The Role of Older Persons in Uganda: Assessing Socio-demographic Determinants of Older Persons' Value

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Abstract

Extensive research has been conducted on diverse socio-demographic issues such as child and maternal mortality in Uganda but the contribution of older persons to their households and communities has been comparatively under-investigated. This article bridges the gap by discussing prevalence and determinants of the value of persons aged sixty and above in the country. Four rural districts were randomly selected while one urban area was purposively chosen in a cross-sectional study conducted from March to April 2012. An interviewer-administered questionnaire was used to collect data on 605 older persons. Engagement in income-generating activities, possession of indigenous knowledge, advice on behaviour norms, role played in social organizations, propagation of cultural norms, dispensing local medicine and providing childcare were all aspects of value studied. Using scaling technique, these eight variables were aggregated into a single total indicator of value, operationally defined as aggregate value. The variable was then dichotomized into low aggregate value and high aggregate value. Binary logistic regression was used to analyse socio-demographic factors predicting high aggregate value. Findings indicate that nearly four in ten older persons had high aggregate value. In comparison with persons of no education, those having primary and secondary or higher education were more likely to have high aggregate value. In comparison with persons who did not own land, those who owned land were more likely to have high aggregate value. Results further indicate that having out-migrated children predicted high aggregate value. In comparison with the Central region of the country, older persons living in the Western, Northern and Kampala regions were more likely to have high aggregate value. The findings have several implications including for the design of later-life socio-economic programmes, establishment of a special old age fund and increasing learner access and retention rates in the national education system.

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Résumé

Des recherches approfondies ont été menées sur diverses questions sociodémographiques telles que la mortalité infantile et maternelle en Ouganda, mais la contribution des personnes âgées dans leurs foyers et leurs communautés a été relativement peu examinée. Cet article vient combler le fossé en traitant de la prévalence et des déterminants de la valeur des personnes âgées de soixante ans et plus dans le pays. Quatre districts ruraux ont été choisis au hasard contre une zone urbaine choisie à dessein dans une étude transversale menée de mars à avril 2012. Un questionnaire administré par l'intervieweur a été utilisé pour recueillir des données sur 605 personnes âgées L'engagement dans des activités génératrices de revenus, la possession de connaissances indigènes, les conseils en matière de normes de comportement, le rôle joué dans les organisations sociales, la propagation des normes culturelles, la dispensation de médicaments locaux et la fourniture de soins aux enfants ont été les aspects liés à la valeur qui ont fait l'objet de l'étude. En utilisant la technique de mise à l'échelle, ces huit variables ont été regroupées en un seul indicateur total de la valeur, défini sur le plan opérationnel comme *valeur globale*. La variable a ensuite été dichotomisée en *valeur globale faible* et en *valeur globale élevée*. La régression logistique binaire a été utilisée pour analyser les facteurs sociodémographiques prédisant une valeur globale élevée. Les résultats indiquent que près de quatre sur dix personnes âgées avaient une valeur globale élevée. Comparées aux individus non instruits, ceux qui avaient un niveau d'enseignement primaire et secondaire ou supérieur étaient plus susceptibles d'avoir une valeur globale élevée. Comparées aux personnes qui ne possédaient pas de terre, celles qui en possédaient étaient plus susceptibles d'avoir une valeur globale élevée. Les résultats indiquent en outre que le fait d'avoir des enfants ayant migré prédisait une valeur globale élevée. Comparées à celles qui vivaient dans la région centrale du pays, les personnes âgées vivant dans les régions occidentales, orientales et la région de Kampala étaient plus susceptibles d'avoir une valeur globale élevée. Les résultats ont plusieurs implications, notamment pour la conception de futurs programmes socio-économiques, la création d'un fonds spécial vieillesse et l'amélioration de l'accès pour les apprenants et du taux de rétention dans le système éducatif national.

Introduction

Recent estimates indicate that Uganda's population of older persons is approximately 1,304,500 (UBOS 2012) and that the number is projected to reach 5,420,000 by 2050 (UNFPA and HAI 2012). Although older persons tend to be associated with later-life challenges, ageing populations also have value and make substantial contributions to their households and communities. Many scholars have widely used the concept of value from

the point of view of children. For example, the value of children has been defined as that collection of good things which parents receive from having children (Espenshade 1977). Similarly, this value has been described as the benefits individuals expect to receive from a child (Fawcett 1985; Hoffman and Manis 1979). This perception of value is as relevant to children as it is to older persons. The value of older persons is operationally used in this study to refer to the benefits, merits or worth of older persons. It relates to the roles of older persons at individual, family and community levels. The term value thus evokes the image of contributions to households and communities that older persons make. The value takes several forms such as caregiving to vulnerable populations, engagement in income-generating activities, being members and leaders of social organizations, dispensing local medicines, mediation in conflicts, offering advice on behaviour norms as well as being custodians of indigenous knowledge and cultural information. Older persons in low-income countries do not stop contributing to their communities on retirement and many are willing to work well beyond retirement age (WHO 2007). Earnings from post-retirement income-generating activities make an important contribution to poverty avoidance (Barrientos, Gorman and Heslop 2003) .

Several factors influence older persons' involvement in socio-economic activities and education is one of the determinants of later-life engagement in income-generating activities. In selected Caribbean countries, well educated persons, particularly professionals, have been reported to have more income-earning opportunities in old age than their counterparts of lower education (Cloos et al. 2010). Education itself tends to vary by gender; with older women having lower levels of education than older men in many countries (UNFPA and HAI 2012). This is largely because, in comparison with boys, the girls had fewer opportunities to go to school and experienced higher drop-out rates. Lower educational levels seriously limit the ability of older women to obtain information, access services or take part in socio-economic activities.

Age is another variable that may influence later life income-generation. As WHO (2007) states, older people tend to be too frail to work, have difficulty getting to and from work or simply feel unsafe travelling to and from work places. Similarly, although labour force participation is relatively high in developing countries, older persons' employment opportunities and remuneration decline with age (Czaja 2007). Barrientos et al. (2003) posit, however, that contrary to some perceptions, assumptions regarding a decline in the average productivity of workers with age have not been confirmed by empirical studies. This is because although formal employment opportunities may decline with age, the incidence of self-employment may in fact rise.

Later-life income generation may be indirectly influenced by migration of household members. Having a migrant increases a household's income per capita by 8.5 to 13.1 per cent (Du, Park and Wang 2005). Older persons belonging to financially empowered households are more likely to engage in income-generating activities and thus experience less poverty than their less financially empowered counterparts. This resonates with the theory of the new economics of labour migration (Massey et al. 1993) which makes a case for the reduced risks and vulnerabilities through families and households that encourage emigration of their members. The authors posit that in circumstances where local economic activities fail to bring in sufficient income, the household can rely on migrant remittances for support.

Possession of indigenous knowledge is another hallmark of the value of older persons. For example, indigenous knowledge of medicinal plants has existed among inhabitants of the Iberian Peninsula and this knowledge has been propagated from generation to generation (Akerreta, Calvo and Cavero 2010). Some studies have shown that formal education negatively influences possession of this knowledge. Research carried out in Mexico indicated that school attendance implied less time to acquire empirical ecological knowledge (Giovannini et al. 2011). The authors argue that lower prevalence of indigenous knowledge among learned persons could be associated with increased exposure to global capitalist culture and decreased contact with the local environment owing to prolonged school attendance. Other studies have indicated that possession and propagation of indigenous knowledge appears to be gradually disappearing in some areas partly due to the adoption of what is perceived to be a modern culture. As De Albuquerque et al. (2011) have observed, the accelerated processes of globalization and economic development have, in recent years, threatened indigenous cultures such as traditional knowledge and practices.

The value of older persons can also be seen within the context of membership of social organizations. In a study of the social capital of older people in Britain, Gray (2009) identified several organizations in which older persons were active members. These included political parties, trade unions, environmental groups, parents' groups, tenants' groups, religious organization, voluntary service groups, social clubs and sports clubs. Similar social affiliation was reported by Perren, Arber and Davidson (2003) in a study conducted on men's organizational affiliations in later life. The study found that half of older men aged sixty-five and over reported membership of an informal organization. Study findings also indicated that a quarter were involved in civic groups, one in six belonged to a social club, one in seven belonged to a religious group, one in eight belonged to a sports club, while one in twenty reported membership of a pensioners' group.

Many older people are said to be pillars of the community in which they are actively involved including local clubs, societies, faith groups and democratic institutions such as Parish Councils and boards of school governors (WRVS 2011). They are also users of local services and have the propensity to be active users or customers of community-based facilities such as local shops, post offices, libraries, pubs and surgeries. It is argued that without their older users, many of these facilities would be less viable and could be lost to the community. Older people have also been said to provide leadership of many local organizations, groups and societies. The leadership expertise, skills and experience have been reported to be the driving force for local community-based organizations. WRVS (2011) further observes that older people are estimated to spend more time than any other age group in leadership roles, spending an average of five hours per month.

Studies have established association between social participation and health (Bath and Deeg 2005; Cloos et al. 2010; Gray 2009; McMunn et al. 2009). Active involvement in social organizations can be an important component of successful ageing. As Adams, Leibbrandt and Moon (2011) observe, many older adults with active participation in social and leisure activities report positive well-being in later life. Social organizations can also be instrumental in offering support to persons during later life (Wellman 1992).

Counselling and guidance is another indicator of the value of older persons who often counsel errant youths and guide them along the path of expected societal standards in circumstances of inappropriate behavioural patterns. As Oppong (2006) observes, in the past men and women were expected to play an important part in advising, guiding and supporting the young as they matured. Old age in years per se was not especially revered but rather the maturity and wisdom born of a lifetime's experience in raising new generations. Once in the elder category, a person was ideally considered to have wisdom and advisory skills and was consequently respected by the young. This role is still relevant in many Ugandan societies (MoGLSD 2009) though it is gradually being undermined by social transformation.

Erb (2008) has also identified advice and education as one of the roles played by older persons in post-civil war Northern Uganda who are reported to be advising grandchildren on a wide range of issues. These include discipline, traditional activities, household duties, traditional marriage customs, land boundaries and domestic animal care. They are also educating children and grandchildren through story-sharing, which is a source of great happiness and pride. Erb (2008) further indicates that repatriated older persons feel that they can now sit by the fire and teach the children traditional stories.

Older persons are caregivers, which is another aspect of their value. Orphans, other vulnerable children, the helpless, the needy and sometimes even fellow ageing individuals are some of the persons to whom older persons are caregivers (Schatz and Ogunmefun 2007). In Africa, older people are most likely to be heads of households in which they play diverse caregiving roles (Oppong 2006). In Uganda research on how the household copes with the AIDS epidemic indicates that the burden of orphan care falls on the oldest members of the family, usually the grandparents (Ntozi and Nakayiwa 1999). Young siblings who are caregiving do so only because adult relatives have died. These results are corroborated by findings from a study of the plight of older persons as caregivers to people infected and affected by HIV/AIDS (Ssengonzi 2007). The results of the study show that older persons provided care to patients with AIDS at the terminal stage of the illness. Demographic factors are some of the determinants of caregiving. For example McMunn et al. (2009) indicate that women are a little more likely than men to have cared for someone. The authors indicate further that participation in socially-productive activities declined with age, but often not until participants were in their late seventies or eighties.

In Uganda significant research effort on older persons has largely been placed on their challenges (Ntozi and Nakayiwa 1999; Scholten et al. 2011; Ssengonzi 2007). Many studies have yielded rich data on the adverse effects of the HIV/AIDS pandemic, but information on the value of older persons has hardly been considered. Prior studies on older persons in the country have also not gone beyond the traditional demographic factors to incorporate variables such as shelter conditions and ownership of household assets into models that predict value. Paucity of information regarding the prevalence and determinants of the aggregate value of older persons is particularly rife. This study therefore contributes to the current knowledge base on ageing by providing evidence for diverse factors of later-life aggregate value in Uganda. Knowledge of these factors could lead to formulation of appropriate policies and programmes that promote better and dignified ageing of the country's population.

Data and Methods

The paper uses primary data from a cross-sectional study entitled 'Determinants of value and challenges of older persons in Uganda' that was conducted in April 2012. Engagement in income-generating activities, possession of indigenous knowledge and advice on behaviour norms and roles played in social organizations were some of the indicators of value studied. Others were mediation in conflicts, propagation of cultural

norms, dispensing local medicine and caregiving for children. In the study, stratification was used to select four districts from four strata that comprise the major national zones of the country namely Central, Eastern, Northern and Western regions. Using simple random sampling, Mukono, Tororo, Lira and Kisoro districts were selected from the four regions respectively. In addition, Kampala City was purposively selected as the fifth regional stratum to represent the urban sector.

One sub-county was randomly selected from each of the four rural districts, and one municipality was similarly randomly chosen from the Kampala urban region. The randomly selected sub-counties were Nyakabande, Kisoko, Adekokwok and Goma from Kisoro, Tororo, Lira and Mukono districts respectively. Makindye municipality was the municipality randomly selected from the Kampala urban area. A probability sampling approach was adopted to ensure ultimate national representativeness of results. The *Kish method* of sample size determination (Kish 1965) was used to select 605 persons aged sixty and above. Working with local parish leaders, a sampling frame of households having older persons in the selected parishes was compiled. The desired number of households was selected at random from this listing. Age was the inclusion/exclusion criterion and sixty was the cut-off age mark. Any person aged sixty and above from the selected households was eligible for inclusion in the study while all those who proved to be below sixty, were excluded. Age sixty was adopted since this benchmark is widely used in defining older persons (UNFPA and HAI 2012).

An interviewer-administered questionnaire was used to collect data. To ensure uniformity of inquiry and comprehension across the ethnic-linguistic divide, questions were translated into Luo, Jophadhola, Urufumbira and Luganda, the four local languages commonly spoken in the selected districts. Eligible interviewers were recruited, trained and subsequently assigned zones from which to collect data. Each respondent was informed that participation in the study was purely voluntary and interviews were only conducted with older persons who consented. Quality control measures such as on-spot field checks on the interview process were taken to improve completeness and consistency of responses.

The EPIDATA software was used to capture quantitative data generated by the interviewer-administered questionnaire. The data was subsequently exported to STATA programme for univariate, bivariate and multivariate analysis. Univariate analysis involved running frequencies and computing percentage distributions of older persons by their socio-demographic characteristics as well as prevalence of value. Scaling technique was used

to combine the eight indicators of value into a single variable, *aggregate value*, which was a mark of totality of older persons' social and economic contributions to their households and communities. The created variable enabled measurement of older persons' overall importance on a scale ranging from 0 to 8. Aggregate value was subsequently recoded and dichotomized into 'low aggregate value' ranging from 0 to 4 and 'high aggregate value' varying from 5 to 8. The re-coded variable was then cross-tabulated with a number of independent variables to establish association in bivariate analysis.

Since aggregate value, the dependent variable, was dichotomous (low aggregate value or high aggregate value), the binary logistic regression model was used to predict high aggregate value at the multivariate data analysis level. This model is expressed as:

$$\text{logit}\,[\text{p}(X)] = \log[\,\tfrac{p(X)}{1-p(X)}\,] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_x x_k;$$

where α is the intercept and β_1, β_2, β_3, are the regression coefficients of x_1, x_2, x_3 respectively. The independent variables, $x_1 \ldots x_k$, were age, gender, residence, education, marital status, child out-migration status, limb joint health status, radio set ownership, TV ownership, possession of a mobile phone, ownership of any means of transport, land ownership, possession of domestic animals, social protection status, type of fuel for cooking, material of shelter floor, material of shelter roof and material of shelter walls.

Limitations

One limitation of this study is that binary data was collected for each of the eight indicators of value. For each indicator, richer results could have been produced if a given question looked at a whole range of possible responses on a continuum from, say, 1 to 5. This would also have informed use of the likert scale rather than the summated scale which was used. Another limitation is focus on just eight indicators of value, yet these are not the only ways in which older persons make contributions to their households and communities. Consideration for other aspects such as later life tax contributions, bequests to charity and neighbourhood watch could have widened the spectrum of value. This points to the need for conducting studies with greater depth and breadth on the subject of the value of older persons in Uganda.

Results

Response Rate

During the field data collection process, interviewers physically moved to older persons' homes where face-to-face interviews were conducted with each selected respondent. Owing to a good rapport established between interviewers and community leaders on the one hand and older persons on the other, all eligible persons who were approached accepted to participate in the study. This universal acceptance compares with a similarly high 98 per cent household response rate observed in the 2005 Uganda Demographic and Health Survey (UBOS 2006). However, there were incidences where persons who responded to certain questions on value were slightly less than the sample size, giving an overall average response rate of 99.4 per cent. Interview fatigue could have put off the few older persons who did not respond to some questions. This phenomenon was similarly observed in the 2005 National Demographic and Health Survey in which the individual interview completion rate was 93.1 per cent (UBOS 2006).

Socio-demographic Characteristics of Respondents

Table 1 displays the distribution of respondents by socio-demographic characteristics. This indicates that the proportion of older persons decreased with age. Almost two-thirds of the older persons found in the sampled households were females (65 per cent), leaving only 35 per cent as males perhaps because of the higher female life expectancy relative to males. Four-fifths of the respondents were living in rural areas while the rest were in the Kampala urban environment.

Table 1 further indicates that 50 per cent of the respondents did not have formal education. Just over one third (35 per cent) attained primary level of education, 10 per cent had secondary level education while the proportion of those with tertiary and higher level of education was only 5 per cent. Forty-four per cent of the respondents were married while slightly over two-fifths (41 per cent) were widowed. The high prevalence of widowed older persons is perhaps expected given that these people are in the age bracket that is well above fifty-eight, the average life expectancy of the country (PRB 2013), and hence many would have lost their spouses. Unexpectedly, close to 3 per cent of older persons interviewed belonged to the never-married category, which is contrary to what was expected of this overwhelmingly rural sample.

Table 1: Distribution of Respondents by Selected Socio-demographic Characteristics

Characteristic	Number	Per cent
Age		
60–69	264	43.6
70–79	208	34.4
80–89	101	16.7
90+	32	5.3
Sex		
Male	211	34.9
Female	394	65.1
Residence		
Urban	120	19.8
Rural	485	80.2
Region		
Western	120	19.8
Central	125	20.7
Eastern	114	18.8
Northern	126	20.8
Kampala	120	19.8
Education level		
No education	301	49.8
Primary	212	35.0
Secondary	61	10.1
Tertiary+	31	5.1
Marital status		
Never married	18	3.0
Married	266	44.1
Cohabiting	3	0.5
Widowed	249	41.1
Divorced	29	4.8
Separated	40	6.6
Religion		
Catholic	333	55.0
Anglican	205	33.9
Muslim	25	4.1
Pentecostal	26	4.3
Seventh Day Adventist	5	0.8
Others	11	1.8
Living arrangement		
Alone	92	15.2
Spouse	62	10.2
Spouse and kids	89	14.7
Grandchildren	137	22.6
Other	225	37.2
Total	**605**	**100**

The largest proportion of respondents belonged to Catholic and Anglican religious affiliations (55 and 34 per cent respectively). Membership of other religions exists though in much smaller proportions. In comparison with living with a spouse (10 per cent), a higher proportion (15 per cent) of older persons were living alone. Over one-fifth of the older persons were living with grandchildren (23 per cent).

Value of Older Persons

Table 2 shows the percentage of the reported value of older persons by eight socio-economic indicators. Twenty seven per cent of them were engaged in income-generating activities. This finding was corroborated by focus group informants. One of them had this to say:

> We are able to make and sell items such as ibisobane (baskets), *imihini* (hoe-handles), *ibigega* (granaries), *imbehe* (wooden plate), *isekuro* (wooden mortars) *intara* (bamboo tray) *indiga* (knife), *umuhoro* (sickle/machete) and *inanga* (harp). (Key informant, Kisoro district)

Table 2 further indicates that just over two-fifths (45 per cent) possessed indigenous knowledge. Older persons cited several plant species that were being used to deal with basic health issues as one informant explained:

> In this community we get medicines through using a variety of indigenous plants such as *osore* and *otikidiel* for healing wounds, *alwi, ochuloga, thuloliki* and *atiko* for the treatment of measles, *omenyidiegi* for managing brain sickness and *Nyamukesi* for raising appetite. (FGD, Tororo district)

Four-fifths (81 per cent) were playing an advisory role on behaviour norms while just over a quarter of those who reported belonging to social organizations were in fact leaders in these. Some key informants pointed out the diverse roles that older persons were playing. The roles ranged from leadership of educational and cultural institutions to membership of statutory bodies. As one informant put it:

> An older person is an education secretary in the Diocese of Lango. Other older persons are on Board and Management Committees of primary and secondary schools while others are members of Commissions in district local government. Some older persons hold local council positions and are members of university councils. There are also those who are on district land boards. Some are opinion leaders and consultants while others are traditional chiefs and clergy. (Key informant, Lira district)

Eighty per cent of the older persons who reported possessing cultural information were propagating and passing on this knowledge to younger

people in their communities. Older persons indicated that prevalence of untraditional practices such as inter-clan marriages were on the rise, a situation that called for elderly intervention. As one participant put it:

> Today, there are rising levels of ignorance about principles and practices of *amoko* (clans) and *imiryango* (families). Consequently, there are rising cases of intra-clan marriages; something unheard of in the past. As older people, we try to educate the younger people about clan matters. (Women FGD, Kisoro district)

Table 2 further shows that 46 per cent of the respondents had at some point been consulted about conflict resolution while 37 per cent were dispensing local medicine. Half of the older persons (50 per cent) were caring for children.

Table 2: Level of the Reported Value of Older Persons by Socio-economic Indicators

Socio-economic value indicator	Per cent
Engagement in income-generating activities (n=605)	
Active in income-generating activities	27.1
Not active in income-generating activities	72.9
Possession of ethno-science knowledge (n=604)***	
Have ethno-science knowledge	45.0
No ethno-science knowledge	55.0
Advice on behaviour norms (n=600)***	
Offers advice on behaviour norms	81.3
No advice on behaviour norms	18.7
Role in social organizations (n=306)*	
Leader	26.5
Ordinary member	73.5
Mediation in conflicts (n=597)***	
Ever consulted for conflict mediation	45.7
Never consulted for conflict mediation	54.3
Propagation of cultural norms (n=287)**	
Propagating cultural norms	80.1
Not propagating cultural norms	19.9
Dispensing local medicine (n=591)***	
Dispenses local medicine	36.9
No dispensation of local medicine	63.1
General childcare (n=603)***	
Caring for children	49.6
Not caring for children	50.4

* Total of only older persons who reported belonging to social organizations.

** Total of only older persons who reported possessing cultural information.

***n< 605 owing to missing data.

Table 3 shows the distribution of respondents by score level on the scale of aggregate value. It is shown that 3 per cent scored 0 on this scale. This is the proportion that may be regarded as having 'no value' within the context of the indicators operationalized in this study. Results further show that 2 per cent obtained the maximum score of 8. These are the persons who may be regarded as having the 'highest value', in terms of the eight indicators. The largest proportion scored 5 on the scale (19 per cent). These findings indicate a fairly normal distribution of older persons on the scale of aggregate value.

Table 3: Distribution of Respondents by Score Level on Scale of Aggregate Value

Score level	Frequency	Per cent
0	18	3.0
1	60	9.9
2	98	16.2
3	92	15.2
4	103	17.0
5	112	18.5
6	72	11.9
7	37	6.1
8	13	2.2
Total	**605**	**100**

Table 4 shows percentages of respondents by aggregate value and by selected variables. The proportion of older persons with high aggregate value decreased with age. Whereas 45 per cent of older persons aged sixty to sixty-nine had high aggregate value, this figure decreased to 29 per cent among those aged eighty and above. The higher proportion among relatively younger older persons is perhaps expected since overall they were likely to be more physically active. The association between age and aggregate value was statistically significant (p=0.007).

The proportion of older males with high aggregate value (45 per cent) was higher than that of older females (35 per cent). Past disproportionate access to opportunities could explain the observed gender disparity. Along the life course, males may have had better access to education, employment and leadership positions that contributed to their overall superiority on the scale of aggregate value. The association between sex and aggregate value was statistically significant (p=0.019).

Table 4: Percentages of Older Persons by Aggregate Value and Selected Variables*

Variable	Low aggregate value (%)	High aggregate value (%)	Number
Age	**61.3**	**38.7**	**605**
60-69	55.3	44.7	264
70-79	62.5	37.5	208
80+	71.4	28.6	133
X^2 =9.9, p=0.007			
Gender	**61.3**	**38.7**	**605**
Male	55.0	45.0	211
Female	64.7	35.3	394
X^2 =5.5, p=0.019			
Region	**61.3**	**38.7**	**605**
Western	55.8	44.2	120
Central	74.4	25.6	125
Eastern	63.2	36.8	114
Northern	58.7	41.3	126
Kampala	54.2	45.8	120
X^2 =13.6, p=0.009			
Education level	**61.3**	**38.7**	**605**
No education	68.1	31.9	301
Primary	56.1	43.9	212
Secondary+	51.1	48.9	92
X^2 =12.3, p=0.002			
Work environment before age 60	**61.7**	**38.3**	**600****
Public/private sector	51.1	48.9	90
Self employed	52.0	48.0	227
Unpaid employee	78.5	21.5	214
Casual worker	55.1	44.9	69
X^2 =40.2, p=0.000			
Ownership of means of transport	**61.5**	**38.5**	**597****
Owns any means of transport	52.5	47.5	99
No any means of transport	63.2	36.8	498
X^2 =4.0, p=0.045			
Land ownership	**61.5**	**38.5**	**597****
Owns land	56.2	43.8	441
No land	76.3	23.7	156
X^2 =19.6, p=0.000			

Ownership of domestic farm animals	**60.7**	**39.3**	**593****
Owns animals	54.5	45.5	268
No animals	65.9	34.1	325
X^2 =7.9, p=0.005			
Child out-migration status	**61.2**	**38.**8	**603****
Has out-migrated children	54.8	45.2	303
No out-migrated children	67.7	32.3	300
X^2 =10.5, p=0.001			
Limb joint health status	**61.9**	**38.1**	**444*****
Has joint pain/swelling/stiffness	59.0	41.0	383
No joint pain/swelling/stiffness	80.3	19.7	61
X^2=10.1, p=0.001			

*Non-statistically significant variables not shown in table.

**n< 605 owing to missing data.

*** Total of only older persons who reported having difficulty in moving.

Table 4 further shows that aggregate value varied by region of residence. The highest proportions of older persons with high aggregate value were those living in Kampala and Western regions (46 and 44 per cent respectively). This was followed by Northern, Eastern and Central regions (41, 37 and 26 per cent respectively). The association between aggregate value and region was statistically significant (p=0.009). High aggregate value increased with education. For example, whereas the proportion was 32 per cent among those who never attended school, the corresponding figures for those who attained primary and secondary or higher education were 44 and 49 per cent respectively. The skills acquired through life-long learning could have contributed to the higher level of aggregate value observed among older persons with primary level of education and above. The association between aggregate value and education was statistically significant (p=0.002).

The proportion of older persons with high aggregate value was highest among those who worked in the public/private sector as well and those who were self-employed before turning sixty (49 and 48 per cent respectively). This was followed by casual workers (45 per cent). The lowest proportion corresponded with older persons who were unpaid employees (22 per cent). Relatively better socio-economic positions among older persons who worked in the public/private sector or who were self-employed could explain the disparity in high aggregate value. The association between aggregate value and work done before turning sixty was statistically significant (p=0.000).

Forty seven per cent of the older persons who owned means of transport had high aggregate value while the corresponding figure among those who did not own any transport facility was 37 per cent. A transport facility such as vehicle, motorcycle or bicycle could have facilitated transportation and thus facilitated older persons' engagement in income generation. The association between ownership of means of transport and aggregate value was statistically significant (p=0.045). Aggregate value also varied by possession of land. The proportion of the older persons having high aggregate value (44 per cent) was higher among those who owned land than their landless counterparts (24 per cent). Land could have enabled older persons to engage in production activities; a process that may have influenced other socially desirable roles such as child caregiving. The association between ownership of land and aggregate value was statistically significant (p=0.000). Table 4 further indicates that aggregate value was also associated with ownership of domestic animals. The proportion of the older persons who possessed domestic farm animals (46 per cent) was higher than that of those without livestock (34 per cent). Ownership of domestic animals could have raised older persons' social and economic status at household and community levels. The association between ownership of domestic animals and aggregate value was statistically significant (p=0.005).

Forty five per cent of older persons whose children were living outside their parents' usual place of residence had high aggregate value while the corresponding proportion among those who did not have out-migrated children was only 32 per cent. Successful out-migrants could have remitted part of their earnings which enabled their parents to engage in activities such as income-generation. The association between child out-migration and aggregate value was statistically significant (p=0.001). Aggregate value was also associated with limb joint health status. Older persons with limb joint pain, stiffness or swelling had higher aggregate value (41 per cent) than those without such health challenges (20 per cent). Owing to their mobility limitations, disabled persons may have provided more home-based care to their household and community members than their non-disabled and more mobile counterparts who could have been away from home for longer periods.

Predictors of High Aggregate Value

Table 5 presents results of logistic regression analysis of factors predicting high aggregate value. It is shown that older persons aged sixty to sixty-nine were more likely to have high aggregate value than their counterparts aged eighty and above (OR=1.9; p=0.013). In comparison with the older persons without formal education, those having primary, secondary or higher levels

of education were more likely to have high aggregate value (OR=1.8; p=0.014 and OR=2.3; p=0.015 respectively).

Land ownership also predicted high aggregate value. The older persons who owned land were more likely to have high aggregate value than their counterparts who did not have any land (OR=2.0; p=0.004). Those who had out-migrated children were more likely to have high aggregate value than their counterparts without migrant children (OR=1.8; p=0.003).

Table 5: Results of Logistic Regression Analysis of Factors Influencing High Aggregate Value

Variable	Coefficients	Odds Ratio	Std. Err.	p
Age				
60–69	0.637	1.890	0.485	0.013
70–79	0.354	1.425	0.375	0.178
80+*		1.000		
Sex				
Male	0.368	1.445	0.339	0.117
Female*		1.00		
Education				
No education*		1.000		
Primary	0.562	1.754	0.400	0.014
Secondary+	0.852	2.344	0.820	0.015
Marital status				
Married	-0.092	0.912	0.305	0.783
widowed	0.400	1.492	0.471	0.205
Divorced/separated*		1.000		
Radio set ownership				
Radio	-0.151	0.860	0.187	0.489
No radio*		1.000		
TV set ownership				
Owns TV	-0.460	0.631	0.201	0.149
No TV*		1.000		
Mobile phone ownership				
Mobile phone	0.226	1.253	0.311	0.363
No mobile phone*		1.000		
Ownership of any means of transport				

Owns any means of transport	0.222	1.249	0.345	0.420
No means of transport*		1.000		
Land ownership				
Owns land	0.681	1.975	0.463	0.004
No land		1.000		
Ownership of domestic animals				
Owns domestic animals	0.375	1.455	0.284	0.055
No domestic animals*		1.000		
Child out-migration status				
Has out-migrated children	0.565	1.759	0.336	0.003
No out-migrated children*		1.000		
Social protection status				
Receives pension	0.503	1.654	0.693	0.230
No pension received*		1.000		
Limb joint health status				
Has joint pain/swelling/stiffness	0.441	1.555	0.308	0.026
No joint pain/swelling/stiffness*		1.000		
Region				
Central*		1.000		
Western	0.981	2.667	0.954	0.006
Eastern	0.641	1.898	0.702	0.083
Northern	0.873	2.393	0.823	0.011
Kampala	0.965	2.625	0.815	0.002

*= Reference category.

Limb joint health status also predicted high aggregate value. Interestingly, older persons who had joint pain, swelling or stiffness were more likely to have high aggregate value than their counterparts without such health challenge (OR=1.6; p=0.026). Lastly, the broad region in which older persons resided also predicted high aggregate value. In comparison with the Central region of Uganda, older persons living in Western, Northern and Kampala regions were more likely to have high aggregate value (OR=2.7; p=0.006, OR=2.4; p=0.011 and OR=2.6; p=0.002 respectively).

Discussion

The disparity in high aggregate value between younger older persons and the oldest persons could be attributed to the better state of physical health and, consequently, to more engagement in socio-economic activities among

the younger older persons. Decline in socio-economic participation as age increases is expected as biological changes that naturally accompany the ageing process translate into gradual decline in physiological functions and abilities. Decline in the proportion of older persons engaged in income-generating activities has also been established in Tanzania (Spitzer, Rwegoshora and Mabeyo 2009). Other studies have shown a decrease in productivity with age (Czaja 2007) and a decline of formal employment as age increases (Barrientos et al. 2003).

Education is likely to be associated with socio-economic well-being and thus account for the greater likelihood of high aggregate value among more educated older persons. This association resonates with results of a study carried out in selected Caribbean countries in which professional workers such as former teachers, nurses and consultants had more income-earning opportunities in old age than their counterparts of lower education (Cloos et al. 2010). Similar results have been found in other studies (Davey 2002; Hayward and Grady 1990). Higher level of education can help older persons develop the skills and confidence they need to adapt and stay independent as they grow older. On the contrary, a low level of education is associated with higher rates of unemployment (WHO 2002).

Variation in older persons' high aggregate value by possession of land may be related to the socio-economic and cultural value of land. Older persons who possessed land may have used it to engage in small business activities which contributed to their high aggregate value. Similarly, land may have presented older persons with the opportunity to interact with land-based flora and fauna and thus gradually acquire ecological knowledge. Conversely, the landless could have had less exposure to organisms in their environment; which limited their internalization of indigenous knowledge. Studies elsewhere have indicated existence of intimate relationships between local understanding of land and indigenous knowledge (Dudgeon and Berkes 2003). Ownership of domestic animals may also have raised older persons' social status which in turn placed them in a better position to play other roles in conflict mediation and leadership of social organizations. Links between household resources and civic involvement have been established in other studies where, for example, access to a car was associated with an increased likelihood of being involved in civic activities (Perren, Arber and Davidson 2004).

The link between child out-migration and high aggregate value could be associated with returns on child out-migration. It is probable that successful child out-migrants remitted some of their earnings which their parents invested in small businesses or spent on basic services, which in

turn raised older persons' socio-economic standing in the community. As UBOS (2008) observes, remittances supplement household income and are an alternative source of finance for other economic activities. This is particularly critical in rural areas where the dominance of subsistence economy limits people's capacity to afford basic necessities. Cash-strapped older persons consequently tend to rely on remittances from successful family out-migrants. Other studies have shown that the out-migration of children can have positive effects on places of origin (Alexis 2006).

Greater likelihood of high aggregate value among persons with limb joint pain, swelling and stiffness is intriguing; considering that limb difficulties would ordinarily be expected to work against socio-economic activity. This interesting result could probably be associated with the tendency for persons with limb difficulties to be more easily accessed at home by their community members than their healthier, more mobile counterparts. Persons with limb difficulties would thus be in a better position to play other domestically-based roles such as child caregiving, conflict resolution, dispensing local medicine and propagating cultural information. The childcare given, cultural information propagated and indigenous knowledge possessed, albeit from an indisposed position, may have contributed to higher scores on the scale of aggregate value. This may confirm the common adage that disability is not inability (WHO 2011).

Variation in high aggregate value by the region of the country in which older persons resided may be linked to regional disparities in older persons' value on indicators such as prevalence of indigenous knowledge, engagement in income-generation and advice on behaviour norms. Greater involvement in economic and social activities could explain the higher proportions in Kampala, Western and Northern regions in comparison with Central and Eastern regions. Regional disparities in socioeconomic activities have similarly been observed in national household surveys (UBOS 2010).

Conclusion and Recommendations

Overall, being a younger older person, having primary and higher levels of education, owning land, having child out-migrants and residing in Western, Northern and Kampala regions predicted high aggregate value. The lower likelihood of high aggregate value among the oldest old and landless older persons calls for the design of programmes that support later-life participation in social and economic activities. This can be achieved through the establishment of a special old age fund that would supplement the current donor-supported Social Assistance Grant for Empowerment (SAGE) and address regional disparities.

In the light of findings which indicate that education significantly determines later-life high aggregate value, the Ministry of Education, Science, Technology and Sports is urged to increase learner access and retention rates in the national education system. This could translate into a higher proportion of educated persons who ultimately attain advanced age and, hence, experience active ageing. The long-term effect of this could be enhanced value in later life.

The greater likelihood of high aggregate value in Kampala, Northern and Western regions may call for the initiation of supportive programmes for older persons' roles in these regions. This may involve enabling older persons to have increased access to land and media assets which themselves have proved to be significant determinants of high aggregate value.

Acknowledgements

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