

Determinants of Livelihood Outcome Differentials among Urban Youth in Nairobi, Kenya

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Abstract

Youth livelihood outcomes (YLO) are important factors in the development of sustainable community livelihoods in Kenya. The purpose of the study was to determine the predictors of urban youth livelihood outcomes in Nairobi, Kenya. The study was guided by the General Systems Theory by Bertalanffy (1968) and the Department for International Development (DFID) livelihoods framework (1999). A survey of 206 youths was conducted in Kamukunji Sub-County in Nairobi County. Results showed that there was a significant relationship between individual attributes and youth livelihood outcomes ($\chi^2= 44.47$; d.f. =14; $p<0.01$). Specifically, age ($p<0.05$), marital status ($p<0.05$), household headship ($p<0.01$), individual savings ($p<0.05$), individual assets ($p<0.01$) were important predictors of youth livelihood outcomes. Implications for formulating appropriate intervention programs to enhance youth livelihood outcomes are included.

Keywords: capitals, individual attributes, livelihood strategies, youth livelihood outcomes

1. Introduction

1.1 Background

Youth livelihood aspirations or livelihood objectives, strategies and subsequent outcomes are influenced by individual attributes. Individual attributes are inherent characteristics of youth such as age, education level, marital status, residence, household headship, aspirations and income.

Aspirations influence how life choices are made by the youth, how they think and feel about themselves and ultimately their livelihood outcomes. Studies on youth from the United Kingdom, United States and Australia (Schaefer and Mecee, 2009) highlight that young peoples' aspirations are framed within the implicit and explicit expectations imposed by family and kinship networks, which in turn are influenced by gender based societal customs and norms. Other determinants and correlates of aspirations include individual attributes such as social class, socio-economic status, income, self-efficacy beliefs and educational plans (Leavy and Smith, 2010). However there is also evidence that high aspirations do not ultimately guarantee high livelihood outcomes resulting in what is known as aspiration attainment gap (Gutman and Akerman, 2008).

Youth compare differently in livelihood aspirations and subsequent livelihood outcomes as a result of different influential factors in their environment such as the modernizing forces of globalization, urbanization and migration bringing the youth closer to the outside world especially via media and technology. The interplay between these different broad sets of influences on youth aspirations and expectations remains to be explored more especially in the rapid changing context of both urban and rural Africa (Leavy and Smith, 2010).

Much earlier, Chinguta (2002) decried negative stereotyping of youth by society which was supposed to have mentored them in the first place. The effects of such stereotyping have led to youth adopting secluded lifestyles. In Africa, the importance accorded to socialization has been eroded due to effects of modernity, education, foreign religion and cultures. This is well expounded by Naisiko (2012) in her qualitative study on the value of socialization in negotiating livelihoods among youth in Bugembe, Uganda. Youth experienced challenges of other people having preconceived ideas of them, mistrust and unnecessary restrictions from guardians. It emerged that the older generation expectations on them, encroached on their choice of recreational activities and careers which was a hindrance to their livelihood negotiations. Naisiko identifies a gap in modern socialization of youth that seems to threaten initiation, passing down life skills, mentorship and role modeling from older cohorts to younger generation which would enable them to cope with adversities related to their livelihoods. Linking this with study findings from Nairobi youth, it is arguable that, socialization by the family, state and non-state actors should be done in light of emerging livelihood trends of youth as well as their perspectives.

Mwangi and Shem (2012) conceive social capital as the outcome of network of relationships between an individual and their community to enable effective existence of the individual in the society. Social networks are not limited only to the family or household level. For example in the case of youth in developing countries, youth groups provide a form of social capital which is a very important asset for them in deriving their livelihoods. Borrowing from ecological systems theory (Bronfenbrenner, 1979), such important relationships are first established within the micro and meso systems (family, peers, school, neighborhood, religious institutions)

and later to the macro-system (wider communities).

Ezeah (2012) conducted a descriptive study on livelihood strategies in Fegge, Onitsha, Nigeria and determined that social networking as a form of social capital enables youth to reciprocate benefits from one party to another and vice versa. Moreover, the sense of belonging to community social associations based on ethnicity helps urban youth acquire a form of social insurance since these associations become helpful in times of adversity and shocks. It helps to note that urban youth in a setting such as the study area, are faced with a myriad of challenges therefore they fall back on such social networks which provide a buffer of sorts. The purpose of the study was to determine whether individual attributes were predictors of youth livelihood outcomes in Nairobi, Kenya. The researchers hypothesized that there were no statistically significant relationships between individual attributes and youth livelihood outcomes.

2. Methodology

The survey was conducted in 2016 as part of a doctoral dissertation project. Data was collected from 206 randomly selected youths aged between 18 and 35 years in one Sub-County in Nairobi, Kenya. Youths from registered self-help groups were chosen to participate in the study. Informed consent was obtained and confidentiality was maintained throughout the research process, and in all subsequent reports. Information was gathered by use of self-administered questionnaires. For the purpose of establishing the dependent variable (Youth Livelihood Outcomes [YLO]), scores of responses to fifteen questions along a 5-point scale were calculated. The questions assessed the extent to which youth had experienced various aspects of their livelihoods in the last one year. Responses on the scale were coded as: “1=None at all”, “2=Little Extent”, “3=Moderate Extent”, “4=Large Extent” and “5=Very Large Extent”. The lowest and highest possible scores an individual could have achieved for the 15 questions were 15 and 75 respectively. Using this approach, respondents who attained a range of 15-25 points were categorized as belonging to survival level of YLO; those who attained 26-50 points were categorized as belonging to security level of YLO; respondents who attained 51-75 points were categorized as belonging to growth level of YLO.

3. Results

3.1 Levels of youth Livelihood Outcomes

Results indicated in Table 1 show that 105 (52%) respondents were at the survival level of youth livelihood outcomes, whereas 35 (18%) and 61 (30%) had attained security and growth levels of youth livelihood outcomes respectively.

3.2 Capitals in Form of Individual Attributes

Individual attributes in the study were investigated with respect to gender, age, marital status, education, employment status, household headship, individual financial status (savings, debts) and individual assets. The null hypothesis for Chi-square statistic posited that there was no statistically significant relationship between individual attributes of youth and YLO levels. Table 2 gives a presentation of summary statistics of the individual attributes.

3.3 Gender

It was imperative to investigate the gender representation among youth in the study. Nearly three quarters (74%) of the respondents were male, while 26% were female. This low number of female youth who participated in the study is attributed to the low number of female membership in youth groups. A Chi-square statistic was computed for a test of relationship between gender and youth livelihood outcome levels. The calculated Chi-square statistic was not statistically significant ($\chi^2_{cal} = 1.74$, $p > 0.05$). Therefore it was deduced that the distribution of respondents across levels of YLO did not differ by gender.

3.4 Age

Youth respondents included in the study were aged between 18 and 35 years. Results showed that 49% were aged below 25 years, while 31% were aged between 26 and 30 years and 19% were above 30 years. A relationship was established between age and YLO levels ($\chi^2_{cal} = 10.1$, $p < 0.05$) pointing to age having a relationship with youth livelihood outcomes.

3.5 Marital status

With regard to marital status, 65% of youth were single while 31% were married. Another 3% of the youth reported that they were cohabiting i.e. living together with another person of the opposite sex without being legally married for less than six months. Only one percent (1%) of the youth reported that they were divorced. A test of relationship between marital status and YLOs established a significant Chi-square statistic of

$\chi^2_{cal} = 20.07$, $p < 0.05$ which means youth livelihood outcomes had a statistically significant relationship with marital status.

3.6 Education

In terms of formal schooling, about half (50%) of the youth had completed secondary level of education, 37% had completed tertiary level of education, 10% had attained primary level of education and only 3% had no formal education. A Chi-Square test of relationship between education level and YLOs established that there was no statistically significant relationship between education and youth livelihood outcomes ($\chi^2_{cal} = 8.92$, $p > 0.05$).

3.7 Employment status

The findings show that 62% of youth were self-employed, 28% unemployed, 7% wage employed and only 3% were home makers (housewife). Only female respondents reported that they were homemakers. Focus group discussions revealed that some female youth were confined to house chores which kept them away from group activities and income earning activities. The youth who were wage employed included electricians, garbage collectors, sales persons and vehicle mechanics as well as money transfer agents of *Mpesa*, *Pesa Pap*, *Airtel Money*, Kenya Commercial Bank (KCB) *Mtaani*. Self-employed youth reported that they were engaged in varied livelihood strategies in the areas of: motor cycle transport business popularly known as “*bodaboda*”, selling cereals, small green grocery stores, consumer goods retailing, cosmetics and beauty shops, second-hand clothing businesses (*mitumba*), vending water and drinks. Employment status did not establish a statistically significant relationship with youth livelihood outcomes ($\chi^2_{cal} = 3.70$, $p > 0.05$).

3.8 Household headship

In this study, a youth was regarded as a household head if they were responsible for making key household decisions. A total of 132 (65%) respondents said they were heads of their households. Out of the total sample, 59% were male household heads while 6.5% were female heads of households. A significant relationship was established between household headship and YLOs ($\chi^2_{cal} = 16.57$, $p < 0.05$) alluding that household headship was a determinant of youth livelihood outcomes. It was further established that household headship differed by gender as shown in Table 3. The significant Chi-square ($\chi^2 = 51.006$; $p < 0.05$) confirms that household headship actually differed by gender.

3.9 Financial Status

The study investigated the level of individual financial status with regard to the respondents’ personal savings, debt and individual assets as a measure of economic wellbeing.

3.9.1 Personal Savings

At the time of the study (2016), the local currency equivalence to the American dollar was 100 Kenya Shilling to one (1) US Dollar. The findings indicated that 77% of respondents had accumulated savings in the range of 300 to 20,000 Kenya shillings (KSh.) at the point of the study with a mean of KSh. 5,000 while 23% of the respondents had no savings at all. Youth in survival, security and growth levels of YLO had mean savings of KSh. 2,721.67, KSh. 4,952.38 and KSh. 6,198.76, respectively. Youth in survival YLO level had overall lower mean savings of KSh 2,721.67 compared to youth in growth YLO level whose mean savings was KSh. 6,198.76. Inferential analysis using ANOVA established that differences in mean group savings among youth by YLO levels were statistically significant ($F = 2.67$, $p < 0.05$).

As shown in Table 4, these savings were held in various forms: 23% of youth had deposits in financial institutions, 22% in form of cash at home, 27% saved using mobile wallet platforms such as *M-Pesa*, *M-Shwari*, *Pesa Pap* and *Airtel Money* whose providers were Safaricom Limited, Commercial Bank of Africa (CBA), Family Bank and Airtel Limited respectively. *M-Shwari* is a joint venture of CBA and Safaricom Limited and 16% had share subscriptions in youth self-help groups. The most common financial institutions in which youth saved money were Cooperative Bank, Equity Bank, Kenya Commercial Bank (KCB), Faulu Kenya (Deposit Taking Microfinance) and Family Bank. About 12% of the respondents did not have any forms of savings. Various reasons were cited in verbatim as to why some youth did not have any savings.

“...all the money goes to meet basic needs...” (Respondent 38),

“...I am already overloaded with basic needs...” (Respondent 167),

“...sometimes expenses exceed my income...” (Respondent 89),

“...I lost my job...” (Respondent 2),

“...I haven’t started saving. I’m in a new business...” (Respondent 50)

Other respondents attributed their lack of savings to high cost of living in relation to their income while some reported that they had debts to service. Notably, the most common reason cited was lack of gainful employment.

3.9.2 Personal Debt

In the study 43% of youth respondents owed personal debts whose value ranged from KSh. 50 to KSh. 250,000 with a mean of KSh. 9,769 (Standard Deviation, 31574) while 57% did not have any debts. Youth in growth YLO level had the highest amount of debt averaging at KSh. 16,219.05 which was three times more than among youth in survival YLO level at KSh. 5,197.50. However, differences in debt incurred by youth at various YLO levels was not statistically significant ($F=1.45$, $p>0.05$).

Formal sources of loans included government initiatives (Uwezo Fund and Youth Enterprise Development Fund), banks, Micro-Finance Institutions (MFIs), Savings and Credit Societies (SACCOs) as well as registered youth groups. Informal sources included family members, friends, business associates, Rotating Savings and Credit Associations (ROSCAs) commonly known as “*chamas*” and pawns (shylocks).

3.10 Individual Assets

The study investigated the ownership of a number of assets categorized into housing, electrical, machinery and furniture. Information was sought on type, number, and monetary value of assets owned by youth (individually owned assets a variable categorized under Individual Attributes). Household owned assets was a variable categorized under Household Characteristics) and proportional distribution is shown in Table 5.

A one-way analysis of variance (ANOVA) F-statistic was generated to assess statistical differences of asset ownership among three categories: household owned (i), individually owned before joining youth group (ii) and individually owned after subscribing to a youth group membership (iii). Since the independent variable factor group (asset ownership) comprised more than two groups, F-statistic was more appropriate for the test of differences than a t-statistic.

All vehicles and “owner-occupier” houses were house-hold owned and remained so even after membership of youth in groups. Owner-occupier here refers to ownership status whereby a house belongs to the resident of that house. Individually owned youth assets that were found to have increased after joining youth groups include sewing machines (by 50%), motorbike (by 36%), refrigerator (by 28%), cookers (by 13%), television sets (by 9%), chairs (by 6%) and mobile phones (by 5%). Individually-owned youth assets that decreased after joining youth groups included: dining tables (by 26%), rental house ownership (by 19%), sofa sets (by 13%), beds (by 11%), radios (by 8%) and bicycles (by 6%).

The categorization of youth by levels of youth livelihood outcomes enabled the study to further assess mean value of assets by categories of youth livelihood outcomes as shown in Table 6. Housing types were of two types: owner occupier and rental dwellings. Respondents living in owner-occupier house were asked to approximate how much money in local currency (Kenya Shillings) would be the rental value of that house. It emerged that the rental value of a typical owner-occupier house in the study area was valued at KSh.16, 027 as compared to KSh. 4,086 which was reported by respondents living in rental houses (Table 6). The estimated mean worth of electronics was as follows: radios KSh. 4,532; television sets KSh. 9,108; mobile phones KSh. 7,410; refrigerators KSh. 23,615; sewing machines KSh. 15,000 and cookers KSh. 6,315 on average.

The mean worth of machinery was KSh. 76,000 for motor bikes, KSh. 716,666 for vehicles and KSh. 6,427 for bicycles. Among household furniture, sofa sets were valued at KSh. 11,819 while beds had a mean of KSh. 5,938 on average. Dining tables (full set) were valued at a mean of KSh 16,568 whereas youth who had chairs alone reported a value of KSh. 1,147 each on average.

Results in Table 6 showed that the average value of assets disaggregated by YLO levels generally increased in value as the status of youth livelihood outcomes increased from survival through to growth levels.

The value of rental houses increased from KSh. 2,774 for youth in survival YLO level to KSh. 4,124 among those in security level and to KSh. 4,499 for those in growth level. Only youth at growth YLO level owned “owner-occupier” houses whose mean value was KSh. 16,027. For electronics, the mean value of radios, television sets and mobile phones was notably higher for youth in survival than those in security YLO level but slightly higher among those in growth.

The notable thing on ownership of electrical assets was that only youth in survival and security YLO levels owned sewing machines. Cookers (locally made *jikos* or stoves) ranged from KSh. 300 to KSh 45,000 (four plate branded cookers). However, machinery was more concentrated among youth in security and growth YLO levels except for bicycles. Nonetheless the value of machinery was highest among respondents in growth stage. On household furniture, the average value was highest among youth in growth and lowest among those in security YLO level. Youth in survival YLO level reported a mean value of sofa sets of KSh. 7,173 as compared to KSh. 13,426 among those in growth YLO level. Furniture such as dining table sets were available only among youth in growth YLO level at a mean of KSh. 16,568. The mean total value of assets individually owned by youth as well as household owned was calculated and reported in Figure 1.

The significant F-statistics indicate that, mean values of individual and household assets differ by youth livelihood outcome levels. From the findings in Figure 1, it can be deduced that youth at growth YLO level report the highest mean value of KSh. 27,308 for individual assets and KSh. 68,093 for household assets. When it comes to individually owned assets, youth in survival YLO level had higher mean value (KSh. 20,464) than security YLO level (KSh. 19,331). Conversely, on household owned assets, youth at security YLO level had higher mean value of assets (KSh. 30,274) than survival YLO level (KSh. 19, 765).

Indeed, household assets increased in value as youth moved upwards from survival to growth YLO levels. An assessment of mean differences between individual and household assets established that youth in growth and security livelihood outcome levels had more household owned assets than individual assets (a mean difference of KSh. 40,785 and KSh. 10,942 respectively). On the contrary, youth in survival livelihood outcome level had more individual than household owned assets (a mean difference of KSh. 699).

3.11 Predictors of Youth Livelihood Outcomes

The null hypothesis posited that there was no statistically significant relationship between individual attributes of youth and youth livelihood outcome levels. To test this hypothesis, ordered logistic regression was estimated whose coefficient of determination (pseudo R^2) and measure of joint significance of predictors (LR χ^2 statistic) were used. Ordered logistic regression is a discreet regression model for ordinal discreet outcome dependent variable (Wooldrige, 1999; Gujarati, 2004). Individual attributes of youth were used to predict respondent's relative probability of belonging to survival, security or growth youth livelihood outcome using survival as the base outcome for comparison. A significant LR $\chi^2=44.47$ (d.f. =14; $\rho=0.000$) was attained. Given the low p-value, then at least one of the regression coefficients in the model was not equal to zero. The model converged at the 6th iteration with a log likelihood of -32.803 as shown in Table 7.

A pseudo R-squared of 0.404 was realized which indicated that the model with respondents' individual attributes predictor variables improved the prediction power of YLOs by approximately 40%. Specific effects of independent variables on YLOs are explained as follows. An extra year on the age of youth makes them 11 times more likely to move one level higher to security or growth livelihood outcome assuming other predictors are held constant. *Ceteris paribus*, female youth have 3% (0.97-1)*100 less odds of climbing to security or growth relative to survival YLO levels. Compared to youth who are single, married respondents have a 76% (0.24-1)*100 less chance of attaining security or growth levels relative to survival YLO level; youth who cohabit have a 97% less relative chance of attaining better youth livelihood outcomes; youth whose marital status is divorced have six times higher odds of achieving security or growth relative to survival livelihood outcome. Education level did not contribute to significant changes in youth livelihood outcome levels, other factors held constant.

Compared to the salaried workers/employees, youth who were self-employed and unemployed had 44% and 30% less chance of attaining security/growth levels of YLO, whereas home makers had 81% higher relative chance of attaining security/growth YLO. Given that ordinal logistic regression applied likelihood ratio analysis and that employment status is a dummy of four, it is worth noting that lack of significance as is the case here connotes that YLOs do not differ by employment status. Household heads were 27 times more likely to be in security or growth level relative to survival level, *ceteris paribus*. The net effect of other variables, savings and assets positioned youth at equal relative odds of attaining any of the three YLO levels.

Finally, 'cut1' and 'cut2' are auxiliary parameters of a latent (underlying) variable calculated by the software and used to denote cutoff points to demarcate YLO levels. Thus respondents who attained less than a value of 0.64 on the underlying latent variable were categorized as belonging to survival level while those with 4.47 or higher were categorized as belonging to growth when the effect of all other predictors was assumed to be zero. Respondents predicted to be in between the two cut off points (cut1 and cut2) belonged to security level of livelihood outcome. The corresponding regression equation for individual attributes is as follows:

$$YLO \begin{pmatrix} Growth \\ Security \\ Survival \end{pmatrix} = \begin{pmatrix} 4.47 \\ 0.64 - 4.47 \\ 0.64 \end{pmatrix} + 11.32 \text{ Age} + 0.024 \text{ Married} + 27.81 \text{ HHH} + 1.00012 \text{ Ind_Savings} + 1.000046 \text{ Ind_Assets}$$

Whereby: *Ind_Savings* is individual savings, *HHH* is household headship and *Ind_Assets* is individual assets.

The null hypothesis that posited there was no statistically significant relationship between individual attributes and youth livelihood outcomes could not be sustained. It was rejected since the coefficients were observed to be jointly different from zero (or $\beta_i \neq 0$). This implied that as compared to the constrained intercept-only model, the expanded model with all predictors achieved better estimation power for youth livelihood outcome levels. The model converges at the 6th iteration with a log likelihood of -32.803. A pseudo R-squared of 0.404 is realized which indicated that the model with respondents' individual attributes variables improves the prediction power of YLOs by approximately 40%. Therefore, there existed a statistically significant relationship between individual attributes particularly age, marital status, household headship, individual assets and youth livelihood outcome levels.

4. Discussion

4.1 Individual Attributes and Livelihood Outcomes

Individual attributes of youth in the study referred to respondents' gender, age, marital status, education, employment status, household headship, individual assets, savings and debts. The study established that age, marital status, household headship, individual savings and assets were significant predictors of youth livelihood outcomes.

4.2 Age

The respondents included in the study were aged between 18 and 35 years and nearly half (49%) were below 25 years. Livelihood interventions by the Kenyan Government restrict the definition of youth to the cohort between 18 and 35 years (Republic of Kenya, 2010a; GoK, 2010). A relationship between age and youth livelihood outcomes pointed to age being an important predictor of youth livelihood outcomes. The study observed that youth below twenty five years were more likely to be in survival and security YLO levels whereas the greater percentage of youth above thirty years were more likely to be at growth level. Notably youth in Kenya finish the formal 8-4-4 system of education by the age of 20 years. Between 20 and 30 years youth are trying to identify stable livelihood strategies for self-reliance. Compared to younger respondents, youth above 30 years tended to have diversified livelihood strategies and had better coping mechanisms which explained why their livelihood outcomes were better off compared to their younger counterparts. Older youth also had stronger social networks which enabled them to make better investment decisions, saving behavior or to take more calculated risks.

These study findings are corroborated by Ajufo (2013) on her study on challenges of youth unemployment in Nigeria, where she reported that younger youth faced barriers in terms of limitations of resources, life and work experiences compared to other older age cohorts. In addition findings from the Kenya National Population and Housing Census indicated that youth below 25 years lack certification, work experience, social networks and financial resources required for gainful employment. The outcome is that most youth remain unemployed, underemployed or in working poverty (Kenya National Bureau of Statistics [KNBS] and ICF Macro, 2010).

4.3 Education

Education did not have a significant influence on youth livelihood outcomes. This meant that in the study, the education level did not influence whether a youth could belong to survival, security or growth YLO levels. This finding differs with a study by Adams, Witt, Franzen, Maseko, Lorenzo (2014) who attributed youth difficulties in sustaining their livelihoods to lower levels of education or limited skills development. Rakodi (2002) noted that education and skills development improves the quality of labor. In addition, education is viewed as an important proxy for human capital accumulation and is a requisite for asset accumulation (Mago and Mago, 2013). Kondo, Orbeta, Dingcong, Infantado (2008) acknowledge that education is an important predictor for productivity and capacity. On the contrary, the study revealed that livelihood outcomes of youth with university/college level of education were statistically not different from those who had attained lower levels of education such as primary and secondary education levels across the youth livelihood outcome levels. Generally, the labor force in Kenya prefers formal sector employment (white collar jobs) which has limited opportunities for youth. Youth get to settle for informal sector employment (Omolo, 2010), mainly due to their lack of requisite knowledge and skills for formal employment.

4.4 Household Headship and Marital Status

From the findings, sixty five percent of the youth respondents interviewed said they were heads of their households. The proportion of male household heads (59%) was observed to be nearly ten times that of female household heads (7%). Household headship differed by gender as established by the KNBS and ICF Macro (2010) whereas at the national level, male headed households were found to be double that of female headed households, who were characterized as being poor compared to those headed by males. Household headship had an association with YLO levels. Household heads were more in proportion among youth at security and growth YLO levels than at survival levels. Conversely a higher proportion of youth at survival YLO level were non-heads of households compared to youth at other YLO levels. The study argues that being a household head increases ones responsibilities and prompts the head to strive harder to attain higher levels of youth livelihood outcomes.

Youth livelihood outcomes differed by marital status ($\chi^2=20.07, p<0.05$). Nearly two thirds (65%) of the study respondents were single. Notably four fifths (80%) of youth who were single had achieved growth level with just over half (56%) of youth in survival level. On the contrary, two fifths (40%) of married youth were at survival level compared to only 18% of the same category of youth at growth youth livelihood outcome level. Married youth were less likely to attain higher levels of youth livelihood outcome relative to youth who were

single. This can be attributed to more responsibilities as a result of the increased needs of their expanded households.

4.5 Savings and Investment

Three quarters of respondents were found to have personal savings of various forms. Further analysis revealed that youth in growth level saved more than youth in lower YLO levels (security and survival). In particular the mean savings of a youth at survival levels was KSh. 2,721.67 compared to a youth at growth level with a mean of KSh. 6,198.76. The differences in savings among the youth by youth livelihood outcome levels were statistically significant.

The forms of their savings varied from deposits in financial institutions to cash at home, investments, mobile money and share subscriptions in youth groups. The leading category of savings was deposits with formal financial institutions. This trend can be attributed to availability of information on youth friendly products among banks whose requirements were also minimal (photocopy of national identification) for opening an account. Moreover, youth cited that they felt a higher sense of security and responsibility when they saved as individuals rather than as groups in their youth self-help groups. Youth (22%) were also found to save cash at home which is in agreement with the findings of Lindley (2007) and Pavanello, Elhawary and Pantuliano (2010) who reported that youth save money in form of cash at home.

Saving cash at home is a risky form of saving as money is exposed to disasters such as fires, theft and burglary. Further probing revealed that youth who saved in cash lacked information on what other forms of savings were available to them other than group savings as was reported by respondents. For some of the youth, the most readily available and safest option was keeping money under their mattresses. Others derived personal fulfillment from home-made piggy banks.

Findings also indicated that a fifth of the youth were re-investing their savings in informal enterprises reported as self-employment. This is an important indicator that entrepreneurial youth were able to grow their small and micro enterprises (SMEs) by ploughing back their earnings into their businesses and in turn diversifying or intensifying their livelihood strategies. Such a profile did aptly match respondents who had attained the growth level of youth livelihood outcomes.

The study focused on youth in groups popularly known as *chamas* where it was interesting to note that more than 10% of youth held share subscription in the groups as their form of savings. Typically this was in the form of a revolving fund - Rotating Savings and Credit Associations (ROSCAs) - whereby members pool an agreed amount with an aim to give the lumpsum to individuals in an ordered rotational basis. According to Gugerty (2007) ROSCAs in developing countries are among the prevalent informal financial institutions among the poor with high member participation. Past studies have shown that families and individuals who are members of ROSCAs are able to have savings, engage in micro-business development, take care of their familial needs and access soft loans from the associations (Biggart (n.d), Ssewamala, Sperber, Zimmerman and Karimli (2010) and Okirigiti (2015). For this category of youth, FGDs indicated ROSCAs had worked successfully mainly because there was no interest charged and it was convenient. Conversely the limitations of the ROSCAs included loan default, low minimum loan portfolios, lack of awareness by the youth on the impact of ROSCAs in contributing to youth livelihoods.

It was also noted that 27% of respondents who cited "other" as forms of savings included mobile money specifically Airtel Money, M-Pesa and M-Shwari. M-Pesa and M-Shwari were avenues for mobile money transfer, loans and savings offered by Safaricom Limited and Commercial Bank of Africa while Airtel Money is provided by Airtel Limited. This mode of savings was mainly preferred on the basis of convenience, ease of use, confidentiality, security and minimal collateral for one to access loans. These findings concurred with other research findings by Kimenyi & Ndung'u, (2009); Rotberg & Aker, (2013) and Buku & Meredith, (2013) which assert that mobile money saving avenues such as M-Shwari encouraged youth to save more so as to qualify for higher loan limits.

4.6 Individual Assets

Analysis revealed that mean values of individual assets differed by youth livelihood outcome levels. In particular, respondents at growth level of youth livelihood outcomes reported the highest mean value of individual assets compared to other YLO levels. In this study, assets ranged from housing to electronics, furniture vehicles and machinery. Overall, most assets were individually owned but it was established that houses and vehicles were entirely household-owned.

It was established through qualitative data from focus group discussions and key informant interviews that some of the respondents owned productive assets such as sewing machines, motorbikes, mobile phones and refrigerators as tools of trade to help them earn better incomes through their small and micro enterprises. Moreover, other youth were able to accumulate assets as a result of growth of their incomes. Some of them sold individually owned assets to get money for basic needs as a means of coping with unemployment and

underemployment. Other youth reported to have sold these assets to repay debts or raise capital for their SMEs. Molefe (2013) also established similar coping mechanisms for youth in Botswana. Rakodi (2002) found that urban areas are a lot more monetized than rural areas thus urban dwellers have more reliance on capital assets from employment and income earning ventures. Chambers (1989) found that low income households through utilization of tangible assets such as physical resources, skills and investments were better able to counter situations of risk, insecurity and vulnerability.

However, the findings from the study area differ with those of Molefe (2013) and Chambers (1989) since youth resulted to selling assets as a way of coping with unemployment challenges and as a result ended up being more vulnerable economically. Ownership of durable goods (capital assets) is a good indicator of socio-economic status (KNBS, 2010) which can provide collateral for youth when seeking formal loans. Besides, it is a platform for safety nets which enables intensification and diversification of livelihood strategies thereby elevating the livelihood outcomes of the youth.

5. Conclusions and Implications

The key factors that emerged as predictors of youth livelihood outcomes were: age, marital status, household headship, savings and individual assets. The level of education, employment status and individual liabilities were not significant predictors. The results indicated a need for promoting sustainable youth livelihood outcomes by providing relevant and market driven education and training of youth in order to enhance their livelihood outcomes. The state and non-state actors should conduct needs assessments of target beneficiaries before formulating youth intervention programs. The public, private and non-profit organizations should engage with the youth in reviewing and implementing youth-friendly policies and livelihood strategies that would promote sustainable youth livelihood outcomes.

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Appendices

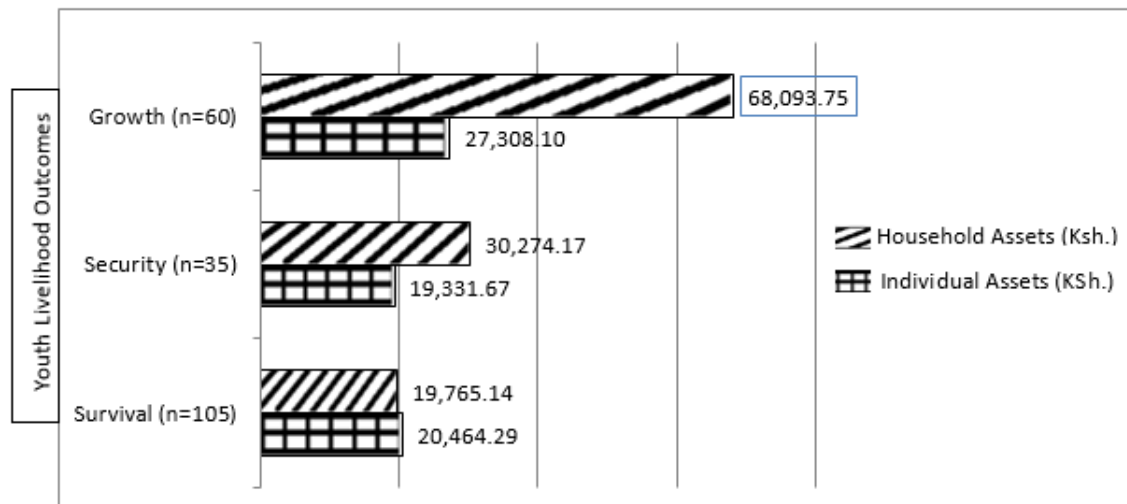


Figure 1: Mean Value of Individual and Household Assets

Notes to Figure 1:

Mean difference test for individual assets: $F(2) = 29.43, p < 0.05$

Mean difference test for household assets: $F(2) = 9.08, p < 0.05$

Table 1: Levels of Youth Livelihood Outcomes

YLO Levels	N	%
Survival	105	52
Security	35	18
Growth	61	30
Total	201	100

Table 2: Individual Attributes by Levels of Youth Livelihood Outcomes

Attribute	Total	Youth Livelihood Outcomes			Chi-square statistic
		Survival	Security	Growth	
Gender					
Female	53 (26%)	26 (25%)	7 (20%)	19 (32%)	1.74
Male	148 (74%)	79 (75%)	28 (80%)	41 (68%)	
Age					
25 years and below	99 (49%)	21 (54%)	42 (68%)	42 (42%)	10.1*
26-30 years	63 (31%)	9 (23%)	5 (8%)	22 (22%)	
>30 years	39 (19%)	9 (23%)	15 (24%)	36 (36%)	
Marital status					
Single	131 (65%)	59 (56%)	24 (68%)	48 (80%)	20.07**
Married	61 (31%)	42 (40%)	8 (23%)	11 (18%)	
Cohabiting (< 6 mths)	7 (3%)	4 (4%)	1 (3%)	1 (2%)	
Divorced	2 (1%)	0 (0%)	2 (6%)	0 (0%)	
Education					
None	7 (3%)	3 (3%)	3 (9%)	1 (2%)	8.92
Primary	19 (10%)	11 (11%)	5 (14%)	3 (5%)	
Secondary	101 (50%)	53 (51%)	14 (40%)	33 (55%)	
Tertiary	74 (37%)	38 (36%)	13 (37%)	23 (38%)	
Employment Status					
Wage employee	14 (7%)	5 (5%)	3 (9%)	6 (10%)	3.70
Self employed	124 (62%)	63 (59%)	24 (69%)	37 (62%)	
Home maker	7 (3%)	4 (4%)	1 (3%)	2 (3%)	
Unemployed	56 (28%)	34 (32%)	7 (20%)	15 (25%)	
Household headship					
Head	132 (66%)	43 (57%)	37 (76%)	52 (67%)	16.57**
Non-head	69 (34%)	32 (43%)	12 (24%)	25 (33%)	
Savings (mean)	5,168.099	2,721.67	4,952.38	6,198.76	2.67** τ
Debt (mean)	9,769.277	5,197.5	8,721.429	16,219.05	1.45 τ

Notes: n=201, * Statistic significant at 5% ($p <= 0.05$); ** Statistic significant at 1% ($p <= 0.01$); τ - F statistic

Table 3: Cross-Tabulation of Household Headship by Gender

		Gender	
		Female	Male
Household headship	Head	13 (6.5%)	118 (59.0%)
	Non-head	39 (19.5%)	30 (15.0%)

Note: Pearson $\chi^2 = 51.006$ (1 d.f.), $p = 0.000$; The above percentages are derived from total sample size.

Table 4: Form of Savings accrued by Respondents

Form of savings	Rank of Responses		Cumulative % of Cases ²
	N	%	
Deposits in financial institution	75	23%	37%
Cash at home	71	22%	35%
Mobile money	87	27%	43%
No savings	39	12%	19%
Shares subscription in youth group	51	16%	25%
Total	323	100%	160%

Table 5: Assets by Ownership Type (Individual and Household)

Item	Household Owned	Individually owned		ANOVA F-Statistic
		Before joining youth group	After joining youth group	
Type of Housing				
Own (n=7)	7 (100%)	0	0	4.41**
Rental (n=189)	92 (49%)	66 (35%)	31 (16%)	
Electrical/Electronics				
Radio (n=156)	65 (42%)	51 (33%)	38 (25%)	1.35
Television set (n=156)	70 (45%)	36 (23%)	50 (32%)	0.45
Mobile phone (n=179)	63 (35%)	53 (30%)	63 (35%)	10.11**
Refrigerator (n=25)	16 (64%)	1(4%)	8 (32%)	2.26*
Sewing machine (n=16)	0	4 (25%)	12 (75%)	0.00
Cooker(n=62)	38 (61%)	8 (13%)	16 (26%)	0.32
Machinery				
Motorbike (n=25)	6 (24%)	5(20%)	14 (56%)	0.07
Vehicle (n=6)	6 (100%)	0	0	-
Bicycle (n=33)	9 (27%)	13 (39%)	11 (33%)	1.08
Car wash equipment (n=46) [§]	9 (27%)	17 (39%)	11 (33%)	1.34
Furniture				
Sofa set (n=116)	59 (51%)	36 (31%)	21 (18%)	1.96
Beds (n=186)	87 (47%)	60 (32%)	39 (21%)	9.39**
Dining table (n=58)	21 (36%)	26 (45%)	11 (19%)	1.67
Chairs (n=100)	46 (46%)	24 (24%)	30 (30%)	0.32

Notes:

*§ - indicates that the asset is owned by individuals in youth groups
 F-statistic of generated based on mean value of assets*

***and *indicate significance differences at 0.01 (1%) and 0.05 (5%) levels of testing respectively*

Table 6: Mean Value of Assets by Youth Livelihood Outcome Levels

Asset	Overall Mean Value (KSh.)	Mean Value (KSh.) specific to YLOs			ANOVA F Statistic
		Survival	Security	Growth	
Houses					
Own (n=7)	16,027 (S.D. 8906)	0	0	16,027 (8906)	15.61**
Rental (n=189)	4,086 (S.D. 3173)	2,774 (1358)	4,124 (3501)	4,499 (3050)	
Electrical/Electronics					
Radio (n=156)	4,532 (S.D. 5886)	4,079 (3430)	3,864 (3229)	5,052 (7434)	9.19**
Television set (n=156)	9,108 (S.D. 9082)	8,720 (5268)	6,908 (3953)	10,033 (11416)	5.65**
Mobile phone (n=179)	7,410 (S.D. 10021)	6,041 (6117)	5,050 (4115)	9,039 (12734)	7.72**
Refrigerator (n=25)	23,615 (S.D. 14516)	15,000 (6531)	16,500 (16500)	28,000 (15411)	1.19
Sewing machine (n=16)	15,000 (S.D. 4243)	15,000 (7035)	16,775 (5196)	0	0.40
Cooker(n=62)	6,315 (S.D. 6344)	4,716 (3430)	4,776 (2318)	8,091 (8548)	3.44*
Machinery					
Motorbike (n=25)	76,000 (S.D. 37148)	0	60,000 (11547)	87,000 (27182)	38.40**
Vehicle (n=6)	716,666 (S.D. 640052)	0	300,000 (0)	800,000(678233)	1.56
Bicycle (n=33)	6,427 (S.D. 4393)	6,531 (4870)	6,055 (4275)	6,700 (3271)	15.56**
Household Furniture					
Sofa set (n=116)	11,819 (S.D. 9704)	7,173 (5295)	11,312 (5475)	13,426 (11732)	4.42*
Beds (n=186)	5,938 (S.D. 7801)	4,414 (6856)	5,331 (6053)	8,069 (3571)	7.62*
Dining table (n=58)	16,568 (9136)	0	0	16,568 (9136)	4.19*
Chairs (n=100)	1,147 (S.D. 2877)	598 (561)	744 (958)	2,100 (1922)	0.32

Notes: This is a mean value of asset ownership. Analysis of variance (ANOVA) F-statistic here is generated to assess mean differences of assets by youth livelihood outcome levels. Statistically significant differences in asset ownership among the three YLO are confirmed by a significant F-statistic

* Statistically significant at 5% ($p \leq 0.05$); ** Statistically significant at 1% ($p \leq 0.01$)

Table 7: Ordinal Logistic Regression of YLO against Individual Attributes

Predictor	Estimated Coefficient		Z Statistic
	Odds Ratio (β)	Significance ($p > Z$)	
Age	11.32968*	0.035	1.81
Gender	0.979416	0.872	-0.16
Marital status (base: <i>Single</i>)			
<i>Married</i>	0.236501*	0.046	-1.84
<i>Cohabiting</i>	0.033853	0.185	-1.32
<i>Divorced</i>	6.020947	0.315	1
Education (base: <i>None</i>)			
<i>Primary</i>	0.1408057	0.874	0.16
<i>Secondary</i>	0.5325719	0.478	0.71
<i>Tertiary</i>	0.4534681	0.550	0.60
Employment status (base: <i>Wage employee</i>)			
<i>Self employed</i>	0.563236	0.816	-0.23
<i>Home maker</i>	1.817081	0.886	0.14
<i>Unemployed</i>	0.709401	0.904	-0.12
Household headship	27.80565**	0.009	2.62
Individual savings	1.000128*	0.027	1.92
Individual debts	1.000004	0.794	0.26
Individual assets	1.000046**	0.010	2.53
<i>Pseudo R-Squared</i>	0.4040		
<i>Log likelihood (Iteration 6)</i>	-32.803225		
<i>Root MSE</i>	131.43		
<i>LR chi2(14)</i>	44.47**	0.000	
<i>Obs (n)</i>	58		
<i>/cut1</i>	0.645757		
<i>/cut2</i>	4.470767		

Notes:

LR means Likelihood Ratio

*and **indicates that parameter attained significance at 5% and 1% test levels ($p < 0.05$ and $p < 0.01$)
 Diagnostic test of proportions (H_0 : YLOs are independent of one another): Brants $\chi^2_{(d.f. 8)} = 101.51, p > 0.05$