks the older person does regularly? Why? How does the person feel when doing these jobs?

Load-carrying (porterage) work

- What about carrying things? Is this a major part of the older person's work?
- Yesterday, what jobs did the older person do that involved carrying things? (*Develop from overall schedule noted above*)
- For each portage job, ask the person to describe the journey, including the following:
    - What was carried?
    - How was it carried?
    - How heavy?
    - How far?
    - Did they go alone, or with other people? Who? Why?
    - For whom was it carried?
    - Was there any payment received? If so, how much? What did they do with the money?
    - Was it an enjoyable job or not? Why?
    - Any problems (e.g. aches, pains, etc.) experienced as a result? Details.

- Ask about other porterage jobs done over the last week, last month, last year
    - Ask the person to describe these tasks / journeys, including similar information as above
- Establish the pattern and regularity of porterage (load carrying) work:
    - Is porterage work done everyday?
    - Daily / weekly / seasonal variations in porterage work (frequency, goods carried, distances
- General:
    - Is porterage / headloading an enjoyable job (in comparison with other jobs you do)?
    - Are there any particular problems that you suffer as a result of porterage work?

Costs and benefits of work to the older person and their family

- Does the older person benefit from doing work? In what ways?
- Any payments received? What did they do with any money that has come to them from working?
- Size of own contribution to household income?
- Does the older person's work ever have any implications for their health?
- If the older person did not have to do some / all of this work, what would they be likely to do instead *(don't prompt)*

Work comparison with other people

- Comparison of older person's own workload with that of, other people in their household (More? Less? Different?); compared to other older men and older women in the community?
- Which older people in this settlement have the hardest life? Why?
- Which older people in this settlement have the easiest life? Why?

Leisure and social contact

- What sort of leisure activities does the older person like best?
- Where do they like to go to undertake leisure activities (inside compound/ outside compound nearby/fields/town etc.) ?
- Is leisure combined with other activities (e.g. looking after grandchildren) or is it usually done separately?
- Which was the last important social event the older person attended (e.g weddings, naming ceremonies, funerals)? Was this in the village? If not how got there?
- Are there social events they can't attend for any reason? (probe for transport).
- Comparison with other people in same household/compound?
- Church/mosque attendance – when did the older person last attend? Is the church/mosque they attend most regularly in this settlement? If not, where is it, and how do they get there?

Tele-communications use and media

Telephones

- Does the older person have any access to a mobile phone? If so, who does it belong to? Who do they call (Friends? Family? Other?) How often? For what purpose (e.g. social, emergency)?
- If there's a mobile phone accessible to them in the community has it changed their travel patterns or life in any way? Can they give an example?

Media

- Does the older person have access to / use any of the following: radio, TV, internet, newspapers? If so, which is the one they use most often? What impact has it had on them?

Role of transport

- Would better transport availability change your life in any way? How?
- Would better transport bring any negative impacts to this settlement?
- What would be the best way to improve transport serving your settlement (*Make it clear that we are not in a position to effect any changes*)
- Would better telecommunications (e.g. phone provision, internet, radio) change your life in any way?
- Would better telecommunications (e.g. phone provision, internet, radio) bring any negative impacts to this settlement?

Participation and Decision-making

- Have you ever expressed your views about travel problems, work problems etc. to anyone before? If so, to whom? any effect? if not, why not?
- How do you participate in family decision-making? (details of an actual example)
- Do you ever participate in any way in community decision-making? (details of actual example)
- Do you belong to any older people's or other community groups which try to influence policy (details)?

R.A. OBSERVATION ONLY [i.e. do NOT ask]:
Estimate of family's socio-economic status (i.e. average/ below average/better than average for this settlement):

Annex D: Qualitative Guide for Older People (Transport, Movement)

Name of study settlement:
Date of interview:
Name of interviewer:

Older person's details: (i.e. essential background , including family context)
Name (first name or nickname is sufficient):
Place of interview:
* Distance of compound where resident from an all-season road with regular public transport: [note whether within 5 minutes walk, between 5 and 15 minutes walk, over 15 minutes walk]

Sex:
Approx age:
Marital status:
Ethnic group:
Religion:
Any disability:

Age structure of household where currently living (including any children, grandchildren with approx age and sex of each):
Any orphans living with you? (details incl. age and sex of each)
Any other fostered children living with you? (details, incl age and sex of each):
Caring responsibility for any grandchildren or foster children? (detail)
Financial responsibility for any grandchildren or foster children? (detail)

School level (if any) achieved:
Current occupation (if any):
Past occupations:
Length of residence in settlement:
Permanent or temporary resident:
Who is considered the head of your household

TRANSPORT AND MOVEMENT

Transport equipment

- Transport equipment *in working order* owned and kept in the household (list)
    - Bicycle?
    - Hand Cart?
    - Animal drawn cart?
    - Motor cycle?
    - Car ?
    - Other?
- Any additional transport equipment that is broken? If so, type and length of time been out of use.
- Which of these have **you** ever used yourself?
    - Which do you use regularly, and which only occasionally?
    - For what purpose do you use each kind of transport equipment for (e.g. bike for going to maize mill, etc.)?
    - When do you use it?

  - Whose permission (if anyone's) do you need to use it?
- Compare with other people in your household. Do they have access to the same means or transport as you do or not? Give explanation.

Cycle riding

- Person's own cycling ability (i.e. does he/she know how to ride)?
  - If not, why not?
  - If can cycle, when was the last time they rode a cycle? Who did it belong to? How far cycled? Why cycled?
  - Any concerns from family members if they are cycling?

- Personal access to cycles? (ownership of cycles in family/compound? Who has priority)?
- Which kind of bicycle they like best (brand, with/without crossbar) and why? Types dislike and why?

Knowledge of cycle maintenance and repair

- Any knowledge of puncture repair (if so, how obtained)?
- Any knowledge of other aspects of cycle maintenance (if so, how obtained)?
- If has a bike that broke (puncture, other problems), how do they get it repaired? (Do it themselves, take to someone else? Who? Where? Why?)

Operation of other types of transport equipment

- Do they operate themselves any other kind of transport equipment (e.g. hand or pushcart, wheelbarrow, etc.)?
- Are there difficulties operating equipment as one gets older? (detail)

Use of cycle taxis if operating in region

- Ever used one? If so, last time used?
- For what purpose?
- Perceived advantages and disadvantages of using cycle taxis (if used or not)
- Ever used to get to health facilities?

Use of motorised transport

- When did you last travel on motorised transport?
- What type (motorcycle, motorcycle-taxi, motor car, lorry etc.)
- Was it public transport (i.e. paid a fare) or did it belong to a private individual (if so, whom)?.
- Where was the journey (origin and destination)?
- With anyone accompanying?
- Furthest distance has ever travelled by motorised transport?
- Ever uses boda-boda (motorcycle-taxi)? For what journeys? Ever to get to heath facilities? [details]
- Did anyone in your family have to give permission for you to travel?

Views on travel and transport

- Preferred means of transport and why? Least favourite means of transport and why? Discuss advantages and disadvantages of different means of transport.
- What do you like and dislike about travelling?
- Any concerns about travelling *alone* on public transport? (details)
- Any particular worries/fears about travelling on public transport? (details)

- Relations with transport operators? (any arguments? Harassment? –details – whom? where? who protects?)
- Any particular worries/fears about walking around in this village area? (details)
- Any particular bad incidents in the past related to walking/travelling? (details) (eg. traffic accidents?)
- Any particularly good incidents in the past related to walking/travelling? (details)
- If could travel more, would he/she do so? Where to? Why?
- Does anyone have to give permission for you to travel? Who? When? Why?
- What is the biggest constraint on your travelling to other places?
- Any constraints on travelling because of having to care for grandchildren/others?
- Does the cost of transport fares constrain your travel to health or other services? [details]
- Do children or other family members undertake journeys on your behalf? [who, why, modes of transport?]
- Has migration of any family members out of this village affected your access to goods/ services [who, why, which services?]

Road safety

- General road safety: perceptions of dangers?
- Any bad experiences?

Work on path and road construction/maintenance

- Ever worked on path or road maintenance/improvement/construction?
    - Details re type of work and nature of route (path or road) on which worked
    - When last did this work, for whom, if paid, etc.

Tele-communications use and media

- Any access to a mobile phone? If so, who does it belong to? Who do they call (Friends? Family? Other?) How often? For what purpose (e.g. social, emergency)?
- If there's a mobile phone accessible in the community has it changed their travel patterns or life in any way? Can they give an example?
- Do you have access to / use any of the following: radio, TV, internet, newspapers? If so, which is the one they use most often? What impact has it had ?

GENERAL – FUTURE PROSPECTS AND DECISION-MAKING

Role of transport

- Would better transport availability change your life in any way? How?
- Would better transport bring any negative impacts to this settlement?
- What would be the best way to improve transport serving your settlement (*Make it clear that we are not in a position to effect any changes*)
- Would better telecommunications (e.g. phone provision, internet, radio) change your life in any way?
- Would better telecommunications (e.g. phone provision, internet, radio) bring any negative impacts to this settlement?

Participation and Decision-making

- Have you ever expressed your views about travel problems, work problems etc. to anyone before? If so, to whom? any effect? if not, why not?
- How do you participate in family decision-making? (details of an actual example)
- Do you ever participate in any way in community decision-making? (details of actual example)

- Do you belong to any older people's or other community groups which try to influence policy (details)?

R.A. OBSERVATION ONLY [i.e. do NOT ask]:
Estimate of family's socio-economic status (i.e. average/ below average/better than average for this settlement):

Annex E: Public Transport Operators

[The RA should note the following information before the interview commences]
Name of study settlement:
Date of interview:
Name of interviewer:

Basic information required from all transport workers (as far as possible where culturally appropriate or appropriate to the situation)
Name of key informant:
Place of interview:
Sex:
Occupation/Position:
Approx age (do not ask, RA should just estimate):
Length of service at/to this location:
Do you have older people 60+ years in your own home? [some brief detail if possible re relationship, approx. nos, sex]?
Do you have responsibility for older people 60+ living elsewhere?

Ownership or availability of bicycles to key informant (details):
Ownership or availability of any carts, wheelbarrows, animals used for transport etc to key informant (details):
Ownership or availability of any motorised vehicles to key informant (details):
Ownership or availability mobile phone to key informant (details):

Topics for discussion with public transport operators, owners, repairers etc. working in/from study settlement

Transport

- Transport services from settlement: charges, route quality, seasonal problems, repair services, motorcycle taxi and bicycle taxi services?
- Is transport a factor that reduces older people's attendance at health facilities? If so, in what ways?
- Views on health centre transport provision (mobile clinics etc.)?
- Older men as passengers – problems? safety issues? Other issues?
- Older women as passengers – problems? safety issues? other issues?
- Any catering for disabled passengers? Actual examples? If not, why not possible?
- Older people as pedestrian hazard?
- What would be the best way to improve transport serving this settlement (*Make it clear that we are not in a position to effect any changes*)

Communications

- Do you have any access to a mobile phone? If so, who does it belong to? Do you use it in your business?
- Has the expansion of mobile phone ownership affected your work in any way? If so how?
- Has mobile phone access had any impact on older people's mobility in this settlement [detail]?

Annex F: Health Workers

[The RA should note the following information before the interview commences]
Name of study settlement
Date of interview:
Name of interviewer:

Basic information required from all health workers (as far as possible where culturally appropriate or appropriate to the situation)

Name of key informant:
Place of interview:
Sex:
Name and type of health organisation/centre where works (unless Traditional Healer/TBA in which case, state):
Position:
Approx age (do not ask, RA to just estimate):
Length of service at this location:
Do you have older people 60+ years in your own home? [some brief detail if possible re relationship, approx. nos, sex]?
Do you have responsibility for older people 60+ living elsewhere?

Topics for discussion with health professionals working at dispensary/health centre/hospital in or serving the study settlement or working in the community

a) Background information on health service provision
Main activities of health facility for which you work, including details of any mobile/perapatetic services provided
[if traditional/community worker, ask about own activities]

Annual treatment figures at this facility/at mobile facilities (detail for men, women, any details for people 60+?)
[if traditional/community worker, ask about own activities]

Broad details of charges (consultation charge, cost of prescription etc.)

Main problems faced by health facility staff in serving older people here?
[if traditional/community worker, ask about own problems of serving local people]

* Main transport problems faced by health facility staff (including operation of mobile services)
[if traditional/community worker, ask about own transport problems re work activities]

Main problems faced by older local residents who might want to use the health facility

Older people (60+) as a % of all patients using the facility [or consulting the individual if traditional/community worker]

Ratio of older men to older women using the facility [or consulting the individual if traditional/community worker] and explanation of the patterns.

b) Older people's use of health services [distinguish between boy and girl chidren and by age, ethnicity etc.]

Common reasons for older people attending the facility (broad health care, main illness types)
[or consulting the individual if traditional/community worker]

Common reasons for older people not attending the facility when they are ill
[or consulting the individual if traditional/community worker] (ranked)

Attendance of older people on their own? or always with younger family member? (details)

Older people accompanying others [e.g. grand children] to health services? (details – eg. for any consultation? Only for overnight stay?)

c) Transport-related health problems [distinguish between older men and women and by disability, age group [60-80, over 80], ethnicity etc.]

Any perceived health impacts re load carrying by older people a) now b) as a result of carrying heavy loads earlier in life?

Any perceived health impact on older people from other kinds of work?

Impact of load carrying / other work on attendance at health facility?

Road accidents dealt with by your facility [or consulting the individual for traditional/community worker]?
Any statistics for older men and older women road accidents versus younger adults? (if so, collect)

d) Travel to health services and views on possible interventions

Main mode of travel to this health facility by patients (% by foot, taxi etc.?)

Main mode of travel to this health facility by older male patients (% by foot, taxi etc.?)
Main mode of travel to this health facility by older female patients (% by foot, taxi etc.?)
[i.e. any differences with age and sex?]

Usage of motorised ambulances? (details)

Usages of non-motorised ambulances – e.g. bicycle ambulances? (details)

Usage of stretchers and other patient carrying modes? (details)

Perceptions of transport as a factor affecting older people's access to the health facility (compared to other constraints)

Which interventions [not just transport] would most improve older men's attendance at health service and why? *(make it clear that you are not in a position to effect any interventions)*

Which interventions [not just transport] would most improve older women's attendance at health service and why? *(make it clear that you are not in a position to effect any interventions)*

How big a difference would improved transport / ease of access make to older men's/older women's health service attendance, in the absence of any other interventions? Any specific stories?
Why? *(make it clear that you are not in a position to effect any interventions)*

What type of transport would most improve older people's access to health services (details) -why?
(make it clear that you are not in a position to effect any interventions)

Health worker's own transport to health facility (distance, mode, ease of transport, problems of travel, travel time)

Health worker's own regular travel to patients in course of work (distance, mode, ease of transport, problems, travel time)

Transport as a factor in referral of older people as patients to higher order health centres (regional hospitals etc. – re availability of emergency transport, ambulance fees etc.)? [any specific stories?]

e) Communications

Do you have access to a phone (mobile or landline)? If so, how has this affected the way you carry out your health-related work?

What proportion of people in this community (or the communities you serve) have access to phones?

Has the use of phones made any differences to people's use of health services? What about older people in particular? Can you give me any example where it helped?
(E.g. able to call for help in emergencies)

Do you have access to other forms of media / communications: radio, TV, internet, newspapers?

If so, has this affected your (health-related) work in any way? (E.g. obtaining new information)

Has access to media made any differences to people's use of health services? What about older people in particular? Can you give a specific example?
(E.g. information about health / health services)

f) Access to/ ownership of transport equipment
Ownership or availability of bicycles in household (details):
Ownership or availability of any carts, wheelbarrows or animals used for transport etc in household (details):
Ownership or availability of any motorised vehicles in household (details):

Annex G: Quantitative Survey Instrument

Settlement name ……

PROJECT INTRODUCTION

Good morning/afternoon/evening

We are conducting a study with HelpAge International.

We are trying to find out about older people's lives here, and some of the problems they may face.

We will take our findings to the community and to other policy makers so they will know about these problems and the need to help older people find ways of solving them.

Please could you give me a little time to participate in our study?

If you are unhappy about the questions, you can tell me at any time and we will stop.

We will not use your name in any way in this research.

(i) Date and time of survey:

Day of the week (e.g. Saturday): _____

Date (DD/MM/YYYY): _____

Time (start)_____

(ii) **Name of interviewer**: _____.

(iii) **Name of settlement** _____ → **Section within settlement** _____
(i.e. where this survey conducted)

SECTION A:

1. **(a) Name** _____ (optional – a nickname is fine –it's just to ensure not questioned twice)

   (b) Age _____years

   (c) Sex
   Female
   Male

2. **Ethnic group _____**

3. **Marital status**
   Single
   Married
   Widowed
   Divorced

4. **House location etc. Many of the following can be completed by observation, but ask if you are not sure.**

(a) **Distance of house to roads**: **Is the house on a tarmac road?**

Yes
No → **How far is the house from the nearest tarmac road?**
_____ metres/km

(b) **How far is the house from the nearest *all-season* road?** _____ metres/km (delete metres / km as applicable)

(c) Proximity to public transport: How long does it take you to walk from your house to the nearest all-season road with regular public transport?

Less than 5 minutes
5-15 minutes
16- 30 minutes
31 - 60 minutes
1 - 2 hrs
More than 2 hrs

5. **Motorable access to settlement at time of survey (i.e. road condition for vehicle access on the visit today):**

Yes
With difficulty
No

6. **Description of home (main house within homestead)**

(a) **Cooking fuel (principal)**: *Tick one*

Wood
Charcoal
Gas
Paraffin/ Kerosene
Electricity
Dung
Other → please specify
_____
Not known

(b) **Roof material**:

Metal
Tile
Thatch / grass
Other → please specify
_____
Not known

(c) **Floor**:

Mud / earth / sand
Cement
Tiles / carpet
Other → please specify
_____
Not known

(d) Electricity (mains or generator)?

Yes: mains or generator
Yes: rechargeable battery (e.g, car battery)
No
Not known

(e) Sanitation facility:

Flush toilet - private
Flush toilet – shared with other families
Latrine - private
Latrine – shared with other families
None / bush
Not known

(f) **Drinking water supply:**

Piped water into dwelling	Bottled water
Piped water into yard/plot/compound	Rainwater
Community standpipe	Surface water (river, dam, lake)
Borehole	
Well	Other → please specify ----------

7. Have you lived in this settlement since birth?

Yes
No → If no, how long have you lived here? _____months / years

8. **(a) Who else lives in your household? [tick all who live there currently and share the same cooking pot]**

Spouse [i.e wife or husband]
Male children
Female children
Son-in-law
Daughter-in-law
Grand-son
Grand-daughter
Foster boy
Foster girl
Other male relative Other female relative Other (state whom) ____

(b) Are you the SOLE carer of any children? No Yes If so, how many? _____

9. **Have *you* ever attended school? If so, please indicate the level of schooling reached.**

0 = no schooling
1P = some primary education, but not completed
1C = completed primary school
2 = Some secondary education, but not completed
3= completed secondary school / JSS
3 = tertiary education
4 = difficult to ask respondent

10. Please list ALL the CHILDREN (18 years and under) living in your household (i.e. 0-18 years).

(Household is defined as those sharing a cooking pot)
Please include <u>all</u> children living here, even those who are fostered, or who may be living here on a temporary basis.
If possible, please start with the oldest household member and go through to the youngest.
For each child, please complete the additional information as required in the table below.
Use appropriate judgment when ascertaining status of parents. By "living in this household" we mean: did they sleep here this week?

	Name of child (**first** name only)	**Age (yrs) OR year of birth**	**Sex M/F**	**Status of Mother**		**Status of Father**		**Currently enrolled in school? (Y/N/DK)**	**Current class/grade (or final class/grade reached if no longer attending)**	**Any disability (Y/N) +details**
				Alive/ **D**ead/ **U**nkn	Currently living in this hh **(Y / N/ N/a)**	**A**live/ **D**ead/ **U**nkn	Currently living in this hh (Y / N/ N/a)			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

11. [Only to people with children in their care] Do the children in your care usually attend school?

No
Yes

12. Do you have to accompany any children to school regularly?

No
Yes If yes, why?

13. What are the main occupations of you and your other household members?

"Main occupations" may include both sources of income e.g casual labour and subsistence activities such as farming.
If domestic chores at home are mentioned, just list as "housework", rather than detailing each chore.

Respondent and other household members [state relationship to respondent e.g. wife]	**Main occupation**	**List all other occupations (e.g. in the dry season)**
1. Respondent		
2. Second household member:		
3. Third household member 2		
4.		
5.		
6.		
7.		

14. **Do you personally work full-time or part-time?** FT PT

15. **Do you have any physical disability that impedes your ability to work? Yes** No If yes, details_____

16. **Do you personally undertake kibaruwa?** Yes No **If yes, have you done so this year?** Yes No

17. **Do you receive any of the following?** Tick all that apply.

Grants
Pensions
Remittances
TASAF

None

18. **Does anyone else in the household receive any of the following?** Tick all that apply.
    Grants
    Pensions
    Remittances
    None

19. If you have children under 18 in your care, does ANYONE ELSE help support them (material support in cash or kind)?

Yes No If yes, details _____
If yes, state relationship to respondent _____

20. **Do you own land of your own?**

No
Yes If yes, a) how much land owned? …….. acres. b) How much land cultivated? …….acres.

21. Do you employ farm labour?

No
Yes

22. Did you have to stay at home at any time last week because other family members had to be out of the house, working?

No
Yes → **(a) Which family member(s)?** (list all)
_____
(b) Why did you have to stay at home?
_____

23. **Do you have a mobile phone in this household? If so, is it in working order and available for you to use?**
    Complete table below, putting Y/N in each box.

Item	**In your home**	**Working order**	**Available for you to use**
Mobile phone			

24. Do you ever USE a phone (mobile or landline) yourself? [***Ask even if they do not own a phone***]

No

Yes → **When was the last time that you used a phone?** (Tick one box)

In the last week
In the last month
More than a month ago

→ **Which phone(s) do you use?** (Tick all that apply)

Own mobile phone
Mobile phone owned by other household member
Mobile phone owned by other relatives or friends
Mobile phone in kiosk/shop
Landline in own household
Landline in friend's / neighbour's house
Landline in kiosk / shop
Other → please specify _____

→ **For what purposes have you made phone calls (in the last year)?** (Tick **all** that apply)

Social / chatting to family and friends
Work-related reasons
Health-related reasons [e.g. phoning dispensary]
Emergencies [e.g. getting medical help]
Urgent news [e.g. death, funeral]
Remittances [i.e. m-pesa etc.]

Other → please specify _____

25. Was last week a normal week for you?

Yes
No → **Why not?**

Own illness
Family illness
Other → please specify _____

Section C: Means of transport used and spatial autonomy

26. This question is about various means of transport that YOU PERSONALLY may use.

Work across the table, asking about each means of transport in turn. If 5 (never use) is recorded in column (a) then omit all questions from b) to f) and move to the next row

Means of Transport	(a) Do you use this means of transport? If so how often? 1 = use every day 2 = use 4-6 days a week 3 = use 1-3 days a week 4 = less than once a wk 5 = never use	(b) Is this means of transport owned by someone in your household and kept? Yes/No	1. (c) If kept in your household, is it in working order? Y / N / N/A	*2. Only ask (d), (e) and (f) if the older person ever uses that m of transport*		
				3. (d) What do you **like** about using this means of transport? (advantages) 4.	5. (e) What do you **not like** about using this means of transport? (disadvantages) 6.	7. (f) Do you regard it as being **dangerous?** Yes / no 8. **If so, why?**
(a) Walking		N/A	N/A			
(b) Handcart, push cart						
(c) Wheelbarrow						
(d) On animal's back						
(e) Animal-drawn cart						
(f) Bicycle						
(g) Bicycle-taxi						
(h) Motorcycle						
(i) Motor cycle boda-boda						
(j) Private car						
(k) minibus						
(m) Motor Taxi						
(n) Bus						
(o) other [state]						

Section E. Use of and travel to Health Facilities

27. **When was the last time you went to a health centre or hospital for your *own* health?** Tick one.

In the last month	Never
In the 12 months, but not in the last month	Don't know
Over a year ago	

28. This question is only for older people who have been to a health facility <u>in the last 12 months</u>.

If you have been to a health facility in the last year, think about the most recent time you went *for your own health*

a) The last time you went to a health facility for your own health, where did you go?

- **Name of health facility** _____
- **Location of health facility** _____
- **How long did it take to get there?** _____
  hours / minutes (delete as applicable)

b) Why did you go to the health centre? Tick one box.

Illness → specify what illness _____
Accident / injury → give details _____
Preventative care → give details _____
Other reasons → give details _____

c) Did anyone accompany you on your most recent visit to the health facility? Tick one box.

No one – travel alone
Adult family member
Other adult (not family)
Child(ren) under 18 in your family
Both adult(s) plus children
Don't know

d) How much did your journey to the health facility cost (*single* journey, *transport fare only*)_

Or Don't know
Not applicable (e.g. walking)

e) How did you travel there? Tick all that apply and <u>circle the principal mode</u>. (*No need to prompt.)*

Walking
Carried by pedestrian
Carried by pedestrians on stretcher
On animal's back
Animal-drawn cart
By public minibus
By motor taxi (pick up / dropping)
By motor taxi (hire / charter)
By motorcycle (private not business)
By motorcycle taxi (boda-boda)
By bicycle
Bicycle-taxi
Bicycle ambulance
Motor Ambulance
By private car
By bus
Other → please state _____

29. Are there any things that can make it difficult for you to go to a health centre sometimes when you are ill?

Don't know
No
Yes → **What are these difficulties? (**Read out the list of possible responses, and encourage any other reponses ("anything else"?). Tick as many as apply + <u>circle the most important</u>.

Too difficult to travel there
Too expensive to travel there
No one to take or accompany you there
Fees to see doctor / costs of medicine too high
Health service is of poor quality
Prefer using alternative treatments (e.g. traditional healers)

Too busy with housework

Too busy with household herding /agriculture / trading
Too busy with much paid work
Too busy caring for /sick/disabled person at home
Too busy caring for children at home
Other reasons _____
Refused permission to travel

Section F. Journeys and Livelihoods

30. How far away are the following from your house?
Tick one box per row
If the enumerator has to estimate on the person's behalf, please tick **here**

	In house / compound	Less than 10 minutes' walk away	10-30 minutes' walk away	More than 30 minutes walk away	N/A (eg. don't use fuelwood)
(a) Main water supply – dry season					
(b) Main water supply – wet season					
(c) Fuelwood supply					
(d) Rubbish tip / pit					
(e) Farm you cultivate	N/A				

31. Does anyone help you to carry water / fuelwood / rubbish/farm produce?
Tick one box per row.

	Tick below if the respondent also carries this	Boy grandchildren or children 18y and under	Girl grand children or children 18y and under	Women in family	Other (please state whether m/f; family or not)	N/A (e.g. don't use fuelwood in this settlement)	Don't know
(a) **water?**							
(b) **fuelwood?**							
(c) **rubbish** to the tip?							
(d) Farm produce from the farm?							

32. What activities did YOU PERSONALLY do LAST WEEK that involved making journeys OUTSIDE YOUR HOMESTEAD?

Questions n.b. answer all parts of the question	Fetching water	Fetching fuelwood	Going to grinding mill	Going to wash clothes	Taking rubbish to tip / pit	Going to buy things	Going to sell things	Taking messages around	Social visits to friends and family	Church / mosque /	Going to the farm	Herding livestock	Collecting wild foods or plants	Phone related services e.g. Mpesa
(a) Which of these activities have you done in the last week? Tick all that apply. *The following questions (b-f) apply only to those activities ticked here. Leave others blank.*														
(b) For each activity undertaken in the last week, on how many days did you do this activity? 1 = every day last week 3 = a few days (1-3 days) 2 = most days (4-6 days) DK = don't know														
(c) On the most recent day you did this activity, how many times did you do it on that day? Give the number of times (or DK = don't know)														
(d) How long does the <u>single journey</u> take? 1 = less than 30 minutes 3 = 2 hrs or more 2 = 30 mins – 2 hours DK = don't know														
(e) For each activity undertaken in the last week, did you carry any loads? (Prompt and allow multiple responses) 1 = no loads carried 5 = yes- wheelbarrow/handcart 2 = yes - on head 6 = yes – animal / animal cart 3 = yes - in hands 7 = yes – in other way (specify) 4 = yes - on bicycle/motorcycle DK = don't know														
(f) Do you ever experience any dangers or difficulties doing these activities? (Prompt & allow multiple responses) 1 = rough terrain – risk of injury 2 = rivers / streams difficult to cross 3 = risk of attack from people (e.g. bandits) 4 = risk of harassment / verbal abuse from people 5 = risk of attack from animals (specify) 6 = dangerous vehicles 7 = supernatural risks (spirits, witches, ghosts, graveyards…)														

33. Did any of these journeys / activities you did LAST WEEK stop you doing other things you wanted to do?

No
Yes → please state what _____

34. Did any of these journeys LAST WEEK involve you *personally* travelling by by boda-boda? Yes No

35. This question is only for those older people who carried loads WITHOUT TRANSPORT EQUIPMENT (i.e. on heads or in hands- see answers for Question 32 (e) above) last week. The questions all refer to loads carried IN THE LAST WEEK

(a) Which SINGLE JOURNEY gave you personally the HEAVIEST load LAST WEEK? Tick one box only.

Fetching water
Fetching fuelwood
Going to grinding mill
Going to wash clothes
Taking rubbish to tip / pit
Going to buy things
Going to sell things
Taking messages around settlement
Carrying garbage
Social visits to friends and family
Working in fields farming
Herding livestock
Collecting wild plants / foods
Other → please specify _____

(b) Give the approximate weight of that heaviest load? _____ kg. N.B. One litre of water weights 1 kg.

36 (a) Which of your personal journeys gave you the MOST loads (i.e. frequency) last week? Tick one box only.

Fetching water
Fetching fuelwood
Going to grinding mill
Going to wash clothes
Taking rubbish to tip / pit
Going to buy things
Going to sell things
Taking messages around settlement
Carrying garbage
Social visits to friends and family
Working in fields
Herding livestock
Collecting wild plants / foods
Other → please specify _____

b) Did you get paid for carrying any loads last week? Tick one box only.

No

Yes → **Which load(s)?** _____

→ **Did the money you earn come to you personally to spend, or did it go towards household living costs or both?**

Tick one box only.

To you alone
To household expenses
To both
Other → please specify _____

37 (a) Last week, did you suffer from any problems because of carrying heavy loads?

Prompt by reading out the list of possible responses to the person, and encourage any other responses ("anything else"?). Tick as many as apply and circle the most important.

Headaches
Neckache
Waist/back pain
Tiredness
Other → please state _____
No problems

b) Do you ever suffer from any problems because of carrying heavy loads?

Prompt by reading out the list of possible responses, and encourage any other responses ("anything else"?). Tick as many as apply and circle the most important.

Headaches
Neckache
Waist/back pain
Tiredness
Other → please state _____
No problems

38. Do you know how to ride a bicycle?

Yes If yes, do you still regularly ride a bicycle? Yes No

No → **Why not?** (Prompt by reading the list of responses , tick all that apply and circle the most important.)

Never had time to learn
Frightened to cycle because may fall off
Frightened to cycle - riding could harm my body
Frightened to cycle because too much traffic
Family disapprove
Other people will disapprove
Other → please state _____

39. Have you ever had an injury due to a road accident?

No

Yes → **Thinking about the most recent accident:**

What was the nature of the accident? Tick one box.

as pedestrian walking along the road
while trading along the roadside
while riding a bicycle
as a passenger on a motorcycle
as a passenger in a motor vehicle
other → specify _____

→ **How serious was the accident?** Tick one box.

Very serious / life-threatening
Quite serious
Minor injuries only

→ **When you had the accident, did you go to hospital/health centre for treatment of your injuries?**

No → **Why not?**

Too far to go
Injuries very minor
No one to accompany
No money for transport
No transport available
No money for treatment
Other → please specify ____

Yes → **How long did you have to wait between the accident and getting treatment?**

_____ minutes / hours

(delete as applicable)

→ **How did you get to the health centre / hospital?** _____

[e.g. walk, on someone's back, wheelbarrow, home-made stretcher, hospital stretcher, ambulance]

FINAL QUESTIONS / POINTS TO RAs

1. **Was anyone else (other than the older person) present at the time of the interview?**

   No Yes → **Specify who**

   _____

2. Record time interview finished _____am/pm. Check you have gone through all the pages/questions without omissions.
3. Thank the respondent, ask if they have any questions – answer them sincerely without raising undue expectations.
4. NOTE HERE HOW THE INTERVIEW WENT e.g. was the person comfortable, happy to talk or not?

   .....