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UNMARRIED ADOLESCENT MOTHERS' LIVELIHOOD STRATEGIES AND THEIR WELL-BEING: A COMPARATIVE STUDY OF RURAL AND URBAN KATAVI, TANZANIA

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EXTENDED ABSTRACT

The study on which this thesis is based investigated livelihood strategies carried out by unmarried adolescent mothers (UAMs) of Rural and Urban Katavi, Tanzania, with regard to their well-being. Specifically, the study (a) examined and compared factors associated with adolescent pregnancy and pre-marital childbearing, (b) identified various livelihood typologies carried out by UAMs, (c) compared well-being levels of UAMs in terms of incomes and assets possessions, (d) identified various sources and types of social support available to UAMs, and (e) determined food security and nutritional status of UAMs. The study was conducted in Mpanda Municipal Council and Tanganyika District Council which represented Urban and Rural Katavi respectively. The design for the study was cross-sectional, and a mixed methods research approach was adopted. Systematic random sampling technique was used in which 12 wards out of 31 were selected from both Mpanda Municipality and Tanganyika District. In Mpanda Municipality, 7 wards were selected from a total of 15 wards, and thereafter 19 streets were randomly selected for the study. In Tanganyika District, 5 wards were selected from a total of 16 wards, and thereafter 20 villages were randomly selected for the study. Convenience sampling technique was used to identify and select particular hidden populations of UAMs due to lack of sampling frame. A total of 240 unmarried adolescent mothers participated in the study, 120 from Mpanda Municipality and another 120 from Tanganyika District. Qualitative data were collected through in-depth interviews, focus group discussions (FGDs), key informant interviews (KIIs) and life histories. Quantitative data were collected through household survey. In addition, secondary data were gathered from demographic and health surveys as well as other relevant national reports. Descriptive statistical analysis, Household Food Insecurity Access Scale (HFIAS), Dietary Diversity Score (DDS), chi-square, independent samples T test, binary and ordinal logistic

regression and ordinal logistic regression were used to analyse quantitative data by using IBM SPSS while for qualitative data, content analysis was used for analysis.

The findings showed that there were at least six key factors associated with teenage pregnancies and premarital childbearing in the study area. These included household poverty, long periods of parents' absence from home, peer pressure, separation of families, poor parent-child communication, neglect of education and vibrant business and employment environment. The findings also showed that six categories of livelihood strategies were carried out by UAMs in the study area, and Chi-Square Test showed a significant relationship ($p < 0.001$) between livelihood strategies and locality, trading emerging as the dominant livelihood strategy in both localities. Binary logistic regression results showed that eight predictors were significantly associated with UAMs' households' food security/insecurity whereas the remaining five predictors were not. UAMs' household size and borrowing food from neighbours and friends were the strongest ($p < 0.05$) predictors of the model. In addition, across all the food security indicators used in the study, the discrepancy between rural and urban UAMs food security status remained apparent, with urban UAMs faring better than their rural counterparts. The findings further showed that UAMs of urban Katavi had higher well-being levels compared to their rural counterparts in terms of incomes, assets as well as in some domains of social support. Descriptive statistics revealed that UAMs in high the well-being category were more found in Urban compared to Rural Katavi. Results from an independent samples t-test showed that UAMs of Urban Katavi had significantly higher ($p = 0.000$) well-being (in terms of annual earning and total asset value) compared to those of Rural Katavi. The results from ordinal logistic regression revealed that UAM's residential location, UAM's number of livelihood strategies and income generating activities of UAM's mother were related to well-being levels of UAMs. In terms of social support findings also showed that UAMs of Urban Katavi received more support compared to their rural counterparts. The

study recommends the need for empowering UAMs in both rural and urban contexts on entrepreneurship and apprenticeship so as to enable them to employ themselves in sustainable livelihoods. This can be done by various stakeholders interested with women's welfare. There is also a need for sensitization among adolescents on the socio-economic consequences of early motherhood so as to avoid adolescent pregnancies.

DECLARATION

I, Noel Bethuel Matemba, do hereby declare to the Senate of Sokoine University of Agriculture that this thesis is my own original work done within the period of registration and that it has neither been submitted nor concurrently being submitted in any other institution.

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DEDICATION

I dedicate the work to my late father, Bethuel, "*I have managed to fulfil the debt you owe me, pursuing a PhD. May your soul rest in peace, Dad*". I also dedicate it to my mother, Judy, "*Mamma, I made it*". Lastly, I dedicate the work to all the unwed adolescent mothers struggling to provide for their children with limited support.

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LIST OF ABBREVIATIONS

ABR	Adolescent Birth Rate
AGI	Allan Guttmacher Institute
BAZ	BMI-for-age Z-scores
BMI	Body Mass Index
CBO	Community Based Organization
DD	Dietary Diversity
DDS	Dietary Diversity Score
DEC	Dietary Energy Consumption
DFID	Department for International Development
DHS MIS	Demographic Health Survey and Malaria Indicator Survey
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FGDs	Focus Group Discussions
HDDS	Household Dietary Diversity Score
HFIAS	Household Food Insecurity Access Scale
IFPRI	International Food Policy Research Institute
KIIs	Key Informants Interviews
LAC	Latin America and the Caribbean
Ln	Natural Logarithm
LS	Livelihood Strategy
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MUAC	Mid Upper Arm Circumference
NGOs	Non-Governmental Organizations
PIPs	Policies, Institutions and Processes

SCAA	Schuyler Centre for Analysis and Advocacy
SDGs	Sustainable Development Goals
SLF	Sustainable Livelihoods Framework
SPSS	Statistical Packages for Social Scientists
SSA	Sub-Saharan Africa
SUA	Sokoine University of Agriculture
TANF	Temporary Assistance to Needy Families
TDV	Tanzania Development Vision
TZS	Tanzanian Shillings
UAM	Unmarried Adolescent Mother
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
URT	United Republic of Tanzania
USA	United States of America
WHO	World Health Organization
WIC	Women, Infants and Children

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Adolescent motherhood remains a major global challenge that affects both developed and developing countries (Treffer, 2003) and, therefore, there is a long debate over the economy of bearing children during adolescence (Kiernan, 1980). Adolescent pregnancy implies pregnancy in girls aged 10 to 19 years (WHO, 2004); thus, adolescent motherhood refers to a situation in which a girl in her adolescence becomes a mother as a result of getting pregnant and accepts to parent her child (Brady *et al*., 2012). Incidents of adolescent pregnancy occur in all societies, but their magnitude and consequences differ considerably across countries and regions (WHO, 2007; Habitu *et al*., 2018). Statistics indicate that an estimated 11% of births worldwide are to adolescents aged 15-19 years, and at the same time, more than 90% of these births occur in low and middle-income countries (WHO, 2011; UNFPA, 2015). Worldwide, approximately sixteen million girls between the ages of 15 and 19, and two million girls under age 15, become pregnant every year (UNFPA, 2013). According to UNFPA (2013), about 19% of young women in developing countries become pregnant before the age of 18 years. In addition, girls under 15 account for two million of the 7.3 million births that occur to adolescent girls under 18 years every year in developing countries.

Sub-Saharan Africa (SSA) has the highest adolescent fertility rate globally (WHO, 2007; UNFPA, 2015; Yakubu and Salisu, 2018) as well as the highest numbers of adolescent mothers (UNFPA, 2013). Although adolescent birth rates have declined in all regions since 1990, they are still high in Africa with 101 recorded births per 1000 women aged 15-19 in 2008, followed by South Asia with 77 births per 1000 and in Latin America and the

Caribbean with 73 births per 1000 (United Nations, 2013). Over the past two decades or so, the fertility rate in most countries of SSA has either gone up or at best remained unchanged, and the rate is more than twice the rates found in other developing regions such as Northern Africa, South America and South and West Asia (Sharif, 2000). In SSA for instance, births to girls under age 15 are projected to nearly double by the year 2030. Thus, by 2030, the number of mothers under age 15 in the region is expected to equal those in South Asia (UNFPA, 2013). Likewise, Loaiza and Liang (2013) safely projected that a huge increase in pregnancy among adolescent girls less than 18 years over the next 20 years is also likely to happen in the region. According to Loaiza and Liang (2013), in Eastern and southern Africa, the number of adolescent girls getting pregnant could increase by 57%, from 4.7 million (0.9 million per year) to 7.4 million per year (1.5 million per year). In the SSA region, women bear children at a very young age, and empirical studies have reported sexual activity in some countries of the region starting even before menarche (Sharif, 2000). For instance, one-fifth of women with seven or more years of education in Kenya, Malawi, Tanzania and Zimbabwe have their first child before age 18, while almost one-half of those with fewer than seven years of schooling do so (Sharif, 2000). In Tanzania, factors associated with adolescent pregnancy include transactional sex, young girls' lack of power to negotiate for safe sex, limited sexual and reproductive health education in schools and lack of access to adolescent-friendly services (UNICEF, 2010).

Despite the fact that most incidents of the childbearing among adolescents is within marriage or other formal unions, nevertheless a substantial proportion is not, and the number varies greatly across societies (AGI, 1998). In most developed countries as well as in Latin America, the Caribbean and some parts of SSA, the majority of pregnancies in adolescents occur outside marriage and are often unplanned (WHO, 2011). According to

Lamanna and Riedmann (2003) cited in Ntoimo (2011), premarital adolescent motherhood may occur due to the fact that, after giving birth as single mothers, chances of unmarried adolescent mothers (UAMs) getting married are low since men who have not married previously usually do not want to take care of children belonging to other men. Likewise, Ntoimo (2011) further discloses that if the man responsible for pregnancy is himself an adolescent, he is likely to deny marriage and responsibility because he is probably still in school, apprenticeship or economically dependent on parents. However, in some communities that is not always the case, for instance, Nyagetia (2015) has reported that in some Kenyan communities, premarital fertility among adolescent girls is perceived as a symbol of fertility. Under such circumstances, some adolescent mothers today are not married even after having children (CBO, 1990), and it is very unfortunate that data about teenage pregnancies or births outside of marriage are hard to find (UNFPA, 2013). The operational definition of premarital adolescent childbearing as applied by the current study is having a first birth among adolescent girls before the age 19 and prior to marriage or any other formal union. Therefore, the study operationalized the concept of an unmarried adolescent mother as a young woman of 19 years or less who became pregnant, gave birth and chose to raise the child prior to getting married. Regions of the world where incidents of premarital adolescent childbearing are commonly reported include Latin America and the Caribbean (LAC), SSA and few developed countries, while in Asia, North Africa and the Middle East, such incidents are fewer (Singh, 1998). However, pre-marital adolescent childbearing also happens in the developed world. For example, in the United States of America (USA), pre-marital adolescent childbearing has been increasing steadily for most of the last 30 years, reflecting a larger societal trend towards single parenthood (Klein, 2005).

Worldwide, births to UAMs are far more likely to be unplanned and unintended (AGI 1998; Singh 1998; Magadi *et al*., 2007) and the same applies to SSA region (Singh, 1998; Shah and Ahman, 2012). Singh (1998) strongly argues that, as a result of such unplanned and unintended births, most UAMs are therefore in precarious economic positions. Furthermore, the unplanned births increase UAMs' chances of poor outcomes both in short and long terms (Singh, 1998). Buvinic *et al.* (1992) argue that poverty breeds poverty, and among the mechanisms of transmitting it from one generation to another is through adolescent pregnancy and childbearing.

According to Nyagetia (2015), in rural Kenya, most adolescent mothers remain unmarried when their children are born and lack economic support from their spouses, hence limited resources to cater for their children. It is also argued that UAMs are generally considered to be at even greater risk than their married counterparts and the situation is more critical in communities with traditional values that strongly censure sexual relationships, pregnancy, and childbearing outside wedlock (Singh, 1998). In fact, the emotional and particularly financial strains of motherhood are great for an adolescent who gives birth out of marriage as she must be able to cope with the stress of raising a child without spouse and/or family support (AGI, 1998). In a nutshell, Buvinic (1998) and Nyagetia (2015) are both concerned that adolescent childbearing, especially when out of the wedlock, results in adverse consequences for the mothers and their children and also contributes to transfer of poverty from one generation to another hence a spiral of poverty. Notably, availability of sufficient income to cater for themselves and their babies is among the key concerns of UAMs. However, in certain contexts and if privileged, an UAM may get such support from her family of origin. The preceding arguments are supported by Bantebya *et al*. (2014), who argue that, if an adolescent mother is unmarried and co-resides with her family, the economic burden of care may fall on her parents. However, in this thesis it is

argued that co-residing with parents may not necessarily assure smooth provision of support to an UAM and her child.

Adolescent motherhood therefore affects adolescent mothers socially and economically (Campbell, 1998). Due to having low educational status, UAMs are often found to be least ambitious about careers and thus positioned in low-paying manual, semi or non-skilled jobs which are characterized by low wages (Kiernan, 1980; Hotz *et al*., 2005; Hoffmarn and Maynard, 2008; Nyagetia, 2015). Due to having low education together with limited job skills, they are also less likely than older mothers to build-up work experience and obtain well-paying jobs therefore they end up being positioned as less competitive in the labour market (CBO, 1990; Moore *et al*., 1993; Sawhill, 2000; Perper *et al*., 2010). In turn, adolescent motherhood demotes adolescent mothers' wage and earnings trajectory (Paniagua and Walker, 2012). In light of that, Petchetsky (1984) argues that adolescent motherhood usually ends both the mother's education as well as her chances of ever-getting a good job. Due to that fact, as Berglas *et al*. (2003) argue, adolescent mothers therefore have different patterns of labour force participation and they are less likely to be employed.

This study operationalized incomes to encompass salaries, wages and incomes from UAMs' various forms of employment. The study further operationalized livelihood strategies (LS) as the combination of different livelihood activities that UAMs engaged in, including those which earned UAMs cash as well as in kind. However, it appears that LS carried out by UAMs have been under researched and consequently inadequately documented. They are rather mentioned occasionally in a few studies focusing on other aspects of adolescent motherhood (Ntoimo, 2011; Melvin and Uzoma, 2012; Asomani, 2017; Ziblim *et al*., 2018). Consequently, less is reported in literature with regard to

livelihood strategies of UAMs and specifically on how they earn their living and their well-being in general. Meanwhile, literature provides mixed stories that urbanites need higher incomes to survive unlike their rural counterparts who may rely more heavily on subsistence agriculture or payment in kind and who are more likely to have access to free or common property resources (Satterthwaite, 1997). The urbanites must therefore survive through taking a variety of income-generating activities, mostly in the informal sector (Farrington *et al*., 2002).

According to UNFPA (2011), majority of Sierra Leone adolescent mothers are constrained to low-level subsistence economic activities, especially agriculture and petty trade due to sparse financial resources available to them. Similarly, in Southwest Nigeria, adolescent mothers opt to trading activities of subsistence nature, menial jobs and apprenticeship as common livelihood strategies to cope with challenges of premarital adolescent motherhood (Melvin and Uzoma, 2012). Petty trading is further reported by Asomani (2017) and Ziblim *et al*. (2018) as one of the popular livelihood strategies carried out by UAMs of Ghana for securing incomes to cater for themselves and their babies. The petty trading activities that they usually carry-out include street vending and selling of items in the markets or schools. While undertaking these activities, they may trade independently in pursuit of their own incomes, or alternatively they may work collaboratively to assist their guardians or parents in such businesses in order to get support from them in turn (Asomani, 2017). In Nigeria, another study by Ntoimo (2011) reports a significant number of UAMs engaged in informal sector as domestic servants but others ending up jobless in streets (Ntoimo, 2011). In general terms, Campbell (1998) concluded that in most cases, adolescent mothers suffer financial challenges and are therefore not financially equipped to provide for themselves and their children. Arguably, adolescent mothers have fewer monetary resources, lower career aspirations, lower occupational prestige, less satisfaction

with their jobs and career progress, as well as less time spent on the job compared with their peers (Berglas *et al*., 2003; SCAA, 2008). In addition, given the responsibilities of early motherhood like the need for flexible working hours, availability of jobs near homes and availability of support with childcare altogether impede UAMs' progress in the labour market (Berglas *et al*., 2003). In this study, the concept of well-being was operationalized using the proxies of income, assets possessions and food security.

In addition to income, well-being of UAMs is also affected by adolescent motherhood. Well-being is often equated with multiple dimensions (Kabote, 2017) and therefore incomes alone are not a complete indicator of well-being. Gamage *et al*. (2015) and Maliti (2019) altogether hold that asset possession is also among the important indicators of well-being. Recent advances in the literature have also indicated that asset ownership is an important dimension of wellbeing (Brandolini *et al*., 2010; Gamage *et al*., 2015). According to Gamage *et al*. (2015), access and possession of physical assets enhance well-being of individuals and their households. Assets promote the economic well-being of households by generating income and also creating additional stock of assets (e.g., animal husbandry), smoothing consumption during periods of uncertainty and hardship, and building resilience in the face of external shocks through their sale or pawning to cope with an income shortfall (Vijaya *et al*., 2014; Kumaraswamy *et al*., 2020). However, given their precarious livelihoods, UAMs are less likely to possess assets. Kumaraswamy *et al*. (ibid) strongly argue that vulnerable segments of population that are unable to improve their incomes or increase asset stocks often get caught in "an asset poverty trap". In this study's context, UAMs represent the vulnerable segment. This study argues that, whatever UAMs may earn is basically for subsistence for themselves and their children. Nevertheless, some UAMs may be able to possess a few small assets. However, very little is reported in literature with regard to UAMs' assets possessions. For instance, Nguyen *et*

al. (2017) compared asset ownership between adult mothers and adolescent mothers of Bangladesh and found that the latter owned significantly fewer assets, mainly small animals like chickens, ducks and rabbits.

The dimension of social support is also essential in UAMs' well-being. It is argued that, the support available to adolescent mothers, particularly the unmarried ones, is instrumental to their own well-being and those of their children (Foucalt and Schneider, 2009). In simple terms, social support can include social resources that individuals (UAMs in this context) perceive to be available, or those that are actually offered to them by others (Cronkite and Moos, 1995). In this study, social support was operationalized as assistance available to UAMs in three key domains of tangible, emotional and informational. Sources of possible social support to adolescent mothers may include child's father, adolescent mother's siblings, adolescent mother's father, mother or guardians, peers, community members, health centres, and other institutions capable of providing various forms of support. Despite the fact that social support appears to be a protective factor for adolescent mothers and their children, studies show that adolescent mothers and particularly the UAMs are less likely to receive support from friends, family or their children's fathers (Collin, 2010; Huang *et al*., 2014). They are therefore likely to have inadequate social support compared to adult mothers (Logsdon *et al*., 2002 cited in Huang *et al*., 2014). Since UAMs are considered as an embarrassment to their clans or families of origin, they may either be abandoned or chased away from homes and remain without guaranteed means of support for themselves and their children (Wekwete, 2002). Similarly, Odu *et al*. (2015) equally assert that following premarital adolescent pregnancy, UAMs may be disowned by their families and left with the responsibility of raising their children without support from family. It is even worse that majority of UAMs are also less likely to receive financial support from their partners (Huang *et al*., 2014). Other UAMs also suffer due to

having conflictual relationships with their family members (Edwards *et al*. 2012, cited in Huang *et al*., 2014) particularly with their fathers who are in most cases unhappier with incidents of teenage pregnancy and have thus disapproved the same. As a result, UAMs are therefore faced with financial strain of coping with stress of raising children without financial support from their families (Odu *et al*., 2015) or even lacking both financial and social support.

Adequate food and adequate nutritional status are also essential dimensions of well-being (Hoddinott and Yohannes, 2002; Gamage *et al*., 2015). It is also worth noting that food security is a prerequisite or means for ensuring adequate nutrition (Engle *et al*., 1999; Ghattas, 2014). The concepts of food security and nutritional status are intricately linked and may sometimes be applied interchangeably. It can further be argued that food security is an outcome that is closely linked to viable livelihood strategies (Gathiaka and Muriithi, 2013); hence, individuals' livelihood strategies do underpin food security (Patel *et al*., 2015). The livelihood strategies in which individuals are engaged are therefore very crucial in examining their food security (IFPRI, 2015). To emphasize on this linkage, Burchi and De Muro (2012) suggest the need for food security to be analysed within the broader spectrum of the livelihoods of the population under study. From a livelihood perspective, household food security is a result of adequate access to livelihood strategies that allow the respective members to lead a hunger-free life (Patel *et al*., 2015). Livelihood strategies may therefore lead to either more or less satisfactory livelihood outcomes as far as food security is concerned (Tesema and Berhanu, 2018). In this dimension, the livelihood outcomes specifically refer to food security. This study operationalizes food security concept from the command over food point of view. It is important to note that the means by which individuals either produce food by themselves or secure income to buy food from other sources is crucial in analysing household food security (Tesema and

Berhanu, 2018). Notably, early premarital motherhood presents an unanticipated economic strain on households to meet basic needs, hence results in food insecurity (Stevens, 2010). According to Wemakor *et al.* (2018), UAMs often have limited resources to cater for their needs including ensuring food security. Stevens (2010) further argues that strategies used by UAMs to cope with food insecurity have not been explored at any length. In addition, their children are likely to be stunted. Other reports have indicated the prevalence of stunting being higher among the children of mothers below 18 years compared to children of older mothers (FANTA, 2018).

Tanzania faces high rates of adolescent pregnancy accompanied with prevalence of adolescent childbearing (UNFPA, 2013). However, there are variations with regard to prevalence of adolescent childbearing across regions. It ranges from as low as 5% in Mjini Magharibi region and 6% in Kilimanjaro region to as high as 45% in Katavi region (MoHCDGEC, 2016). Other regions ranking next to Katavi include, Tabora (42.6%), Dodoma (38.6%), Morogoro (38.5%), Mara 37.4%, Shinyanga (33.5%), Mbeya (33%), Ruvuma and Kigoma (32%) and Pwani (30%) (MoHCDGEC, 2016). In addition, teenagers in rural areas of Tanzania are considerably more likely to have begun childbearing than their urban peers: 32% or rural adolescents have had a live birth or are pregnant, compared with 19% of urban adolescents (MoHCDGEC, 2016). Generally, UAMs' livelihood strategies and well-being in terms of the indicators exhausted in this section, remain both under-researched and less documented. Specifically, the livelihood strategies carried-out by UAMs in rural and urban contexts have not been sufficiently explored. In addition, the influence of those livelihood strategies on UAMs well-being isn't glaring in empirical literature hence, justifying the present study. The focus of this study was to investigate and compare the livelihood strategies and well-being of UAMs of rural and urban Katavi, Tanzania.

1.2 Problem Statement

There is an observed steady increase in teenage pregnancy among some countries in sub-Saharan Africa (SSA), and it is safely projected that adolescent motherhood in the region is likely to nearly double by the year 2030 (UNFPA, 2013). The projected trend has serious implications to the well-being of UAMs. A substantial proportion of unmarried adolescents give birth in most countries from SSA and there has also been a progressive increase in pre-marital childbearing in some of the countries, Tanzania inclusive (WHO, 2007). Over the last decade, Tanzania has had a steady increase in adolescent childbearing. In Tanzania, 27% of women age 15-19 have begun childbearing: 21% have given birth, and an additional 6% are pregnant with their first child. In Katavi region, 45% of female adolescents are pregnant or mothers (MoHCDGEC, 2016).

Adolescent childbearing, especially outside marriage, has major physical, psychological and social consequences (Leerlooijer *et al*., 2013). In addition to coping with early motherhood, UAMs often face challenges of unemployment and livelihood insecurity in general (Atuyambe *et al*., 2008; Lehti *et al*., 2012). Despite prevalence and projections of adolescent pregnancy and associated pre-marital childbearing in SSA, there is paucity of studies with regard to livelihood strategies and well-being of UAMs in the region. There is a plethora of studies on adolescent pregnancy and subsequent motherhood both globally and locally (Beutel, 2000; Hulmlund, 2005; Nyakubega, 2010; Chohan and Langa, 2011; Mbelwa and Isalngula, 2012; Gyan, 2013; Leerloijer *et al*., 2013; Adolph, 2014; Ajala, 2014; Timaeus and Moultrie, 2015; Odu *et al*., 2015; Bellamy, 2017; Kassa *et al*., 2018 etc.). However, previous related studies have focused on aspects of adolescent pregnancy and motherhood. A great deal of studies has looked into effects of pregnancy and early childbearing on educational attainment of adolescent girls (Beutel, 2000; Gyan, 2013; and Timaeus and Moultrie, 2015). Other studies have investigated prevalence and factors

associated with adolescent pregnancy (Nyakubega, 2010; Ajala, 2014; and Kassa *et al*., 2018). Studies by Adolph (2014) and Bellamy (2017) determined socio-economic factors affecting adolescent mothers' struggles to revive their aspirations, whereas Ziblim *et al.* (2018) dealt with health-seeking behaviours among pregnant adolescents. Studies by Hulmlund (2005) and Odu *et al*. (2015) analysed socio-economic consequences of early childbearing and other related aspects.

While the studies mentioned in this sub-section have concentrated on adolescent pregnancy and its consequences on subsequent early motherhood, limited scholarly attention has been paid to UAMs and specifically with regard to their livelihood strategies and well-being. The livelihood strategies of UAMs, particularly in Tanzania, are not well documented while their well-being in terms of incomes, assets possessions, social support, food security and nutritional status remains unknown. There is also lack of clarity on whether UAMs of rural and urban areas have similar livelihood strategies or not and also whether their well-being differs or not. Therefore, this study was conducted to fill this knowledge gap by exploring and comparing UAMs' livelihood strategies and their well-being in rural and urban Katavi.

1.3 Justification of the Study

There exists a knowledge gap on UAMs' livelihood strategies and their well-being in SSA and Tanzania in particular. Globally, studies on premarital adolescent motherhood are relatively few and they are also geographically unevenly distributed. Most studies have concentrated on the Latin American Countries (LAC), particularly the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama while others have been done in some countries of South-Central Asia such as Afghanistan, Bangladesh and Nepal. Despite high prevalence Adolescent Birth Rate in SSA region, Tanzania included,

the region has received less research attention on livelihood strategies and well-being of UAMs compared to the other regions. Thus, existing research in the region, including in Tanzania, has focused on various aspects of adolescent pregnancy and motherhood with very little mentioned regarding livelihood strategies and well-being of UAMs and their children.

Nevertheless, while most current researches' orientations have been on determinants of adolescent pregnancy and consequences of adolescent motherhood (Hulmlund, 2005; Nyakubega, 2010; Ajala, 2014; Odu *et al*., 2015; Kassa *et al*., 2018), relatively less attention has been paid on how UAMs sustain their livelihoods to cope with adolescent motherhood and to enhance their well-being and that of their children. Moreover, most of the empirical literature is rural-biased, neglecting urban areas despite prevalence of adolescent pregnancies as well as adolescent premarital childbearing in urban areas as well. Therefore, the study on which this thesis is based was both timely and unique in the sense that it sought to compare the situations in rural and urban areas so as to get a broader picture of the phenomenon. There is a need to inform policy makers about well-being of UAMs of rural and urban contexts and specifically on the livelihood typologies at their exposure. Such crucial information will inform the relevant policy makers and actors on the necessary interventions to empower the vulnerable group and promote their well-being.

The study also aligns with the 2030 Agenda for Sustainable Development and in particular the first Sustainable Development Goal (SDG) which envisages ending poverty in all its forms everywhere. Under its first target, the particular objective seeks to eradicate extreme poverty for all people everywhere by the year 2030. Likewise, the fifth target of the same goal seeks to build resilience of the poor and those in vulnerable conditions by the year

2030. In this aspect, UAMs fall under the vulnerable population segments. Furthermore, the third SDG also seeks to ensure healthy lives and promote well-being for all at all ages, including adolescents. The study is also in line with the Global Strategy for Women's, Children's and Adolescents' Health (2016-2030), that has a target on eradicating extreme poverty under its third objective that focuses on expanding the enabling environments.

Furthermore, the study's focus on UAMs' well-being aligns well with the Tanzania's Five-Year Development Plan II that seeks to improve the quality of life and human well-being. Moreover, achieving high quality livelihoods is among the targets outlined in the Tanzania's Development Vision (TDV) 2025 and particularly elimination of abject poverty and enhancement of food sufficiency and food security (URT, 2010b). Furthermore, Tanzania's National Strategy for Gender and Development (2008) also seeks to achieve economic empowerment of women with a strategic objective of having women economically empowered and their opportunities enhanced.

1.4 Objectives of the Study

1.4.1 General objective

The general objective of the study was to investigate and compare the livelihood strategies and well-being of unmarried adolescent mothers of rural and urban Katavi, Tanzania.

1.4.2 Specific objectives

Specifically, the study aimed to:

i. Examine factors associated with adolescent pregnancy and adolescent pre-marital childbearing in rural and urban Katavi,
ii. Identify the various types of livelihood strategies which unmarried adolescent mothers of rural and urban Katavi are engaged in,

iii. Determine food security and nutritional status of unmarried adolescent mothers of rural and urban Katavi,

iv. Compare well-being of unmarried adolescent mothers of rural and urban Katavi in terms of incomes and assets possessions,

v. Identify various sources and types of social support that unmarried adolescent mothers of rural and urban Katavi receive.

1.5 Research Questions

i. Which factors are associated with adolescent pregnancy and adolescent pre-marital childbearing in rural and urban Katavi?

ii. Which types of livelihood strategies do unmarried adolescent mothers of rural and urban Katavi engage in?

iii. Does well-being of unmarried adolescent mothers of rural and urban Katavi differ in terms of food security and nutritional status?

iv. Does well-being of unmarried adolescent mothers of rural and urban Katavi differ in terms of incomes and assets possessions?

v. What are sources and types of social support that unmarried adolescent mothers of rural and urban Katavi receive?

1.6 Research Hypotheses

i. Livelihood strategies of UAMs of Katavi do not differ in terms of location.

ii. Well-being of UAMs of Katavi differ with regard to location.

1.6 Theoretical Framework

1.6.1 Sustainable livelihood framework (SLF)

The DFID's sustainable livelihood framework (SLF) has its origins from the seminal work of Chambers and Conway (1992). The SLF serves to provide a holistic conceptualization of livelihoods, given their complexities as well as the opportunities and constraints which are as well central to this study. It facilitates an understanding of the linkages between people's livelihood strategies, their asset status, and how they make use of the available natural resources (Krantz, 2001). The framework is an analytical one, which is used to understand various factors which can affect choices around subsistence and to understand how these factors interact (UNDP, 2017). The SLF encompasses the skills, assets (both material and social), and approaches used by individuals to survive (UNDP, 2017). In simple terms, it is about peoples' access to different types of assets (human, physical, financial, social and natural) and their ability to apply those assets to productive use. The framework employs the sustainable livelihood approach which allows the understanding of the livelihoods of the poor (Serrat, 2017). Central to the idea of sustainable livelihoods approach, is the idea of assets. The approach considers the assets that the poor people must make trade-offs and choices about in order to sustain adequate incomes to live (Serrat, 2017).

The SLF is built around five principal categories of livelihood assets, graphically depicted as a pentagon to underlie their interconnections and the fact that the livelihoods depend on a combination of assets of various kinds and not just from one category (Krantz, 2001). Based on those assets, shaped by the vulnerability context and the transforming structures and processes, poor people are able to undertake a range of livelihood strategies and activities and choices that ultimately determine their livelihood outcomes. In the context of this study, SLF facilitates an understanding on how UAMs may utilize the livelihood

assets at their exposure to develop LS to enhance their well-being and that of their children, given the vulnerability context of early premarital childbearing. Therefore, the more livelihood assets that UAMs have access to, the less they become vulnerable to the negative effects of trends and shocks associated with early premarital childbearing. The livelihood outcomes that can be achieved by UAMs is improved well-being in terms of more incomes, procurement and ownership of more assets, food security, improved nutritional status, etc.

1.6.2 The Theory of Culture of Poverty

The theory of culture of poverty was developed by the Anthropologist Oscar Lewis in 1959. Lewis attempts to explain why people are poor. He described culture of poverty as a way of life, a combination of certain traits or clusters of some poor people that develop as an adaptation to living in poverty in a capitalist society and from then, are passed through generations (Gajdosikiene, 2004). According to Gajdoisikiene (2004), the culture of poverty is both an adaptation and a reaction of the poor to their marginal position in a class-stratified, highly individuated, capitalistic society. The poorest sections of society tend to form a special sub-group or “subculture of poverty” that has distinctive traits which are also self-perpetuating (Sanchez-Martinez and Davis, 2014) and distinguish them from the other segments of the society. The values and traits of the poor are also distinguishable from members of the middle class. According to the theory, poverty tends to perpetuate itself from generation to generation through a set of beliefs, values and skills that are generated socially and held individually (Bradshaw, 2005). Some of the typical traits associated with the poor include, early initiation into sex, free unions of consensual marriages, poor housing conditions, crowding, gregariousness and a minimum of organization beyond the level of the nuclear and extended family, drug/alcohol misuse, crimes, female-headed single parent families and rising rates of divorce (Gajdosikiene,

2004; Addae-Korankye, 2014). Given this background, adolescent pregnancy and early premarital childbearing are also associated with the traits of the poor discussed in the theory. They are among the dysfunctional attitudes and values, relative to mainstream society, about family, education and work (Addae-Korankye, 2014). Empirical literature also affirms that adolescent mothers are likely to transfer the virtue to their daughters. For instance, daughters of adolescent mothers are more likely than daughters of adult mothers to begin childbearing early and unmarried and likely to repeat the same cycle and end up in poverty (Buvinic, 1998; Kearney and Levine, 2012). Under such circumstances, traits associated with adolescent pregnancy like poor education, lack of employable skills, poor nutrition and the like are also being transferred across generations.

1.6.3 Entitlement to food approach

The approach by Amartya Sen aids to capture some insights for the study with regard to food security. Central to Sen's approach, there are concepts of endowments and entitlements. Sen focuses on individuals' entitlements to community bundles including food that could legally be attained by using one's endowments and opportunities (Sen, 1981). Endowments refer to control of assets and resources while entitlements refer to a set of alternative commodity bundles that an individual can command in a society using the totality of right and opportunities that he/she faces (Sen, 1981). Endowments include both tangible assets, such as land, equipment, animals and intangibles such as knowledge and skill, labour power, or membership of a particular community (Nayak, 2000). Sen's approach focuses on individuals' entitlements to community bundles including food that could legally be attained by using one's endowments and opportunities (Sen, 1981). According to Sen, there are four types of entitlement relations that make some individuals more vulnerable than others. First, trade-based entitlement which is the ability of individuals to sell or buy some food items. Second, produced-based entitlement which is

the ability to grow and produce food, or goods for buying food. Third, own labour-based entitlement referring to one's ability to sell skills or labour power for purchasing or producing food and lastly inheritance or transfer-based entitlement referring to access to food transfer facilitated by either governments or other persons as well as the society. Therefore, the use of the resources to get final goods and services may be either in the form of production, exchange or transfer (Nayak, 2000). With regard to the present study, the approach offers an understanding on how UAMs make use of their available endowments to get food supplies. Arguably, an entitlement set that does not include adequate quantities of food implies food insecurity since an entitlement failure has occurred (Yaro, 2004) hence failure to be entitled to any bundle with enough food (Sen, 1981). According to Sen, it is failure of entitlement that causes famine rather than food shortage.

1.7 Conceptual Framework

The theoretical framework presented in Figure 1.1 is informed by review of empirical literature and theories related to the study. The framework is a thorough modification of DFID's sustainable livelihoods framework. Within the framework, there exists a link between assets, livelihood strategies and livelihood outcomes. Assets interact with policies, institutions and processes to shape the choice of livelihood strategies which in turn influence the livelihood outcomes. With reference to SLF, the study perceives premarital adolescent motherhood as a vulnerability context upon which UAMs operate and are obliged to strive to achieve their desired well-being through adoption of a combination of LS by drawing upon the asset base at their exposure. Vulnerability is characterized as insecurity in the well-being of individuals, households and communities in the face of changes in their external environment (Serrat, 2017). The entry point of analysis at the household level is an UAM and her child/children as the unit of analysis.

Decision on livelihood strategies may evoke natural resource-based activities, non-natural resource-based and off-farm activities, migration and remittances, pensions and grants, and intensification versus diversification (Serrat, 2017).

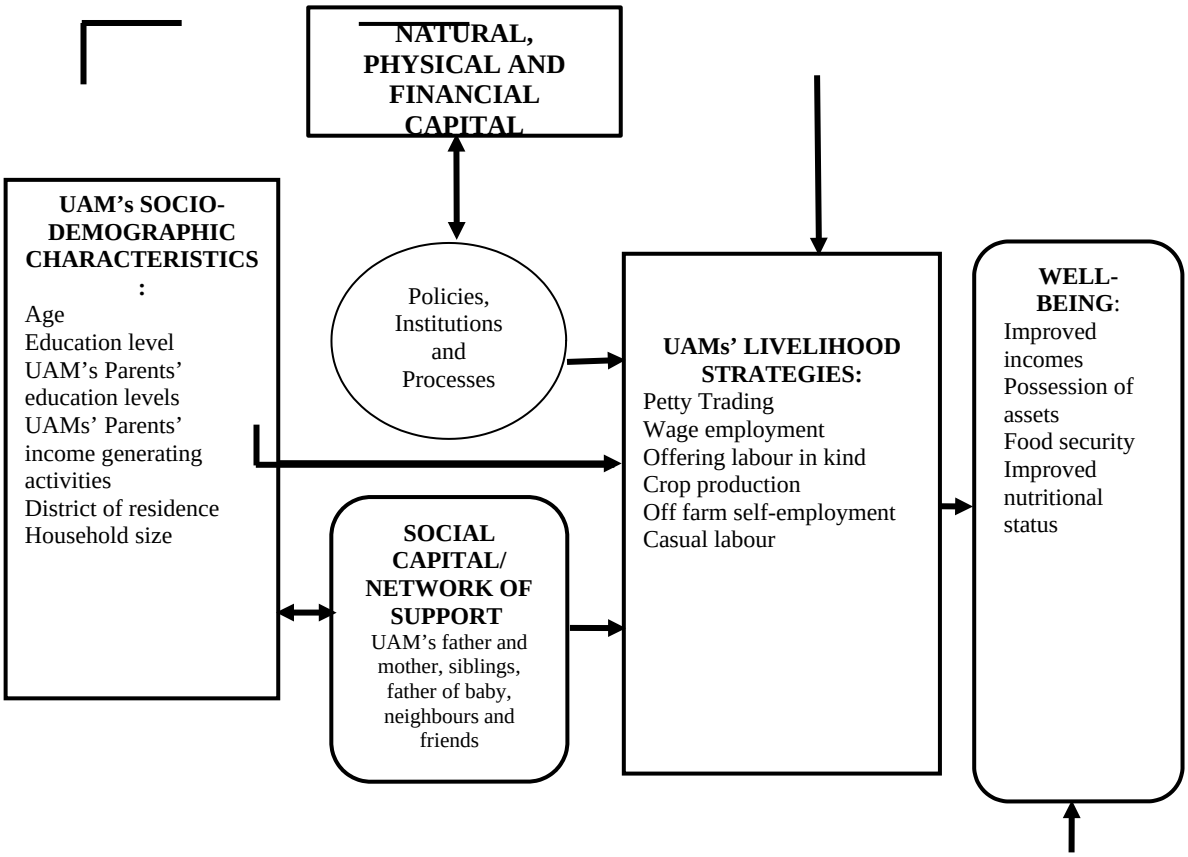

Figure 1.1: The study's conceptual framework as modified from DFID's (2000) Sustainable Livelihoods Framework

The framework conceptualizes a number of background and intermediate variables. Background variables include the socio-demographic characteristics of an UAM. The livelihood assets at UAMs' disposal and the intermediate variables are also conceptualized. The intermediate variables such as policies, institutions and processes (government policies in health and education, microfinance policies) and the cultural context affect UAM's choice of LS and their well-being respectively. Livelihood strategies enable individuals to achieve livelihood outcomes (incomes, food and nutritional

security, assets accumulations etc.), and thus UAMs adopt a number of livelihood strategies (LS) to cope with adolescent motherhood and challenges related to it. The choice of particular LS is also strongly related with the resultant livelihood outcome, hence well-being. Potential livelihood outcomes may include increased incomes, increased well-being, reduced vulnerability, improved food security (Serrat, 2017), improved nutritional status and possession of assets.

The study strongly argues that UAM's socio-demographic variables can either positively or negatively influence her choice of LS as well as the resultant well-being. Additionally, availability or unavailability of a network of support system also influences the UAM's adoption of a given LS and, in turn, their well-being as well. These simply refer to the social resources (networks, social claims, social relations, affiliations, associations) upon which UAMs draw when pursuing different LS requiring coordinated actions (Scoones, 1998). The framework further shows somewhat a slight variation on the LS adopted by UAMs of the rural versus urban areas. Generally, due to geographical variations, it is assumed that availability and unavailability of economic opportunities in the two localities will differ, thus affecting the UAMs' well-being differently. It can also be argued that the livelihood assets available to the rural and urban UAMs may also differ hence, giving room to a diversity of livelihood options. Livelihood strategies and outcomes are also transformed by the environment of structures and processes. LS are determined by assets and opportunities available to individuals (which are in turn affected by policies, institutions and processes and changes in the vulnerability context) as well as by the choices and preferences of those individuals.

Policies, institutions and processes (PIPs) also affect UAMs in terms of their access to particular LS and choice of the same, however their analysis is beyond the scope of this

study. As described by Farrington *et al.* (2002), PIPs encompass a broad range of social, political, economic, and environmental factors that determine individuals' choices and so help to shape livelihoods. PIPs are key in determining access to various types of capital assets that individuals use in pursuing their LS either through acting as conduits to make assets available to them, or as barriers to their access (Farrington *et al.*, 2002). They may further define what LS are open and attractive to individuals (Carney, 1998).

1.8 General Methodology

1.8.1 Study area

The study was conducted in two selected districts of Katavi Region. The selected districts were Tanganyika District and Mpanda Municipality representing rural and urban Katavi respectively. Selection of Katavi is based on the fact that the region had the highest adolescent birth rate (ABR) among all the regions in Mainland Tanzania. In 2015/16, the national ABR stood at 132/1000 while the ABR for Katavi stood at 140.2/1000 (URT, 2015; MoHCDGEC, 2016). The selection of the study districts was based on a number of criteria. Firstly, the selection was for purposes of allowing comparison of rural and urban areas. Secondly, Mpanda Municipality represents urban Katavi due to being the region's administrative centre and is also a well-developed urban spot compared to the district administrative headquarters. Thirdly, Mpanda provides more urban-related livelihood strategies relative to the district headquarters. On the other hand, Tanganyika District was randomly selected among the other three rural districts councils namely Nsimbo, Mlele and Mpimbwe to represent Rural Katavi.

1.8.2 Research design

The study adopted cross-sectional research design that allows data to be collected at one point in time. Mixed methods research design was adopted involving the collection of both

quantitative and qualitative data. Kothari (2004) defines research design as a plan, a road map and a blueprint strategy of investigation conceived so as to obtain answers to research questions. According to Bethlehem (1999), cross-sectional research design is an approach in which the researchers investigate the state of affairs in a population in a certain point in time. The design was adopted over other designs for a number of reasons. First, it relatively quick, inexpensive, and easy to conduct. That being the case, the design fits the study well in terms of time and finance constraints. Secondly, it has a high degree of accuracy and precision. Thirdly, it allows merging of quantitative and qualitative data hence providing a comprehensive analysis of the problem being researched on. Fourthly, it gives explanation of the relationship between variables at a time. Furthermore, it allows all variables to be collected at one time. Lastly, the design meets the objectives of the study.

1.8.3 Sampling and sample size

Study population included all UAMs who were unmarried and of 18 years age or below when giving birth to their first babies. To obtain wards from the district level, systematic random sampling was used whereby 12 wards out of 31 were selected from both Mpanda Municipality and Tanganyika District. In Mpanda Municipality, 7 wards were selected from a total of 15 wards; thereafter, 19 streets were randomly selected for the study. In Tanganyika District, 5 wards were selected from a total of 16 wards; thereafter, 20 villages were randomly selected for the study.

A total of 240 unmarried adolescent mothers participated in the study whereas 120 were from Mpanda Municipality and the other 120 were from Tanganyika District. The main inclusion criteria in the sample were that the subjects had to be between 13 to 19 years of age and also be unmarried. To sample respondents who met sampling criteria from the selected districts, non-probability convenience sampling was used. Identification of the

particular hidden UAMs' population was challenging due to the absence of documented statistics of all UAMs in the study areas. In addition, the fact that premarital adolescent childbearing is considered unethical in most communities, data and information related to the same are hard to find as communities are uncomfortable and unwilling to talk about such matters.

By learning from other researchers (Lehana and Rhyn, 2003; Sa-ngiamsak, 2016) who did similar studies involving adolescent mothers, the researcher opted for snowball sampling to recruit the difficult-to-reach unmarried adolescent mothers' population from the study districts. Respondents who met the inclusion criteria and who were willing to participate in the study were given information about the purpose of the study, and also had to sign written informed consent. For those who could not write, a parent or guardian filled in the consent form on their behalf.

1.8.4 Data collection

To ensure triangulation and to increase validity of the findings, a combination of both qualitative and quantitative approaches were used. The study adopted exploratory sequential research design by beginning with an exploratory qualitative phase and moving sequentially to a quantitative phase. For qualitative data, focus group discussions (FGDs), key informant interviews (KIIs) and life histories were used in both study districts. Checklists of items were used to guide FGDs and KIIs. A total of ten FGDs were conducted, including five in Mpanda Municipal Council and the other five in Tanganyika District Council. FGDs comprised eight to twelve participants. FGDs were highly diversified and they included: UAMs (2), older women who were previously UAMs (2), female parents of UAMs (2), male parents of UAMs (2), and male youths (2).

Twenty-six KIIs were conducted; thirteen of them took place in Mpanda Municipality, and the other thirteen took place in Tanganyika District. The key informants involved in the study were representatives from Non-Governmental Organizations (NGOs) dealing with women's welfare (2), district and municipal community development officers (4), district and municipal reproductive child health coordinators (2), religious leaders (4), district and municipal social welfare officers (4), ward community development officers (2), doctors (2), nurses responsible for mother-child units and coordinators of reproductive child health at health centres, (4) and head teachers of primary and secondary schools (2). For quantitative data, the study employed a household survey whereby a sample size of 240 UAMs from rural and urban Katavi were involved.

1.8.5 Data analysis

Quantitative data were analysed using Statistical Packages for Social Scientists (IBM SPSS Statistics 20) whereas qualitative data were analysed using content analysis. WHO AnthroPlus and WHO Anthro software were used for analysis of anthropometric data for UAMs and their children respectively. Qualitative data were grouped based on themes and categories, coded and then inferences were drawn based on themes under study. Details of data analysis as per each specific objective of the study as well as measurement of the variables are presented chronologically in chapters two to five as summarized in Table 1.1.

Table 1.1: Summary of data analysis methods used for specific objectives

S/N	Specific Objective	Method of Data analysis
1.	Examination and comparison of factors associated with adolescent pregnancy and pre-marital childbearing in rural and urban Katavi	Content analysis
2.	Identification and comparison of various types of livelihood strategies engaged by unmarried adolescent mothers of rural and urban Katavi	Content analysis, life histories analysis, descriptive analyses, and independent chi square test
3	Determination and comparison of food security status and nutritional status of unmarried adolescent mothers of rural and urban Katavi	Descriptive analyses, Binary logistic regression, household food insecurity access scale, household dietary diversity score, UAMs' Body Mass Index for age (BAZ), and Anthropometric Z scores for children of UAMs
4	Comparison of well-being of unmarried adolescent mothers of rural and urban Katavi in terms of incomes, assets possessions and social support	Content analysis, chi square test, independent t test, and ordinal logistic regression

1.8.6 Ethical considerations

Ethical considerations were adhered to prior to, and throughout the research process. Prior to data collection, the researcher sought and obtained a research permit from the Vice Chancellor's Office of Sokoine University of Agriculture. The permit introduced him to the Regional Administrative Secretary (RAS) of Katavi Region, who then introduced the researcher to District Administrative Secretaries (DAS) of the two districts of Mpanda and Tanganyika. The officials introduced the researcher to the Executive Officers of the villages and streets where data were collected. Furthermore, respondents were recruited willingly after being briefed about the purpose of the study and having filled consent forms as an agreement to freely participate in the study.

1.9 Organization of the Thesis

The thesis is based on the publishable manuscripts format of Sokoine University of Agriculture (SUA). Under the particular format, each manuscript makes a chapter. The

whole thesis therefore is made up of six chapters out of which four represent the publishable manuscripts and the remaining are introduction and conclusion. The first chapter presents background information, problem statement and justification, research questions, conceptual framework and general methodology. In addition, it presents the study's theoretical and conceptual frameworks and the general methodology. Chapter two presents the first manuscript of the thesis which is on factors associated with adolescent pregnancy and pre-marital childbearing in Rural and Urban Katavi. Chapter three presents the second manuscript which is on the livelihood strategies in which unmarried adolescent mothers of rural and urban Katavi are engaged. Chapter four presents the third manuscript which is on food security and nutritional status of unmarried adolescent mothers of Rural and Urban Katavi. Chapter five presents the fourth manuscript which is on well-being of unmarried adolescent mothers of Rural and Urban Katavi in terms of incomes, assets possessions and social support. The sixth and the last chapter presents a summary of the study findings, general conclusions and recommendations, and areas for further research.

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CHAPTER TWO

2.0 FACTORS ASSOCIATED WITH ADOLESCENT PREGNANCY AND ADOLESCENT PRE-MARITAL CHILD BEARING IN RURAL AND URBAN KATAVI, TANZANIA

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2.1 Abstract

Adolescent pregnancy is one of the main issues in every health care system mainly due to harmful implications of the same on young girls' psychological, physical, economic and social status. This study analysed factors associated with adolescent pregnancies and premarital childbearing in Katavi Region of Tanzania. Tanganyika District and Mpanda Municipality were purposely selected to represent rural and urban Katavi respectively. The study adopted cross sectional research design using qualitative research approach whereby data were collected through focus group discussions (FGDs), key informant interviews

(KIIs) and a life history. A total of ten FGDs and twenty-six KIIs were conducted in rural and urban Katavi respectively. Data were analysed using content analysis method. The study findings show that there are six key factors associated with teenage pregnancies and premarital childbearing in the study area. These include household poverty, long periods of parents' absence from home, peer pressure, separation of families, poor parent-child communication, neglect of education and vibrant business and employment environment. Based on the findings, the study recommends the following: a need for households to diversify livelihood strategies so as to reduce prevailing poverty that is driving teenage girls into early onset of sexual practices hence teenage pregnancy; provision of proper reproductive and sexual health education to both in-school and out-of-school adolescent girls; and sensitizing parents on the importance of educating their adolescent girls on sexual and reproductive health to enable them to make informed decisions when it comes to sexual relationships hence delaying their childbearing. Furthermore, out-of-school adolescent girls should be provided with vocational trainings and life skills to enable them to employ themselves.

Key words: Adolescent pregnancy, premarital childbearing, unmarried adolescent mothers, Katavi

2.2 Introduction

Adolescent pregnancy is a worldwide phenomenon that affects both developed and developing countries. It is also one of the main issues in every health care system due to the fact that it can have harmful implications on girls' physical, psychological, economic and social status (Mersal *et al.*, 2013). Adolescence is a transition period between childhood and adulthood. Worldwide, about 16 million adolescent girls aged 15 to 19 years give birth every year, mostly in low- and middle-income countries (WHO, 2014).

Adolescent pregnancies occur with varying frequencies across regions and countries, within countries and across age and income groups. In literature the concepts of “teenage” and “adolescent” are often used interchangeably. Arguably, teenage pregnancy is higher in economically poor households in the sense that teenagers from poorest households are more likely to become pregnant or give birth compared to those from affluent households (Ayele, 2013; Marcen and Bellido, 2013; Sonfield *et al.*, 2013; Ajala, 2014).

Most (95%) births to adolescents occur in developing countries (WHO, 2008). Adolescent Birth Rate (ABR), defined as annual number of births to women 15 to 19 years of age per 1000 women in that age group, is higher in less developed countries compared to developed countries (WHO, 2008). It is therefore worth noting that ABR is a measure of adolescent fertility. Despite the fact that ABR has declined in all regions of the world since 1990, adolescent childbearing remains common in many countries, particularly in sub-Saharan Africa (UNFPA, 2015). The region is also reported to have the world’s highest level of early childbearing (United Nations, 2011), and out of 20 countries with the highest ABR worldwide, 18 are African (UNFPA, 2013). Adolescent childbearing is as well more common in developing countries where nearly 10% of adolescent girls give birth each year, compared to less than 2% in developed countries (UNFPA, 2015).

The consequences of adolescent pregnancies and early childbearing are well documented. For instance, Mturi and Moerane (2010) stress that adolescent fertility has many implications, particularly if it is premarital. Furthermore, McCleary-sills *et al*. (2013) note there are many health risks for sexually experienced adolescents, particularly unmarried ones. According to McCleary-sills *et al*. (2013), apart from the health-related risks, women who bear children before the age 20, in most cases, obtain less education, have fewer job possibilities and lower income, are more prone to divorce or separation, and are

more likely to live in poverty. Nevertheless, the risks of maternal death and disability are higher for adolescents than for women in their twenties (Conde-Agudelo *et al.*, 2005; Patton *et al*., 2009; UNFPA, 2015). According to UNFPA (2015), early childbearing often limits girls' opportunities for education, training, and livelihood development.

According to Karra and Lee (2012), large numbers of teenage mothers are a cause of social concerns in many countries because of adverse impact of teenage childbearing on education and health of teen mothers. Early childbearing is likely to put a young mother on a lifelong path with different choices and opportunities than if she were to postpone her first birth to a later age; she is likely to have more births because of exposure to a long period of childbearing; she may suffer from premature end to her schooling, and this threatens her economic prospects, earning capacity and overall well-being (United Nations, 2013). Some studies have reported that daughters of adolescent mothers are more likely than daughters of adult mothers to begin childbearing early and out of the wedlock as well as to repeat the same cycle and end up in poverty (Buvinic, 1998; Kearney and Levine, 2012). In addition, adolescent mothers may pass on to their children a legacy of poor health, deficient education, and meagre means of living, thus creating a hard-to-break cycle of poverty (United Nations, 2013).

While most of the childbearing among adolescents is within a marriage or other formal unions, a substantial proportion is not (thus premarital) and the proportion vary greatly across societies (Allan Guttmacher Institute, 1998). In different regions of the developing world, young women have been increasingly entering into motherhood before marriage. For these unmarried adolescents, the difficulties that childbearing adolescents encounter are further compounded (Kahan, 2010). In the context of the United States (US), for example, Scarr (2002) reports that, since the mid-1990s, the proportion of births to

unmarried adolescents has continued to increase, and for poor and low-income teen mothers there has been a strong likelihood of raising their children in a one-income household. However, Singh and Darroch (2000) report that childbearing among unmarried adolescents is relatively more common in Latin America and the Caribbean, Sub Saharan Africa (SSA) and the developed countries compared to other regions such as Asia, North Africa and the Middle East. A report by WHO (2007) reveals that a substantial proportion of unmarried adolescents give birth in most countries of SSA, and there has also been a progressive increase in premarital childbearing in some countries of the region.

Early premarital childbearing, defined in this study as having a first birth before the age 19 and out of the wedlock, remains an important issue not only in developing countries but also among developed countries like the United States (US) and the United Kingdom (CRS, 2008). There are however varying concerns for the phenomena. For instance, in the US, concerns are that young first-time mothers are more likely to have their subsequent births outside marriage than within marriage and also due to the fact that women who have premarital first birth are increasingly falling under such trend (Guzzo and Furstenberg, 2007; CRS, 2008). Furthermore, factors associated with such births are also context specific and differ a great deal. For the case of the US, for example, the rise of cohabiting unions offers one of the explanations for the rise of premarital childbearing among adolescents. Likewise, Edin and Kefalas (2005) are of the opinion that decline in marriage in the US as well as increase in premarital childbearing has amplified the expectation of young women to become independent at an early age. However, in the African context, the situation is quite different. For instance, in some communities, premarital childbearing among adolescents may serve as a means to prove fertility and may even be a prerequisite to marriage (Allan Guttmacher Institute, 1998; Nyagetia, 2015).

Differentials in levels of teenage pregnancy and early childbearing are observed across residence type, with higher pregnancy rate in rural compared to urban areas (Ayele, 2013). Literature affirms that, the odds of teenage pregnancy are higher in rural than in urban areas and consequently adolescent pregnancy and adolescent pre-marital childbearing are more pronounced in rural compared to urban areas (Ayele, 2013; UNFPA, 2015). For instance, Panday *et al*. (2009) report double fertility rate among teenagers in rural compared to urban South Africa. In addition, UNFPA (2015) reports that; in Zimbabwe, Senegal and Columbia; more than one in five teenagers from rural areas have begun childbearing prior marriage. In Tanzania, the trend of adolescent pregnancy and pre-marital child bearing is also similar to other developing countries in the sense that adolescents in rural areas are more likely to start childbearing earlier relative to their urban counterparts. At the national level, the proportion of adolescent mothers in rural areas is twice (28.1%) that in urban areas (14.8%) (URT, 2011; URT 2015). According to UNFPA (2011), among other things, high adolescent fertility and early onset of sexual activity contribute to the current and persistently high levels of fertility in Tanzania.

Given the consequences of teenage pregnancy and early premarital childbearing, there is a need for a better understanding of the factors associated with adolescent pregnancy and premarital childbearing. In addition, a majority of the empirical studies in Tanzania are largely quantitative and highly skewed in terms of context. Most of the studies are confined along the coastal regions (Makundi, 2010; Nyakubega, 2010; Mbelwa and Isangula, 2012) whereas very little is reported from the non-coastal interior regions, Katavi inclusive. This study, therefore, sought to investigate the factors associated with adolescent pregnancy and premarital childbearing in rural and urban Katavi. An understanding of the risk factors associated with premarital adolescent childbearing is vital

for policy makers who are concerned with reducing such rates and improving the welfare of women.

2.3 Theoretical Framework

This paper was guided by the theory of culture of poverty developed by the Anthropologist Oscar Lewis in 1959 that attempts to explain why people are poor. The theory delineates the factors associated with poor people's behaviours and argues that their values are distinguishable from members of the middle class. Lewis suggests that, the poorest sections of society tend to form a special sub-group with distinctive traits that are "largely self-perpetuating" (Sanchez-Martinez and Davis, 2014). Lewis argues that sustained poverty is generated by a set of cultural attitudes, beliefs, values and practices, and that this culture of poverty would tend to perpetuate itself overtime, even if the structural conditions that originally gave rise to it were to change (Small *et al*., 2010). The theory suggests that poverty is created by the transmission over generations of a set of beliefs, values and skills that are socially generated but individually held (Bradshaw, 2005). According to the theory, the social structural conditions to which the poor are exposed give rise to distinctive patterns of community and family disorganization which in turn produce a distinctive set of beliefs, attitudes and values (Robbins *et al.*, 1985). Poverty perpetuates itself from generation to generation because these attitudes are passed on to the children, rendering them incapable of taking full advantage of changing conditions and increased opportunities that may occur in their lifetime (Lewis, 1966). In the context of this paper, adolescent pregnancy and premarital childbearing represent many dysfunctional attitudes and values, relative to mainstream society, about family, education and work (Addae-Korankye, 2014). Such attitudes are, therefore, passed onto subsequent generations leading to a vicious cycle of poverty from which only a few escapes (Rodgers, 2000). The theory also suggests that self-attitudes are an important

intervening variable in the social-class/adolescent pregnancy association (Robbins *et al.*, 1985). Early premarital childbearing is, therefore, associated with poverty and its intergenerational transmission. For instance, daughters of teenage mothers often tend to become teenage mothers, passing onto their children the risks like poor nutrition, low educational performance, ill-health and low life-long earnings (Carroll and Moran, 2001).

2.4 Methodology

2.4.1 Description of the study area

The study was conducted in Mpanda Municipality and Tanganyika District in Katavi Region. The justification for choosing Katavi is that the region is reported to have the highest Adolescent Birth Rate in Tanzania Mainland, that is 140.2 per 1,000 live births compared to the national ABR that was 132/1,000 live births (MoHCDGEC, 2016). For purposes of this study, Mpanda Municipality and Tanganyika District represented urban and rural Katavi respectively. Mpanda Municipality was purposely selected as urban Katavi due to being Katavi Region's administrative headquarters as well as a well-developed urban centre relative to the district administrative headquarters. On the other hand, Tanganyika District was purposely selected among the other three rural districts (Nsimbo, Mlele and Mpimbwe) to represent Rural Katavi.

2.4.2 Research design

Cross-sectional research design was adopted for the study. Selection of the design was based on a number of justifications. As it allows data to be collected at one point in time, it served best both financial and time constraints. It also allows the researcher to establish relationships between variables for purposes of testing hypotheses (Bailey, 1994). Under the design, the researcher gathers data on only a small proportion of the population to be studied to represent the whole population. The design further allows the researcher to

collect data that enable comparison of many different variables at the same time. In addition, it ensures random selection of elements in the sample survey so as to make inferences about the population.

2.4.3 Sampling procedures and sample size

The data for this paper were qualitative in nature, particularly based on focus group discussions (FGDs), key informant interviews (KIIs) and a life history. The justification for using qualitatively data for this paper is the fact that a majority of previous studies conducted in Tanzania on factors associated with adolescent pregnancy were quantitative. However, qualitative research approach was expected to allow an in-depth and detailed investigation of the particular sensitive and complex research problem. Purposive sampling was used to obtain the research participants with the required information for the study. Selected participants were those considered to be conversant with the subject matter of adolescent pregnancy and pre-marital childbearing in the study areas. Therefore, through purposive sampling, participants were purposely selected based on their positions and knowledge in relation to the broad study objective.

According to Cohen *et al*. (2007), purposive sampling is a technique by which researchers handpick the cases to be included in the sample on the basis of their judgment of their typicality or positions of particular characteristic being sought. A total of ten (10) FGDs and thirty-two (32) KIIs were conducted involving participants conversant with the issues of adolescent pregnancy and premarital childbearing in their respective communities. Given the comparative nature of the study, FGDs and KIIs were conducted in both Mpanda Municipality and Tanganyika district. In addition, a life history was included to supplement data from the FGDs and KIIs.

2.4.4 Data collection

Prior to conducting FGDs and KIIs, all participants were informed about the objective of the study. All KIIs and FGDs were audio-recorded with informed consent. Collection of data was carried with the assistance of trained research assistants. Participants for KIIs included representatives from Non-Governmental Organizations dealing with women's welfare, district and municipal community development officers, district and municipal reproductive child health coordinators, religious leaders, district and municipal social welfare officers, ward community development officers, head teachers, doctors, nurses responsible for mother-child units and coordinators of reproductive child health at health centres. On the other hand, FGDs were conducted with different categories of participants from respective communities. These included groups of unmarried adolescent mothers, groups of male youths, groups of elderly women, groups of elderly men and groups comprising both elderly males and females and groups of young women who were formerly adolescent mothers (age 20-25 years), commonly known in the study area as *wasimbe*. Furthermore, a certain UAM shared her life history with respect to how she got pregnant and became an UAM. The life history was assumed potential to supplement findings from KIIs and FGDs.

2.4.5 Data analysis

Data were analysed by using content analysis method. By definition, content analysis is a research technique for making replicable and valid inferences from text (or other meaningful matter) to the contexts of their use (Krippendorff, 2004). Initially, data from FGDs and KIIs were transcribed. The transcribed texts were then meticulously read to gain an understanding of what was actually expressed by the participants. Thereafter, condensing was carefully done to shorten the condensed text while ensuring meaning is

maintained. After condensing, codes were formulated. Formulation of codes basically involved labelling of the condensed text into meaningful units.

The formulated codes were then systematically grouped into categories. Through categorization, all the related codes were sorted and grouped together in terms of their content and context. In addition, categorization was done with regard to topics that featured in the KIIs guides and FGDs checklists as well as study objectives and guiding theories. Themes were then developed by grouping together several related categories. The developed themes essentially served to express the latent or underlying meaning in the merged categories. Lastly, through themes, inferences were drawn based on codes and categories generated and interpretations were made.

2.5 Results and Discussion

2.5.1 Household poverty and adolescent pregnancy

Study findings show that poverty was a major factor associated with teenage pregnancy in the study area. The finding aligns with what the theory of poverty postulates. The study found that poverty at household level drove adolescent girls into early onset of transactional sexual practices, hence putting them at risks of adolescent pregnancy and premarital childbearing. This is related with inability of parents to provide for their children's basic needs. Lambani (2013) argues that teenage girls from low-income families are falling pregnant at a higher rate than those from middle and upper-income families. Arguments put forward by Lambani (2013) suits well the arguments provided by the theory of culture of poverty as explained in sub section 2.3. In the context of the study area, the parents' inability to provide for their children was partly explained by the claims that male parents are lazy and thus unproductive, they also spending most of their day time in coffee-drinking spots as well as in local pubs drinking local brew and playing chess. It

was also found that excessive alcoholism has affected most male parents in the study area both in Rural and Urban Katavi. Under such circumstances, it is the female parents whom are left for production and the overall burden of proving for the families. It was, therefore found that inability of parents to provide for their children, particularly female teenagers, tempts the adolescent girls to get out of homes in search for small amounts of money to sustain their immediate subsistence needs, including cosmetics and costumes. This is a very common practice in most households in the study area which is also silently tolerated by parents. The same was revealed by one key informant:

> "*…In most households here, an adolescent girl may leave home and go to the streets and return home late at night or even on the next day with little money or small gifts like sugar or maize flour, the parents become very happy and appreciative.…They treat that as a potential support to the family and they normally keep silent by not bothering to ask the whereabouts of their daughter or anything concerning where she got the money or gifts so as to avoid frustrating her and thus jeopardising the possibility of getting similar support in future*" (Key informant, Kibo Ward, Tanganyika District, 11th September 2017).

Poverty at both the family and community levels predicts adolescent premarital parenthood (Moore, 1995). According to Luke (2003), transactional sex is very common among adolescent girls in SSA due to, among other reasons, the desire for material goods or as a decision made in the absence of any other option for meeting their basic needs. In a similar vein, McCleary-sills *et al*. (2013) argue that transactional sex with older men can be one of the few available sources of income that allow adolescent girls to meet their basic needs, making it a common choice for many girls, even though it increases the risk of unintended pregnancy. In addition, Wamoyi *et al.* (2010) and McCleary-sills *et al.* (2013) are of the opinion that, although many young women have sexual relationships to meet immediate subsistence needs, often sex is exchanged in order to gain beauty products or buy costumes, in most cases after observing their peers receiving otherwise unattainable

goods after accepting men's overtures, and not essentially for survival. Sekiwunga and Whyte (2009) also report that, in eastern Uganda, parents' inability to provide basic necessities; such as food, clothing and soap to their daughters; results to the daughters seeking men to provide for them in exchange for sex, and sometimes this leads them to getting pregnant easily.

It was also found out that household poverty in the study area also influences parents to condone their adolescent daughters to get into love affairs with financially well-off men so that they can in return get financial support for household's survival. This suggests that, to such parents, the financial support matters most to the extent that the associated risks of their daughters getting pregnant and bearing children at home while unmarried can easily be compromised. The above findings are supported by Makundi (2010) who points out that parental influence is one of the factors influencing teenage pregnancy in Mtwara Region Tanzania. According to Makundi (2010), the matter is more common among single female-headed households where the mothers or female guardians have been persuading their daughters to have sexual partners for supporting them with provision of pocket money and other items like fragrance. The study further found that under certain circumstances, some financially well-off men may decide to provide material and financial support to the needy poor families and end up having sexual relationships easily with adolescent daughters with parents' consent. Such practices were also found to be widely promoted in the study area and are also associated with occurrence of adolescent pregnancy and premarital childbearing. This observation was supported by observations from one of the FGDs in Mpanda Municipality:

> "*…on the side of the parents, since you cannot provide for your children's basic needs, you should therefore unwillingly remain quiet and let the children behave the way they want. It is under such circumstances of poverty that parenting*

becomes extremely challenging on our part." (FGD participants, Makanyagio Ward, Mpanda Municipality, 19th September 2017).

2.5.2 Long periods of parents' absence from home and teenage pregnancy

One of the major economic activities in Katavi Region is agriculture, and most households are engaged in the same, mainly in the form of crop production. The main cash crops produced in the region include rice, maize and tobacco. With such a background, the study established that it is a common practice for parents to leave their homes for long periods of time and settle in their farms which are located far away from their residences. Reportedly, such practices involve activities like preparation of farms for sowing, weeding or harvesting. Such periods of home absence for crop production usually range from a couple of months to several months. The practice is common in both Mpanda municipality and Tanganyika district. Many participants mentioned the parents' absence from home as a major risk factor for adolescent pregnancy and premarital childbearing in the study area.

According to Chae *et al.* (2016), parental labour migration can have substantial influence on the social, economic and health conditions in which children are raised, and in most cases the adolescent children may suffer differently depending on the additional responsibilities left to them compared to the younger siblings. According to Chae *et al.* (2016), not all parents send remittances to the left-home children, and this was also the case in the context of this study. Study findings suggest that, when parents are away in the farms, children are left home alone with limited or no basic needs at all. This further suggests that, under such conditions of limited basic needs, elder adolescent siblings are left with no option but going out to the streets to beg for anything so that they manage to take care of themselves and their younger siblings. The practices put them at risk of falling prey to sexually-greedy men who may provide them with small amounts of money in

return of sex. Reportedly, such risky practices expose adolescent girls to pregnancy, sexually transmitted infections or even both. The findings suggest disorganization at family level, which is a typical trait of the poor households with regard to the theory of culture of poverty. Arias (2013) argues that departure of parents for labour purposes can result into redistribution of household responsibilities, with older children bearing an increasing share of this burden. The problem of parents' absence in the study area was supported by a community development officer in one of the wards in Mpanda Municipality as shown in the quote below:

> "*There is a certain household here where the children have been left by parents for almost a year without basic needs while the parents are far away in farms. The elder sibling therefore sustains the household by performing casual labour activities of different forms. You can therefore imagine now with such a household how vulnerable the teenage girls can be to teenage pregnancy and premarital childbearing*" (Key informant, Kawajense Ward, Mpanda Municipality, 17th September 2017).

Another key informant from Mpanda Municipality also had related explanations on the matter:

> "*In some households here, the parents may shift to distant farms for long periods to an extent that they even build houses there. Meanwhile, children are left at home helplessly without even communication from the parents. Such parents usually claim that in case of any problem, neighbours will assist the abandoned children, something which rarely works out, and instead the adolescent female siblings often find themselves getting into prostitution unwillingly to sustain the helpless younger siblings*" (Key informant, Shanwe Ward, Mpanda Municipality, 2nd October 2017).

Similar situations of long periods of absence from home by parents have also been reported by McCleary-sills *et al.* (2013) in Newala in Mtwara Region, Tanzania. According to McCleary-sills *et al.* (2013), economic migration of parents taking place in

Mtwara leads to adolescent girls often times being left at home together with their younger siblings with limited basic needs. Moreover, the young girls are expected to take on the role of providing school fees, food, clothing, healthcare and school transportation fare for themselves and their younger siblings.

As argued by McCleary-sills *et al.* (2013), to cope with such early transition into adult roles, adolescent girls have very limited option for dealing with those basic needs. Often, they opt for transactional sexual relationships with older men who are willing to provide for some of those needs. It is further argued that physical absence of the migrant parents is often accompanied by reduced parental guidance and support, and for adolescents, levels of sexual activity are higher when levels of parental monitoring are lower (Biddlecom *et al.,* 2009; Chae *et al.,* 2016). Critical analysis of this particular finding suggests that there is a close relationship between parents' absence from home and adolescent pregnancy as well as pre-marital adolescent childbearing due to the left-behind children lacking basic necessities and hence falling prey to sexually-greedy men. A life history presented as case 1 serves to further clarify the particular finding:

Case 1: A life history of how UAM Y got pregnant as a result of parents' absence from home

Two years ago, during the planting season, our parents left us for the farms located at Nsimbo District. I was with my three younger siblings: two in primary school like me, and the non-schooling youngest sibling. We were left with only fifteen kilograms of maize flour and a couple of kilograms of beans. We did not have any cellular phone for communication with our parents but rather depended on the one of our closest neighbour. The food supplies only lasted for less than a month and then we had to depend on the neighbour for food. We were used to consuming three meals but then forced into

consuming two meals. When we had opportunity to talk with our parents, they insisted that we continue eating at the neighbours' home until they sort things out. However, the promise was never kept until the day we started sleeping without eating. It also happened that the neighbour who was facilitating our communication with our parents claimed to be running out of food supplies too hence not in a position to offer us with food anymore. She further told us that she could not reach our parents through phone anymore. As the eldest and responsible sibling, I had to go out searching for casual labour activities to earn some money to sustain the household. One day while cleaning rooms in one of the guest houses where I was temporarily employed, the manager raped me. It was a very bad experience to me. He then offered me some money and told me not to disclose the matter, promising to be taking care of me and my siblings. Since I had no alternative, I decided to accept the offer and kept quiet. We started a secret love affair and after a few weeks I came to realize that I was pregnant. The manager denied the pregnancy and disappeared completely. I managed to survive through casual labour until our parents returned a year later. That is how I became an adolescent mother (Unmarried Adolescent Mother, 19 years, Kawajense Ward, Mpanda Municipality).

The life history of UAM Y (Y is used for maintaining anonymity) presented as Case 1 serves to clarify how parents' absence form home is associated with incidents of adolescent pregnancy in the study areas. UAM Y admitted categorically to have been influenced into love affair in pursuit of support for basic needs for herself and her dependent siblings. However, she ended up with pregnancy and eventually premarital motherhood.

2.5.3 Peer pressure and teenage pregnancy

Study findings show that peer pressure was also one of the factors found to be associated with teenage pregnancy and premarital childbearing among adolescent girls in the study

area. This particular finding is in line with other related studies in SSA which also report the same as one of the key factors associated with teenage pregnancy and premarital childbearing. Those studies were done in South Africa (Mwaba, 2000; Thobejane, 2015); Nigeria (Alabi and Oluwafemi, 2017); Kenya (Were, 2007); South Sudan (Vincent and Alemu, 2016); Ethiopia (Habitu *et al*., 2018); Ghana (Gyan, 2013); and Tanzania (Nyakubega, 2010; Makundi 2010; Mbelwa and Isangula, 2012).

In the context of this paper, findings show that the influence of peer pressure towards adolescent pregnancy and premarital childbearing is twofold: first, through adolescent girls imitating undesirable risky behaviours from sexually active peers of similar age and secondly, through adolescent girls being influenced into risky behaviours by relatively older female friends. The latter comprise a category of women popularly known in the study area as *Wasimbe*. These are single women often aged between 20 to 25 years who are either been divorced, unmarried or being chased away from their homes due to socially-sanctioned behaviours. Wamoyi *et al.* (2010) report a quite similar case of the existence of *Wasimbe* practising transactional sex in Kisesa Ward in Mwanza Region, Tanzania. According to Wamoyi *et al.* (2010), the plural concept of *Wasimbe* is synonymous to "prostitutes" in English language or *Malaya* in Swahili referring to sexually disreputable women in charge of transactional sex. According to Kirby (2007), one of the factors associated with early premarital child bearing is when an adolescent girl has older close friends with permissive attitudes towards premarital sex. On the other hand, with regard to peer influence from age mates, Makundi (2010) is of the opinion that, when it comes to teenage pregnancy and peer pressure, there are normally conceptions like "*if everyone is doing it why shouldn't I?"*. In a nutshell, Thobejane (2015), summarizes that peer pressure can be seen as the main factor that influences teenage pregnancy because most of the teenagers are having friends who may be sexually active.

However, in the context of this paper, the issue of *Wasimbe* has been exclusively reported in Tanganyika district. *Wasimbe* are often perceived by adolescent girls as idols who are independent and up-to-date with fashionable costumes and cosmetics. They usually convince young girls into practising transactional sex and discourage marriage by claiming that it denies young girls the privilege to enjoy their youthful lives meanwhile generating easy and quick incomes. The matter was exemplified by one key informant in Tanganyika District:

> "*Where I work here at Karema Ward, the so called Wasimbe are loitering all over the place during both day and night. They are just prostitutes, with a few of them pretending to be barmaids…. they always force friendship with young adolescent girls to convince them to join them in prostitution so as to make quick money*" (KII participant in Karema Ward, Tanganyika District, 6th October 2017).

The FGDs participants also showed disapproval of the presence of *Wasimbe* in their communities as far as parenting is concerned. During an FGD session with elderly men and women at Kabungu Ward it was reported in one of the FGDs that:

> "*The so called Wasimbe frustrate us a lot as most of our young girls imitate the bad behaviours from them by perceiving them as mordenised… in some households. The young girls have completely refused to listen and abide to the parents' instructions with regard to refraining from interacting with Wasimbe*" (FGD Participant, Kabungu Ward, Tanganyika District, 8th October 2017).

2.5.4 Prevalence of single parenthood, poor parent-child communication and teenage pregnancy

The study also found that parental divorce and separation was common in both Tanganyika District and Mpanda Municipality. It was reported that, in most cases, it is the husbands who abandoned their wives for reasons of irresponsibility, infidelity and excessive alcoholism. This paper argues that single parenthood makes parenting quite challenging especially when it comes to close monitoring of children's academic progress

as well as overall behaviours. The implication of these findings is that loose-parenting as a result of single parenthood may result into adolescent girls' early onset of sexual intercourse and of course teenage pregnancy. These findings are also in line with those of Makundi (2010), who studied factors contributing to high rate of teenage pregnancy in Mtwara Region. Makundi (2010) reports that excessive alcoholism has denied parents to spend time with their adolescent children and thus giving them ample time to spend with peers who encourage them into sexuality conducts.

In general terms, households headed by female parents alone were also accused to be loose when it came to parenting in the sense that adolescent girls were free to leave the house and come back at any time, including even sleeping out of homes. The situation is even worse in households headed by irresponsible male parents alone. The implication of these findings is that adolescent girls from such households were free to get into risky life styles and end up in unplanned pregnancies. Gaisie (1998) argues that separation of parents in Botswana has weakened family structure and led to a breakdown of domestic control. According to Gaisie (1998), children in female-headed households tended to do much as they like and took little notice of their mother, especially if she had a lover. Commenting on consequences of divorce among parents, Lambani (2015) argues that, when love is not present at home, girls may be forced to look for places where they will feel loved. Likewise, Sekiwunga and Whyte (2009) argue that family breakdown due to divorce has contributed to reduced parental control of adolescent girls which has led them to loiter about acquiring lovers and falling pregnant. In general terms, divorce and separation of parents drive adolescent girls into early commencement of sexual relationships and hence teenage pregnancy. These theory of culture of poverty also mentions divorce and loose parenting as among the traits associated with the poor.

It is argued that a teenager's family impacts on her risk for early sexual intercourse and teenage pregnancy (Lucas, 2007). Further clarification on the same is made by by Harris *et al*. (2002) who argue that teenage girls who live in step-parent, single-parent, and non-parent family structures have higher risks of early sexual experience and premarital fertility compared to teenage girls who live with two biological parents. Such households are further characterized by poverty and inadequacy of resources. It is further stressed in literature that adolescents being raised in a single-mother family are associated with elevated risks of teenage childbearing, high school drop-out, incarceration, and with being neither employed nor in school (Moore, 1995). According to Miller *et al.* (2001) as cited by Lucas (2007), teenage girls who are not monitored closely by their parents and those who receive low levels of parental support are more likely to engage in risky sexual behaviour, for instance having many sexual partners and not using contraception.

Poor parenting was also found to be one of the factors associated with teenage pregnancy and premarital childbearing in the study area. Poor parenting in the study area was manifested through poor or lack of communication between parents and children particularly regarding matters related to adolescent sexual and reproductive health. According to literature, varying dimensions of inadequate parenting such as poor communication and lack of monitoring and involvement in the child's activities have been found to predict adolescent parenthood (Moore, 1995). In contrast, Yakubu and Salisu (2018) strongly argue that parental counselling and guidance improve communication between parents and adolescents and enable parents to address challenges of adolescents thus delaying sexual activity and early pregnancies. According to Lezin *et al.* (2004), parents who spend time with their children for bonding or to monitor their behaviour may foster an atmosphere of open communication, which has been shown to have a positive impact on adolescent risk behaviours. This is echoed by Tau (1994) cited by Mturi and

Moerane (2010) who reports that lack of communication between parents and children in Lesotho and the fact that children are no longer closely supervised have been significant in allowing young girls and boys to experiment with sexual activities before marriage. As argued by Tau (1994), working parents usually do not have enough time to guide and counsel their children. The teenagers end up having to guess what is right or wrong, and in some cases fail to resist peer pressure to initiate sexual activities. Poor communication between parents and children in the study area was associated with parents' busy routines in pursuit of daily bread as well as excessive alcoholism. It was also established that even some of the female parents are alcoholics and spend much of their times in local pubs as men do. These findings suggest that parents are rarely available at homes to assume their parental roles. One of the key informants had the following remarks:

> "*The ethnic groups found here have cultures that affect parenting as well. For instance, they believe that once a girl has reached adolescence what follows is immediate childbearing and nothing else…; hence, to many parents, teenage pregnancy often comes with no surprise*" (Key Informant, Tanganyika District, 9th October, 2017)

Furthermore, participants in FGDs also supported the findings, for example, in one FGD it was noted that:

> "*Most parents do not make follow ups upon their children especially after menarche believing that the children are already grown-ups enough to take care of themselves*" (FGD participant, Kashaulili Ward, Mpanda Municipality, 14th October, 2017).

The above quotes may suggest that parents either do not see the need to discuss with their teenagers about sexual and reproductive health or are unable to discuss such matters with their children. To some parents in the study area, there is a belief that early premarital childbearing is quite a normal thing. According to Lambani (2015), parents neither guide

nor supervise their children on issues relating to sexuality due to the fact that most of them lack knowledge and skills to talk about sex to their children. However, reporting on factors contributing to teenage pregnancy in South Africa, Thobejane (2015) argues that lack of parental guidance does have a major impact on teenage pregnancy because most of the parents do not have time to discuss sexual matters with their children, and they have a misconception that topics on sex and relationships are a taboo and should not be discussed with children. In contrast with these arguments, in the course of collecting data for the study on which this paper is based, some male participants during FGD sessions had varying opinions on the matter and expressed their fear to intervene in cases of their daughters becoming pregnant:

> "*For us (male parents), when we become angry after our daughters have been impregnated, the daughter may disappear from home to unknown places. To avoid that happening, we choose to remain silent to such matters, although they are painful*". (FGD Participant, Ikola Ward, Tanganyika District, 17th October, 2017).

2.5.5 Neglect of education, parental influence to early childbearing and teenage pregnancy

The study established that there is neglect of education from the level of children all the way up to the level of parents and community at large. Most participants admitted that, in their communities, parents do not value educating their children at all since they are also not educated. For the few parents who value education, the highest level of education that they prefer for their children to achieve is primary school education. The situation is even worse for the female children. Primary school education is believed by many to be more than enough for a girl child. For instance, a girl who has completed primary education is perceived as educated enough and ready to start bearing children and start a family. Given such circumstances, cases of school drop-outs and school non-completion in the study area are common. Female children who struggle to reach up to secondary school are very few;

the majority end up dropping-out school prior to completing grade seven and remain idle at home where they are vulnerable to teenage pregnancy and premarital childbearing.

The study found that school drop-outs are often justified by very trivial issues on the part of the students. The justifications may include, for instance, lack of exercise or text books, lack of school uniforms, not liking certain subjects or teachers e.tc. School drop-outs are also partly explained by some parents convincing their children to do the same and stay at home to assist families with agricultural activities. During an interview with one of the key informants, it was reported that:

> "*At Malajila Primary School located in Tanganyika District, there are reported cases of parents convincing their children to underperform and fail deliberately in their examinations so that they don't proceed with further education and opt to offer labour in family farms or getting married if such opportunities arise*" (Key informant, Majalila Village, Tanganyika District, 7th October 2017).

The issue of parents not valuing education of their children is also shown in a quote below:

> "*There are common statements given by parents in this village when a child drops out of school with no reason; they argue that leave her/him alone to just stay at home. The are many educated children in this village; so far what is so unique about them compared to the rest?*" (Key Informant, Ikola Ward, Tanganyika District, 16th October 2017).

The presented findings are comparable to those by Sekiwunga and Whyte (2009), who report that, in East Uganda, parents have attached low value to girls' education resulting to adolescent girls becoming idle, loitering around to get men, early onset of sex and teenage pregnancy. This is similar to what was found to be happening in the study area. On similar grounds, Foley *et al.* (2009) strongly argue that, in parenting, the family trait that matters

most is not parental education but how much parents do value education. In the context of this paper, these arguments suggest that if parents of the teenage girls in the study area showed value in education of their children, it would have helped to minimize chances for the girls neglecting education and falling into sexual practices that lead them into teenage pregnancies.

Apart from parental neglect on education of their children, if was further found that there are some parents who also influence their children into early childbearing. Reportedly, female parents encourage their adolescent daughters who have completed primary school to conceive and start bearing children as a symbol of maturity as well as for prestige. Some of those parents also started childbearing very early and found no problem with the issue of early premarital childbearing. It was further reported that, when an adolescent girl delivers a baby while she is not married her family and neighbours celebrate a lot through parties where they sing and dance. Such incidents are usually perceived as jovial ones. With regard to parental influence on early childbearing, one of the key informants was quoted as expressed below:

> "*To some families, for an adolescent girl who has just completed primary school staying home for more than a year without conceiving pregnancy even if unmarried is a worrying situation on the side of the mother. The mother may get advice from her friends to consult a witch doctor to diagnose what is wrong with her daughter for taking so long to conceive*". (Key Informant, Karema Ward, Tanganyika district, 6th October 2017)

The matter was also raised during one of the FGDs session:

> "*Early premarital childbearing is a very normal thing here. For instance, in a family, an elder sibling may get pregnant and start bearing a child unmarried, and soon later on a younger sibling may do the same without any family member*

caring about the two consecutive incidents" (FGD Participant, Makanyagio Ward, Mpanda Municipality, 18th September 2017).

2.5.6 Vibrant work and business environment

Katavi Region has recently experienced an influx of immigrants from different places for purposes of work and business. For the case of Mpanda Municipality, following the establishment of the region in 2012, there has been an influx of new comers to the region's administrative district to serve as public workers as well as working with non-governmental organizations. The same has happened to the business community as well as with availability of new business opportunities. The new comers to the region have brought mixed cultures that have affected the locals in one way or another. For instance, it was found that children tend to imitate bad behaviours brought by the immigrants, putting them at risk of early onset of sexual practices and teenage pregnancy. Furthermore, adolescent girls from poor households fall prey to such affluent businessmen and employees for transactional sex and end up with teenage pregnancy and premarital childbearing. The findings are supported by observation from one of the FGDs:

> "*The male working class has become a threat to our teenage daughters. Most of young men with higher purchasing power have recently migrated to Mpanda coming from other regions, and they normally tempt our daughters into sexual affairs by offering them small amounts of money*" (FGD Participant, Nsemulwa Ward, Mpanda Municipality, 13th September 2017).

On the other hand, Rural Katavi is also similarly affected by immigrants, normally in the form of rich businessmen from neighbouring countries of Congo and Burundi who engage in mining and trading of dried sardines from Lake Tanganyika. Trading of dried sardines is reported to be a very profitable business for communities situated along the lake which attracts a lot of people during peak seasons. The business reveals an interesting and popular practice of "*kusolola*". A study by Matemba *et al*. (2019) brings to attention the

practice of *kusolola* taking place in Rural Katavi which involves a traditional practice of young girls from poor households requesting fish for free from fishermen or middlemen meant for household consumption, but some of the fish received in that way is sold for income generation. According to Matemba *et al.* (2019), the practice could have negative consequences to the adolescent girls in that they tend to be vulnerable to teenage pregnancies and even acquiring sexually transmitted diseases. In fact, the practice of *kusolola* is alleged to be related to prostitution practices in the sense that somee fishermen normally give sardines to the young girls in exchange of sex. It was further reported that, even adult women practice *kusolola*.

2.6 Conclusions and Recommendations

Adolescent pregnancy and pre-marital childbearing in Rural and Urban Katavi are attributable to multiple factors. Household poverty and long periods of parents' absence from home have appeared as factors highly associated with adolescent pregnancy and pre-marital childbearing. The two factors expose teenage girls to risks of transactional sexual practices due to lack the basic needs to sustain themselves. There also exist significant loopholes on adolescent sexual and reproductive health education among adolescents due to parents not playing their roles in educating their children the same as well as uninformed peer influence. In order to reduce adolescent pregnancy and pre-marital child bearing in the study area, the study recommends the need for each of the actors involved to play active roles to curb the situation. Households should diversify their livelihood strategies so as to reduce the poverty that drives teenage girls into transactional sexual practices. Parents should play active roles in instilling values against adolescent pregnancy and premarital childbearing as well as valuing education of their children. The same should be done by religious leaders as well. Parents and religious leaders should be sensitized on the importance of communicating with adolescents on matters related to

sexuality. The government and non-governmental organizations should provide Sexual and Reproductive Health education in schools and beyond school so as to reach the out-of-school adolescent girls as well as those who are highly affected by the problem. Furthermore, the out-of-school adolescent girls should be provided with vocational training which reflects local opportunities, so as to keep them occupied with income generating activities instead of being idle in the streets.

2.7 References

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CHAPTER THREE

3.0 LIVELIHOOD STRATEGIES OF UNMARRIED ADOLESCENT MOTHERS OF RURAL AND URBAN KATAVI, TANZANIA

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3.1 Abstract

Unmarried adolescent mothers (UAMs) in Sub Saharan Africa, including Tanzania, face a lot of challenges, one of them being livelihood insecurity. This paper examines the various types of livelihood strategies engaged by unmarried adolescent mothers (UAMs) in Katavi Region, Tanzania whereby Mpanda Municipality and Tanganyika District were purposely selected to represent Urban and Rural Katavi respectively. The paper also determines association between livelihood strategies and the two localities and identifies the dominant livelihood strategies among the localities. A cross-sectional research design was adopted for the study whereby data were collected using convenience sampling approach with a

sample of 240 UAMs. With regard to quantitative data, descriptive statistics in terms of frequencies and percentages were used to present the livelihood strategies while chi-square test was used determine the relationship between livelihood strategies and the localities. Qualitative data were analysed using content analysis method. The approach used to classify UAMs' livelihood strategies was based on the main income generating activities as stated by the UAMs, based on a predetermined list of six categories of livelihood strategies established during a pilot study that preceded the actual study. Chi-Square test results show a significant relationship between four livelihood strategies and locality. Trading emerged as the dominant livelihood strategy in both localities. The study recommends that governmental and non-governmental institutions need to provide life-skills and entrepreneurial skills to UAMs to enable them to employ themselves. It is further recommended that UAMs aspiring for upgrading their education could do so through the Qualifying Tests programme.

Key words: unmarried adolescent mothers, livelihood strategies, vulnerability and Katavi

3.2 Introduction

Premarital adolescent motherhood exposes adolescent mothers to multiple consequences including being livelihood insecurity. Adolescent motherhood is a situation in which a girl in her teenage years becomes a mother as a result of getting pregnant. By definition, an adolescent mother, therefore, is a young woman who became pregnant before the age of 18, gave birth to a child and chose to raise the child (Gallant and Terisse, 2000). This paper operationalizes the concept of an unmarried adolescent mother as a young woman of 19 years or less who became pregnant, gave birth and chose to raise the child prior to getting married. On the other hand, livelihood strategies are a range of activities that people carry-out in order to make a living. In addition, the ways in which people access

and use livelihood assets in social, economic, political and environmental contexts form a livelihood strategy (IRP and UNDP, 2010).

Adolescent childbearing has negative consequences on life of an adolescent mother. According to McDermott *et al*. (2004), adolescent mothers tend to be poor and care for their children in impoverished circumstances that are hard to either escape from or to improve. Women who bear children at a very young age have limited education, limited job opportunities, limited choices for the future and high degree of dependence (Population Reports, 1995 cited in Odu *et al*., 2015); hence, adolescent motherhood is widely recognized as a cause of poor labour outcomes for the young mothers (Holmlund, 2005). Teenage pregnancy also implies the end of formal schooling or training and restriction to future opportunities to improve one's status. Arguably, adolescent mothers are more likely than older mothers to live in socio-economic deprivation and have low level of education and literacy (Odu *et al*., 1995). It is also worth noting that teenage pregnancy and early childbearing (including premarital) are higher in economically poor households with low-incomes, hence respective adolescent girls being more likely to experience unintended pregnancies and consequently early premarital childbearing (Ayele, 2013; Marcen and Bellido, 2013; Ajala, 2014).

The incidence of early childbearing, according to Becker (1993), tends to raise opportunity costs of accumulation in human capital. As argued earlier, being a teen mother may hinder human capital investment since it is during adolescence that one's education is attained. Given the high drop-out rates of teen mothers, they are unlikely to attain college qualification which is more valuable in labour markets. Moreover, motherhood affects adolescents' education to a great extent because, to an individual adolescent mother the incidence, living without obtaining the minimum educational requirements needed for

entering the labour market stifles chances of ever getting a good job and makes those with such low education more dependent and hence are trapped in poverty (Petchetisky, 1984; Furstenberg and Teitler, 1994; Odu *et al*., 2015). According to Odu *et al*. (2015), having a child further implies that an adolescent mother is barred from returning to school, hence being denied opportunities as well as vocational training. In a similar vein, Hofferth *et al.* (2001) conclude that early childbearing lessens the likelihood that young women will complete their schooling, thereby weakening employment prospects. Due to being less educated and unskilled, most Unmarried Adolescent Mothers (UAMs) are being forced to perform menial or semi-skilled jobs in order to provide for their children, and therefore incomes earned by those who did not continue with their studies are lower compared with those who finished their studies (Kiernan, 1998; Luster and Okagaki, 2005; cited in Nyagetia, 2015; Odu *et al*., 2015). In view of this, the jobs that UAMs engage in pay very little thus risking the UAMs' and their children's wellbeing and livelihood security.

Unmarried adolescent mothers in Sub-Saharan Africa (SSA) are also vulnerable to livelihood insecurity (Nyagetia, 2015). Although a great deal of research has been done on adolescent mothers, very few studies have focused on studying their livelihood strategies and even much fewer have specifically dealt with the unmarried adolescent mothers. At both global and regional levels, studies on adolescent motherhood have focused on multidimensional nature of the phenomena to include, *inter alia*, its underlying causes and the associated consequences. Among such studies are those by Thompson *et al.* (1995); Buvinic (1998); Beutel (2000); Boden *et al*. (2008); Schuyler Center for Analysis and Advocacy (2008) and Ajala (2014). Other studies have focused on the relationship between adolescent motherhood and educational attainment. Such studies include those of Gyan (2013); Tabetando and Ahidjo (2015); Bellamy (2017) and Timaeus and Moultrie (2015). The few previously studies on adolescent motherhood have also focused on many

more other issues. It is also worth noting that studies on livelihood strategies of adolescent mothers are both few and geographically unevenly distributed with a large portion of them existing in regions of Latin America and the Caribbean (LAC). A majority of studies in LAC have been conducted in the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama. Nevertheless, most of these studies have been exclusively done in rural context neglecting the urban context. Other similar studies have been carried out in some countries of South-Central Asia such as Afghanistan, Bangladesh and Nepal.

Sub-Saharan Africa is reported as one of the regions in the world with high Adolescent Birth Rate (ABR). Similarly, WHO (2007) reported a progressive increase in premarital childbearing among adolescent mothers in some countries of the region. In SSA, each year, births to adolescent girls account for 16% of all births (UNFPA, 2013). Since most of the UAMs are from poor family backgrounds, their livelihoods are limited, resulting in lack of basic needs and inadequate care for their children. Despite these realities, studies on livelihood strategies of UAMs in the region are hard to find. Existing empirical studies have, to a largee extent, focused on causes and consequences of teenage pregnancy in various parts of the region. For instance, Ajala (2014) studied factors associated with teenage pregnancy and fertility in Nigeria; Ayele (2013) studied differentials of early teenage pregnancy in Ethiopia; Nyagetia (2015) studied challenges of unmarried adolescent motherhood in Kenya; while Mbelwa and Isangula (2012) studied factors for teenage pregnancy in Tanzania. According to Nyagetia (2015), SSA countries are the most affected when it comes to challenges affecting adolescent mothers compared to other parts of the world as most adolescent mothers come from poor backgrounds hence face difficulties in accessing essential commodities to sustain themselves and their babies.

Generally, the majority of adolescent mothers live in rural areas where poverty rates are high among young women (World Bank, 2009). In most of the studies listed above, less has been reported concerning the livelihood strategies of UAMs, there also lacks a comparison the livelihood strategies practised by urban and rural UAMs. Moreover, even the few related studies available have mainly targeted rural UAMs, neglecting the urban ones.

In Tanzania, the ways in which rural and urban UAMs strive to survive with their children also remains unknown at least in the context of the study area. In Katavi, where the study on which this paper is based was conducted, ABR is the highest (140.2/1000) among all the regions in Mainland Tanzania (MoHCDGEC, 2016). Therefore, the paper specifically aimed at examining the existing types of livelihood strategies that UAMs of Rural and Urban Katavi engage in as well as assessment of the dominant livelihood strategies with regard to the two localities. This involved identification and critical analysis of the existing livelihood strategies to capture the dominant ones as well as justification for their choice. The findings from the study could be of use to various stakeholders such as policy makers, development practitioners, the academia, the private sector, the civil society and anyone directly or indirectly interested with the welfare of adolescent mothers.

3.3 Theoretical Framework

The paper is guided by DFID's Sustainable Livelihoods Framework that has its origin from the works of Chambers and Conway as early as 1990s (DFID, 2000). At its core, the framework sets out to conceptualize how people operate within a vulnerability context that is shaped by different factors. It further conceptualizes how people utilize their asset base to develop a range of livelihood strategies (DFID, 2000). Drawing from the framework, this paper perceives premarital adolescent motherhood as a vulnerability context upon

which UAMs operate. Premarital adolescent motherhood is perceived as a shock that affects life of an UAM. Within the particular vulnerable context, an UAM is therefore obliged to strive to achieve her well-being through adoption of a combination of livelihood strategies by drawing upon the asset base at her exposure. The framework is built on the belief that people need assets to achieve a positive livelihood outcome. People do possess different kinds of assets that they combine to enable them to achieve livelihoods that they seek (DFID, 2000; Petersen and Pedersen, 2010). Therefore, UAMs adopt a number of livelihood strategies to cope with adolescent motherhood and the challenges related to it. The choice of a particular livelihood strategy is also strongly related with the livelihood outcomes and hence UAMs' well-being.

3.4 Methodology

3.4.1 Description of the study area

The study was conducted in Mpanda Municipality and Tanganyika District in Katavi Region. The justification for comparing the rural and urban areas was due to most of the previous studies being rural biased, neglecting the urban contexts. The study, therefore, sought to get a broader picture of the phenomenon by comparing rural and urban contexts. On the other hand, Katavi Region was purposely selected for the study due to having the highest ABR (140.2/1000) in Tanzania Mainland compared to the national ABR of 132/1000 (URT, 2015; MoHCDGEC, 2016).

3.4.2 Research design

The study adopted a cross-sectional research design that allows data to be collected at one point in time. Selection of the particular design was due to among other reasons, its ability to comply to both financial and time constraints as well as meeting objectives of the study.

3.4.3 Sample size and sampling procedures

The population for the study comprised all unmarried adolescent mothers aged 19 or younger when their babies were born. Household surveys were conducted with 240 UAMs, with 120 UAMs from Mpanda Municipality and the other 120 UAMs from Tanganyika District. The justification for studying UAMs exclusively was based on the fact that they are assumed to lack economic support compared to their married counterparts who get support from their spouses.

To get the above-mentioned sample, the study used non-probability convenience sampling approach which assumes that there is an even distribution of characteristics within a population. The approach was adopted due to unavailability of a sampling frame for UAMs. That being the case, not every UAM had equal chance of being included in the sample as there was neither official census nor a complete list of all unmarried adolescent mothers living in the study districts. According to De Vos (1998) convenience sampling is the rational choice in cases where it is impossible to identify all the members of a population. Non-probability convenience sampling has also been used in various similar studies involving adolescent mothers in cases where their censuses were unavailable. These include, among others, studies by Ehlers (2003), Ali *et al*. (2018), Wilson-Mitchell *et al*. (2014) and many more. Snowball sampling technique was adopted for the study. According to Marshall and Rossman (2011), snowball technique is often used in hidden populations which are difficult to access.

3.4.4 Data collection

Qualitative data were generated from Focus Group Discussions (FGDs), Key Informant Interviews (KIIs) and a life history. Participants for FGDs and KIIs were purposely selected based on their positions and knowledge in relation to the study themes. A total of

twelve FGDs were conducted involving participants conversant with the issues of teenage pregnancy and premarital adolescent childbearing in their respective communities. Given the comparative nature of the study, six FGDs were conducted in Tanganyika District Council and the other six were conducted in Mpanda Municipal Council. Thirty-two KIIs were conducted whereby sixteen were done in urban and the remaining sixteen in rural. The key informants included representatives from Non-Governmental Organizations dealing with women's welfare, district and municipal community development officers, district and municipal reproductive child health coordinators, religious leaders, school head teachers, district and municipal social welfare officers, ward community development officers, doctors, nurses responsible for mother-child units and coordinators of reproductive child health at health centres. The life history approach was used to supplement data from KIIs and FGDs. On the other hand, quantitative data were collected from households with UAMs identified through snowball sampling technique. Secondary data were gathered from various sources including government reports, newspapers and policy briefs.

3.4.5 Data analysis

Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS), Version 20. Descriptive data on livelihood typologies were analysed and presented using frequencies and percentages with regard to localities. Chi-square test was used to determine association between dominant livelihood strategies and the two localities. Qualitative data were analysed using content analysis whereby data collected through field notes and audio recordings were first transcribed and coded. The codes were further categorized and themes were created from the categories. From the themes, the researcher was able to derive latent meanings for analysis in line with the study objectives and guided by theories.

3.5 Results and Discussion

3.5.1 Livelihood strategies among unmarried adolescent mothers of Katavi

The study revealed that the UAMs in both rural and urban Katavi were engaged in six categories of livelihood strategies as shown in Table 3.1:

Table 3.1: Distribution of UAMs by types of livelihood strategies (n=240)

Livelihood Strategy	Frequency	Per cent (%)
Petty Trading	137	57.1
Wage employment	27	11.3
Offering labour to household in the form of household chores and/or crop production	27	11.3
Crop production on own farm plot	15	6.3
Off-farm self-employment	10	4.2
Casual labour	24	10.0
Total	**240**	**100**

The results in Table 3.1 show that petty trading was the most dominant livelihood strategy (57.1%) among UAMs in both rural and urban Katavi. These findings are as well supported by findings from FGDs and KIIs. In the FGDs and KIIs, petty trade was also mentioned as the most preferred livelihood strategy among UAMs in both Rural and Urban Katavi. This was revealed by one of the key informant who said:

> "*Petty trading is a very popular undertaking among UAMs here and is specifically done in the form of street vending… The secret behind such livelihood strategy is prostitution… Most UAMs are lazy, do not prefer difficult activities and thus they prefer loitering around the streets in search for men for transactional sexual practices. For instance, at Simba and Uwanja wa Fisi Streets, it is not a strange thing to find young women with babies on their backs selling fruits in bars at late night. If you ask anyone here, the two streets are renowned for prostitution in Mpanda Municipality*" (KII participant in Mpanda Hotel Ward, Mpanda Municipality, 16th September, 2017).

Those study findings are comparable to findings by other similar studies carried out in Nigeria, Ghana and Sierra Leone which report that adolescent mothers highly prefer petty trading as a major livelihood and source of income generation basically due to their poor education as well as sparse financial resources available to them (Melvin and Uzoma, 2012; UNFPA, 2013; Asomani, 2017; Zibmil *et al*., 2018). Arguably, trading activities carried out by the adolescent mothers are of subsistence in nature and normally require low capital for start-up. However, none of the studies mentioned here captured the dimensions of prostitution in the shadow of the popular petty trading endeavours.

Apart from trading, other livelihood strategies were wage employment (11.3%) and offering of labour to households where UAMs resided (11.3%) in return for shelter and other basic amenities. Regarding the latter category, it was found that, for UAMs who were jobless and lacked income generating activities to earn their living, the option for them was to offer labour to the households of their parents where they were sheltered so as to get privileges of being provided with shelter, food and other minor basic needs for themselves and their children. It was found that, in both localities, a tendency for an UAM staying at her parents' house with her child just for free wasn't an acceptable tendency but, instead, one had to provide labour in return. UAMs who fail to adhere to this requirement are normally evicted by their parents from the family. Additionally, it was further learnt that in most cases male parents are stricter than female parents in enforcing this decision. The finding was further described by two KIIs as followed:

> *"We have received several cases being reported here involving male parents chasing away their daughters who are unmarried adolescent mothers. Such male parents have fiercely chased away their daughters to go out and search for incomes for provisioning of their babies who are perceived as unnecessary additional burdens to the households"* (Key Informant, Ilembo Ward, Mpanda Municipality, 11th September 2017).

The above findings are supported by Mgbokwere *et al*. (2015) who argue that an adolescent mother is already disadvantaged socio-economically because of dependence on parents or guardians for subsistence. In the study area, UAMs usually offer labour in two forms: through assisting routine daily household activities or assisting with farming activities in family farms.

In addition to the earlier discussed livelihood strategies, the study further observed that some UAMs were engaged in casual labour activities (10%); own crop production on their own farm plots (6.3%) and off-farm self-employment (4.2%). For those engaged in own crop production it was found that in most cases they were being temporarily given farm plots for free by their parents to cultivate and grow their own crops so as to reduce dependence on parents. Casual labour or menial labour has also been reported by Melvin and Uzoma (2012) as one of the livelihood strategies preferred by adolescent mothers in Southwest Nigeria. The study findings were also complemented by a life history narrated by one of the UAMs who disclosed the circumstances which brought her in the livelihood strategy that she was engaged in during data collection as shown in Case 2.

Case 2: Life history of how Unmarried Adolescent Mother X started petty trading

When I got pregnant in 2015, I was living with my mother and siblings at Makanyagio Ward, in Mpanda Municipality. My mother became very angry and chased me away from home telling me to go and live with the man that impregnated me. In fact, this was due to the extreme poverty that existed in our family whereby getting pregnancy implied an additional burden to my mother in taking care of the family. I went to stay at my boyfriend's house. However, after staying there for a few weeks he also chased me away claiming that he was neither ready to become a father nor start cohabitating with me. Therefore, I returned home where I met my mother still bitter with me but she accepted me

under the condition that I should not expect any form of support from her towards expenditures related to my pregnancy and my unborn child but rather getting free shelter only. She told me that I should look for income generating activities to cater for myself and the unborn offspring. She also said that I should start contributing funds for household daily expenditures. I had a safe delivery, of course financed by her, but immediately after my delivery, she started harassing me and uttering abusive words to me and insisting that I leave her house. She further claimed that me and my child were unnecessary burdens denying her and my siblings the privilege of eating proper as they wished. I tolerated all that until my daughter reached one year, when I managed to secure a ten thousand shillings loan from my uncle which I used to start my present-day fruits business. After five months, I managed to repay the loan through several instalments and I am now proceeding with my business quite well. My business capital now amounts to twenty thousand Tanzanian shillings, and I have little savings as well. I am now capable of taking care of myself, my daughter as well as contributing to household expenditures whenever asked to. (Unmarried Adolescent Mother, 18 years, Makanyagio Ward, Mpanda Municipality).

The life history of UAM X in case 2 (X serves to maintain anonymity) conforms to the earlier discussed finding that parents of UAMs do not tolerate staying with their daughters and providing them free basic needs without the UAMs getting involved in any income generating activity. The case serves a good example of how UAM X was forced to engage in petty trading as a form of livelihood strategy after being denied basic needs by her mother.

3.5.2 Description of the forms of petty trading activities in the study area

Since it was established that trading was the most dominant livelihood strategy (57.1%) among UAMs of both rural and urban Katavi (Table 3.2), the study also found it worth identifying the actual forms of trading activities engaged by the UAMs, and the findings of the same are summarized in Table 3.2.

Table 3.2: UAM's Major forms of trading activities (n = 137)

Forms of trading activities	Frequency	Per cent (%)
Kiosk	21	14.6
Selling charcoal and/or firewood	9	6.2
Stall	28	19.4
Selling fish through "*Kulangua*" *	18	12.5
Selling fish through "*Kusolola*" **	9	6.2
Selling used clothes	2	1.4
Food vending "*mama lishe*"	10	6.9
Selling fruits	10	6.9
Selling vegetables	21	14.6
Selling both fruits and vegetables	2	1.4
Selling snacks	14	9.7

*"*Kulangua*" refers to a normal practice of buying and selling in pursuit of profit whereas "*kusolola*" ** means requesting for fish for free from fishermen for household consumption but opting to sell them for income generation.

The findings in Table 3.2 show that the most popular trading activities preferred by the majority of the UAMs were: selling of food stuff through stalls (19.4%); owning kiosks (14.6%); selling of vegetables (14.6%) and selling of fish (12.5%) locally known in the study areas as *kulangua.* The activity involves a normal procedure of procuring fish at lower prices from either fishermen or agents and selling profitably at market places on streets. It is distinguished from the similar fish trade locally known in the study area as *kusolola* (6.2%) in that the latter is a traditional old practice whereby needy low-income household members request for small amounts of fish from fishermen as they arrive at the

lake shores from fishing in Lake Tanganyika. It is normally young girls and women who practise *kusolola* along the lake as fishermen are arriving to the shores from fishing. In the first place, the practice was meant to provide the needy families with food, but of recent, due to life hardships, the women and young girls have taken advantage of the practice by soliciting fish for trading purposes instead of household consumption. Thus, fish traders in the study area are potentially distinguished from those who procure and sell (*kulangua*) to those who beg and sell (*kusolola*).

The practice of *kusolola* might have negative consequences to UAMs in that the UAMs tend to be vulnerable to subsequent pregnancies and even acquiring sexually transmitted diseases. This is due to the fact that in most cases fishermen tend to persuade young girls practising *kusolola* (UAMs inclusive) into sexual practices by giving them fish in exchange. The remaining forms of trading activities included: selling of snacks (9.7%); selling of fruits (6.9%); food vending (6.9%) popularly known in Kiswahili as *mamalishe*; selling of charcoal and/or firewood (6.2%); selling of used clothes (1.4%) and selling of both fruits and vegetables (1.4%).

3.5.3 Factors associated with UAMs' choice of livelihood strategies

An inductive analysis of data from KIIs and FGDs came up with factors explaining why the existing livelihood strategies are popular among UAMs: being easy-to-do livelihood strategies which require relatively small amounts of capital to start; they are easy to make quick little money for daily survival of UAMs; they form alternative options for majority of UAMs who are unemployable due to lacking qualifications; most UAMs are lazy and do lack creativity in alternative livelihood strategies hence end up copying livelihood strategies from one another; most UAMs are only after small amounts of profits, hence no creativity; and those engaged in an array of petty trading activities in the form of street

vending do prefer such activities as shadows for engaging in prostitution by targeting and attracting men in the streets for transactional sexual practices. The same was supported by an observation from a key informant from Mpanda Municipality:

> "… In *Mpanda Municipality, sale of fruits and vegetables seem to be the most popular livelihood strategies for most of the adolescent mothers … in fact you can easily observe a higher number of young girls walking in the streets carrying fruits and/or vegetables on their heads with their babies on their backs. This is simply because such undertakings are both easy to start in terms of capital and easy to get customers compared to others*" (Key Informant, Mpanda Municipal Council Office, 11th September 2017).

In similar circumstances, another key informant from Tanganyika District had the following observation:

> *"It is quite surprising the way these adolescent mothers imitate business types from one another; if you go to the market place at Ikola, you will find most of them doing similar types of businesses"* (Key Informant, Ikola Ward, Tangayika District, 23rd September 2017).

3.5.4 UAMs' livelihood strategies by district

The chi-square test was performed to find out whether there was significant association between localities where UAMs were found and the livelihood strategies that they were undertaking. Table 3.3 summarizes these findings:

Table 3.3: UAMs' distribution of livelihood strategies by District (n=240)

Livelihood Strategy	District		
	Mpanda Municipality (n=120)	Tanganyika District (n=120)	Chi Square /Sig.
Trading	69(50.4)	68(49.6)	1.000
Wage employment	24(88.9)	3(11.1)	0.000**
Offering labour to household in form of household chores and/or crop production	11(40.7)	16(59.3)	0.844
Crop production on own farm plot	1(6.7)	14(93.3)	0.001**
Off farm self-employment	9(90.0)	1(10.0)	0.001**
Casual Labor	6(25.0)	18(75.0)	0.000**

NB: Numbers in brackets indicate per cents. **The Chi-square statistic is significant at the 0.1% level.

The findings show that there was a statistically significant association between location and wage employment (0.000), crop production on own farm plot (0.0001), off farm self-employment (0.0001) and casual labour ($p = 0.000$), which were significant at the $p < 0.1\%$ level. This implies an association between those livelihood strategies and location. However, descriptive statistics (Table 3.3) show that despite the fact that trading was found to be balanced in both rural and urban areas (with 50.4% and 49.6% respectively), there was skewed variation in the remaining categories of livelihood strategies with some livelihood strategies being more associated with rural areas while others were more associated with urban areas. Such findings are highly skewed. For instance, out of the 27 UAMs in wage employment category, 88.9% were found in urban areas while 11.1% were found in rural areas. This suggests availability of more employment opportunities in urban compared to rural Katavi, which is an obvious trend in many countries. Out of the 15 UAMs in the own crop production category, 93.3% were found in rural areas while 6.7% were found in urban areas. Again, this is obvious given the availability of more land for cultivation in rural areas compared to urban areas where land resource is quite limited. Furthermore, out 24 UAMs in casual labour category, 75.0% were found in rural areas

while 25.0% were found in urban areas. Casual labour activities were largely on-farm. These findings do contradict partially with those of Nyagetia (2015) who reported that UAMs of rural areas in Kisii County in Kenya were disadvantaged opportunity-wise in the sense that more livelihood opportunities were available in urban areas. For that case, in Katavi, the rural UAMs are only disadvantaged as far as wage employment is concerned and not in other categories of livelihood strategies, for instance casual labour.

3.6 Conclusion and Recommendations

Unmarried adolescent mothers of Katavi, similar to their counterparts from other areas, face challenges of livelihood insecurity. There exist at least six livelihood strategies among UAMs in the study area with the most popular one in both rural and urban areas being petty trading. In view of the study findings, it appears that UAMs in the study area are faced with limited livelihood options due to varying factors among them being lack of employable qualifications as well as start-up capital. Furthermore, the findings showed that non-farm wage employment opportunities are relatively more available in urban compared to rural Katavi, which is characterized by farm-related livelihoods. The study calls upon various stakeholders, both governmental and non-governmental with stake in welfare of vulnerable groups particularly women, to design programmes for provision of diversified life skills to UAMs. This will enable UAMs to employ themselves in various sectors and enhance their wellbeing. With regard to trading, UAMs could be trained in areas of entrepreneurship and basic financial management skills. It is further recommended that UAMs aspiring to upgrade their education could do so through the Qualifying Tests programme.

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CHAPTER FOUR

4.0 FOOD SECURITY AND NUTRITIONAL STATUS OF UNMARRIED ADOLESCENT MOTHERS OF RURAL AND URBAN KATAVI, TANZANIA

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4.1 Abstract

Unmarried adolescent mothers (UAMs) are likely to be more vulnerable to food insecurity and poor nutrition status compared to older mothers. The study on which this paper is based used cross-sectional research design whereby data were collected from a sample of two hundred and forty (240) UAMs from rural and urban Katavi. The objective of the study was to determine food security of UAMs of rural and urban Katavi. Specifically, the paper (a) determines prevalence of food insecurity among UAMs of rural and urban Katavi in terms of household food insecurity access and household dietary diversity, (b) identifies factors influencing UAMs' food security and strategies used to cope with food insecurity among UAMs or rural and urban Katavi, and (c) determines nutritional status of UAMs and their children. Quantitative data were gathered through household surveys using semi structured questionnaire. Qualitative data were collected through focus group

discussions (FGDs) and key informant interviews (KIIs). Qualitative data were analysed using content analysis method. UAMs' food access and dietary diversity were captured using Household Food Insecurity Access Scale (HFIAS) and Household Dietary Diversity Score (HDDS) respectively. With regard to quantitative data, binary logistic regression was used to determine factors associated with UAMs' food security. Binary regression results show that eight predictors were significantly associated with UAMs households' food security/insecurity among UAMs whereas the remaining five predictors were not. UAMs' household size and borrowing food from neighbours and friends were the strongest ($p \leq 0.05$) predictors. The study findings further show that, across all the food security indicators used in the study, the discrepancy between rural and urban UAMs food security status remains apparent with urban UAMs faring better than their rural counterparts. The study recommends that UAMs should be supported to build up their entitlement endowments and hence minimize the food insecurity-related risks.

Key words: Unmarried Adolescent Mothers, food security, dietary diversity, nutritional status and Katavi

4.2 Introduction

Food security is an important dimension of well-being (Hoddinott and Yohannes, 2002; Jaron and Galal, 2009). It is also a vital component of human development and well-being that must be safeguarded and sustained by states, communities and individuals (Gartaula *et al.,* 2017). Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2002; McGuire, 2012). According to Pelimina and Urassa (2015), a household is food secure if it has the ability to access and utilize sufficient quantities and quality of food to support a healthy and active lifestyle

whereas the opposite implies food insecurity. Hoddinott and Yohannes (2002) strongly argue that inability of households to obtain enough food access to an active, healthy life, is surely an important component of their poverty. Income poverty is therefore, in words of Cook and Frank (2008), a principal risk factor for food insecurity. Measuring food security is useful for many reasons. It includes identifying the food insecure, assessing the severity of their food insecurity, characterizing the nature of their insecurity, predicting who is mostly at risk of future hunger, and many other related purposes (Hoddinott and Yohannes, 2002). Food security, therefore, needs to be analysed within a broader spectrum of the livelihoods of the study population.

Household food security depends not only on the availability of an adequate and sustainable supply of food but also on the means employed by households to acquire the needed food (Armar-Klemesu, 2001). Literature suggests that livelihood strategies engaged by individuals are central in examining their food security (IFPRI, 2015), and thus food security is an outcome closely linked to viable livelihood strategies (Gathiaka and Muriithi, 2013). Burchi and De Muro (2012) suggest that treating household food security without due consideration of the livelihood security of the respective individuals is inadequate in making feasible policy recommendations. Notably, food insecurity is somehow related to unsatisfactory livelihood strategies (ACF, 2010). According to Armar-Klemesu (2001), stability of household food supplies depends on the ability of respective households to procure, through income, adequate food on a continuing basis. A household is considered to be food insecure if it has limited or uncertain physical and economic access to secure sufficient quantities of nutritionally adequate and safe foods in socially acceptable ways to allow household members to sustain active and healthy living (Coates *et al*., 2006). The number of meals consumed by household members per day can also be used as a proxy indicator of household food security status. It is widely agreed that

individuals should consume at least three meals a day (URT, 2017). It is further argued that food access can be achieved through adequate income or resources that allow the purchase or acquisition of appropriate food products for a nutritious diet (Hwalla *et al*., 2016). Income is thus an important indicator of food access in the sense that with purchasing power, income can determine a household's access to food. It is therefore likely that households characterized by small incomes are less likely to afford sufficient and quality food. The study on which the manuscript is based holds that ability of a household to procure adequate food depends on the presence of livelihood strategies, among household members, that generate adequate income to afford enough food.

Dietary Diversity **(**DD) is also among the measures of food security, defined as the number of different foods or food groups consumed over a given reference period (Ruel, 2003). FAO (2013) suggests the use of DD as a proxy indicator of food security. Dietary Diversity Score (DDS) is a food group count that is often used as a numerical indicator of diet quality. It is correlated with caloric acquisition levels (Hoddinot, 2002) and reflects households' access to a variety of foods and functions as a proxy indicator for nutrient adequacy of diet of individuals (FAO, 2011). The overall nutritional quality of the diet is improved with diverse diet, and thus a diversified diet positively influences individuals' well-being. DD can be both an indicator of nutrient adequacy and an outcome measure of food security (Hoddinot, 2002). It is measured by calculating weighted sum, with the weights reflecting the frequency of consumption (Hoddinot, 2002). It often refers to a count of food groups consumed over given reference period often 24 hours but can go beyond up to seven days or even more (FAO, 2011; Maxwell *et al*. 2013; Habte and Krawinkel, 2016). Castell *et al*. (2015) argue that household DDS is meant to reflect the economic ability of a household to access a variety of foods, and therefore an increase in

dietary diversity is associated with socio-economic status as well as household food security.

Arguably, food security is a means to nutritional status (Engle *et al*., 1999) and is also quite essential to ensure adequate nutrition (Ghattas, 2014). Nutritional status is referred to as the physiological state of an individual resulting from the relationship between nutrient intake and requirements and from the body's ability to digest, absorb and use the nutrients (FAO, 2013). On the other hand, nutrition can mean consumption of a wide range of foods that provide essentially needed nutrients to both function and develop optimally. Among the key drivers of nutritional security is access to food. According to Ruel (2013), nutritional security implies optimal nutritional status and exists when there is access to a healthy and balanced diet. Nutritional status of an individual can be assessed through anthropometric indices which essentially involve human body measurements through a variety of methods like Body Mass Index (BMI), mid-upper arm circumference (MUAC), weight-for-age and others (Upadhyay and Tripathi, 2017).

Nonetheless, food security is also associated with the nutritional status of children (Sambu, 2013) and is routinely assessed using anthropometry whereby researchers utilize the indicators of BMI, stunting, wasting and underweight (Tigga and Sen, 2016). Woodruff and Duffield (2002) argue that, in many well-nourished populations, a reasonable correlation exists between MUAC and BMI. Reinhard and Wijayaratne (2000) argue that poor anthropometry among children is in many cases a reflection of inadequate food utilization within a household whereas, on the contrary, Sambu (2013) reports that households with access to sufficient food with the necessary dietary nutrients are less likely to have incidents of child malnutrition. Furthermore, in food insecure households, infants and children are at greater risk for negative physical and developmental outcomes

including overweight, insecure attachment, slowed cognitive development, behavioural problems, emotional problems and poor social skills (Whitaker *et al*., 2006). The situation discussed here is even worse to children of UAMs given the insecure LS hence inability to afford sufficient foods with the required nutrients.

However, households that are vulnerable to food insecurity can modify their eating habits and develop varying coping strategies to deal with the situation (Cordero-Ahiman *et al*., 2018). In food insecure households, adults and children often rely on low-cost and unhealthy foods or adjust their intake by reducing portions, skipping meals or by going hungry (Dush, 2020). Maxwell *et al.* (1999) mention four categories of food insecurity coping strategies, namely dietary change, food-seeking behaviours, household structure and rationing. Other scholars break down those strategies further to include consumption of less preferred diets, minimization of feeding frequency, reduction of the frequency of food intakes, daily skipping of meals, borrowing of food and money, food aid or support from relatives and friends, selling of property and household valuables, temporary migration, consumption of wild foods and many others (Welhemina, 2008; Verves, 2010; Saronga *et al*., 2016; Tsegaye *et al*., 2018). On the contrary, for developed countries like the United States, adolescent mothers are privileged to food aid arrangements such as food stamps, Temporary Assistance to Needy Families (TANF), Special Supplemental Nutrition Programme for Women, Infants and Children (WIC), a few to mention (Stevens, 2010), which to a great deal rescue them from food insecurity.

Adolescents in sub-Saharan Africa have one of the highest birth rates compared to adolescents in the other regions of the world, accounting for a significant proportion of the overall fertility in many countries in the region, Tanzania inclusive (UNFPA, 2015). Adolescent pregnancy rates in Tanzania are still high despite efforts to curb them (Mbelwa

and Isangula, 2012; Pfeiffer *et al*., 2017), and consequently early premarital childbearing rates are high as well. However, there are several unexplored questions regarding food security, dietary diversity and nutritional adequacy among unmarried adolescent mothers (UAMs). For instance, Stevens (2010) argues that strategies used by UAMs to cope with food insecurity have not been explored at length. For the young unmarried women, early premarital motherhood presents an unanticipated economic strain on households to meet the basic needs and has been a contributor to food insecurity (Stevens, 2010). Food insecurity incidences among adolescent mothers and their children have also been reported in literature. Multiple advantages of using coping strategies to measure food insecurity also exist, one of them being that they can be used in combination with other measures of food security to capture some elements of vulnerability and complexity related to food insecurity (Maxwell, 1996). For instance, Wemakor *et al.* (2018) strongly argue that adolescent mothers are economically less powered to guarantee their children with adequate dietary intake. Similarly, Fink *et al.* (2014) report that, in sub-Saharan Africa, the increased risk of stunting among children of adolescent mothers aged under 18 years is 33% compared to their older peers. According to Wemakor *et al.* (2018), as a result of teenage pregnancy and early premarital childbearing, unmarried adolescent mothers may be abandoned and evicted from homes by their parents, hence becoming food insecure. However, this paper argues that in some circumstances although the unmarried adolescent mothers (UAMs) may not be forced to leave their parents' homes, they may still co-reside with their parents but usually with limited or absence of economic support. In addition, partners of adolescent mothers are often teenagers without stable incomes and consequently the UAMs and their children often become food insecure. As a consequence, there is also an increased risk of stunting, wasting, and underweight in children of adolescent mothers and hence a high prevalence of undernutrition in children of UAMs and thus children of UAMs are more likely to be stunted; thus, adolescent pregnancy is

perceived as a determinant of stunting (Wemakor *et al.*, 2018). Therefore, early childbearing contributes significantly to high prevalence of malnutrition among children of adolescent mothers (Finlay *et al*., 2011) and specifically those of UAMs.

Furthermore, despite the high prevalence of early childbearing incidents in Tanzania and particularly in Katavi Region, data are scarce with regard to the food security and nutritional status of adolescent mothers particularly “the unmarried ones” and their children. The study on which this paper is based, determined food security among UAMs of Rural and Urban Katavi using multiple methods discussed earlier. The paper determines prevalence of food insecurity among UAMs of Rural and Urban Katavi in terms of household food insecurity access and household dietary diversity, identifies factors influencing UAMs’ food security and strategies used to cope with food insecurity among UAMs of Rural and Urban Katavi, and determines nutritional status of UAMs and their children.

4.3 Theoretical Framework

The paper is guided by Amartya Sen’s entitlement to food approach that provides a framework for assessment of vulnerability and famine. Sen tries to explain how command over food is a key in explaining famine, rather than the overall availability of food (Leach *et al*., 1999). The approach seeks to understand circumstances that make some individuals to fall into impoverishment and others not (Sen, 1981). According to the approach, how much food households actually have access to comes from their own production, exchange, income, gathering of wild fruits, community support or claims, assets and migration (Frankenberger, 1992). Individuals’ access to food is also determined by a range of socio-economic factors (Yaro, 2004). Sen brings concepts of endowments and entitlements whereby endowments refer to control of assets and resources while

entitlements refer to a set of alternative commodity bundles that an individual can command in a society using the totality of right and opportunities that he/she faces. Sen (1981) goes further to distinguish four types of entitlement relations that make some individuals more vulnerable compared to others. The first one is trade-based entitlement which is the ability of individuals to sell or buy some food items. The second one is produced-based entitlement which is the ability to grow and produce food, or goods for buying food. The third one is own labour-based entitlement referring to one's ability to sell skills or labour power for purchasing or producing food. The fourth one is inheritance or transfer-based entitlement referring to access to food transfer facilitated by either governments or other persons as well as the society.

Sen's approach focuses on individuals' entitlements to community bundles including food that could legally be attained by using one's endowments and opportunities (Sen, 1981). The present study also focuses on UAMs' food security by borrowing from the concepts of entitlements and endowments. An entitlement set that does not include adequate quantities of food implies food insecurity since an entitlement failure has occurred (Yaro, 2004), thus food insecurity among UAMs may result from failure to be entitled to any bundle with enough food. In other words, individuals can be vulnerable to food insecurity due to entitlement failure despite availability of food supply in the market. For instance, lack of purchasing power can limit peoples' access to foods in the market (Osman, 1993).

4.4 Methodology

4.4.1 Description of the study area

The study was carried-out in Mpanda Municipality and Tanganyika District in Katavi Region representing Urban and Rural Katavi respectively. Katavi was purposely selected for the study due to having the highest (140.2/1000) adolescent birth rate in Tanzania

Mainland (URT, 2015; MoHCDGEC, 2016). Mpanda Municipality represented urban Katavi as it is the region's administrative centre and a well-developed urban centre compared to the district administrative headquarters. Tanganyika District was purposely selected among the other three rural districts (Nsimbo, Mlele and Mpimbwe District Councils) to represent Rural Katavi.

4.4.2 Research design

The study on which this manuscript is based adopted cross sectional research design whereby data were collected one point in time. The design best suited the nature of the study being limited in time and funds. It also allows collection of both qualitative and quantitative data within a short period of time (Rubin and Babbie, 2016). Under the design, the researchers can establish relationships between variables for the purposes of testing hypotheses and it also has a great degree of accuracy (Bailey, 1994; Mann, 2003).

4.4.3 Sample size and sampling procedures

The study's population encompassed all adolescent mothers who were unmarried and aged 18 years or below when giving birth to their first babies. A total of 240 UAMs participated in the study whereas 120 were from Mpanda Municipality and the other 120 were from Tanganyika District. Given the objectives of the study, children of the UAMs were also included to capture their anthropometric data hence 240 children as well. According to Kar and Ramalingam (2013), when it comes to sample size calculation, there is no magic number and an arbitrary number such as 30 can be considered adequate. Thus, based on this argument, a sample size of 120 UAMs was assumed satisfactory from each district.

Non-probability convenience sampling was used to sample respondents who met sampling criteria from the selected districts. According to Dornyei (2007), convenience sampling is

a type of non-probability or non-random sampling whereby members of the target population that meet certain practical criteria are included for the purpose of the study. It was quite challenging to identify this particular hidden population (UAMs) due to the absence of documented statistics of unmarried adolescent mothers. Due to the fact that pre-marital adolescent childbearing is considered unethical in the study districts, information and statistics related to premarital childbearing was difficult to get. Non-probability convenience sampling is a common sampling method in many studies involving teenage pregnancy and adolescent mothers. Several scholars have used the method at the doctoral level. Such studies include those by Sa-ngiamsak (2016) from Queensland University, Australia, that studied life experiences of unmarried teenage mothers in Thailand. Other related studies include those of Lehana and Rhyn (2003), Gbogbo (2020) and Baldyga *et al*. (2020), to mention a few.

Snowball sampling was used to recruit the difficult-to-reach UAMs' population from Rural and Urban Katavi. The main inclusion criteria to the sample were that the subjects should be below 19 years of age and also be unmarried. Street and village leaders were used as entry points to identify the UAMs. UAMs who fulfilled the inclusion criteria and who were willing to participate in the study were briefed about the purpose of the study, and they had to sign written informed consent prior data collection. For respondents who couldn't write, a parent or guardian filled in the consent form on their behalf.

4.4.4 Data collection

Health practitioners, researchers and policy makers underscore the need for using different methods in measuring household food security due to its multidimensional nature (FAO, 2013; Zemedu and Mesfin, 2014). In addition, it is due to the absence of a single measure of food security that is valid, reliable and comparable over time and space and which

captures different elements of food security (Maxwell *et al*., 2013). Household Food Insecurity Access Scale (HFIAS) and Household Dietary Diversity Score (HDDS) have been validated in previous studies. For instance, in their study carried-out in Chamwino, Tanzania, Assenga and Kayunze (2016) determined household food security incidences using dietary energy consumption (DEC), dietary diversity (DD), and household food insecurity access scale (HFIAS). Massawe (2016) determined household food security status in Mvomero and Kishapu Districts of Tanzania using HFIAS and DDS. Ngongi and Urassa (2014) determined household food security status basing on DEC per adult equivalent per day and HFIAS in Kahama District, Tanzania. Mende *et al*. (2014) determined food security in Mbeya and Makete districts, Tanzania using national monetary poverty line and caloric food poverty line.

For the purposes of triangulation, both quantitative and qualitative data were collected for the study. According to Honorene (2017), triangulation is the application and combination of several research methods in a study of the same phenomenon and is a powerful technique since it facilitates validation of data through cross verification from two or more sources. Quantitative data were collected through household survey using a questionnaire. To gather qualitative data, focus group discussions (FGDs) and key informant interviews (KIIs) were used. The key informants included representatives from Non-Governmental Organizations dealing with women's welfare, district and municipal community development officers, district and municipal reproductive child health coordinators, religious leaders, district and municipal social welfare officers, ward community development officers, nurses responsible for mother-child units and coordinators of reproductive child health at health centres. A total of twenty-six (26) KIIs and ten (10) FGDs were conducted in Mpanda Municipality and Tanganyika District respectively. Ten (10) FGDs were conducted whereas five were conducted in Mpanda Municipal Council

and the other five were conducted in Tanganyika District Council, given the comparative nature of the study. FGDs comprised eight to twelve participants who were conversant with the subject matter. During the FGDs, the issues explored included UAMs' access to food, number of meals consumed by UAMs, UAMs' access to diversified diets, UAMs' coping strategies to food insecurity and related issues.

4.4.5 Data analysis

Qualitative data were analysed using content analysis whereby information pieces were organised into different themes and compared based on the study objectives. Quantitative data were analysed using Statistical Packages for Social Scientists (IBM SPSS Statistics 20). UAMs food security was measured by Household Food Insecurity Access Scale (HFIAS) and Household Dietary Diversity Score (HDDS). HFIAS is a measure of household food security that is designed to capture household behaviours signifying insufficient quality and quantity, as well as anxiety over insecure access (Castell *et al*., 2015). The scale has a set of nine generic questions that distinguish food secure from the food insecure households across different cultural contexts through asking respondents to identify behaviours, attitudes and psychological manifestations that relate to various domains of food insecurity (Dekker *et al.*, 2018).

The questions in the scale represent three universal domains of household food insecurity and can be used to assign households along a continuum from food secure to severely food insecure (Dekker *et al*., 2018). Households' experience of food insecurity during the previous 30 days was captured using HFIAS, and the responses were recorded in the following manner: if food insecurity had never happened during the previous 30 days the response was recorded as '0'; if food insecurity had rarely happened (once or twice), the response was recorded as '1'; if food insecurity had sometimes happened (three to ten

times), the response was recorded as ‘3’; if food insecurity had often happened (more than ten times), the response was recorded as ‘4’ (table 4.1). Household food insecurity prevalence/categories were created and computed emulating procedures used by Coates *et al.* (2007). The UAMs distribution in the form of the four created categories was presented descriptively in terms of frequencies and percentages, disaggregated by district.

Table 4.1: Food Insecurity Category Values and responses of Households

Assigned Value	Status of Food Security	Responses of Households
1	Food Secure	Rarely Anxious about food supply
2	Mild Food Insecure Access	Frequently Anxious about food supply, omission of preferred foods
3	Moderately Food Insecure Access	Eating disliked meals, eating smaller meals, eating fewer meals
4	Severely Food Insecure Access	Availability of little food in the house, sleeping hungry, eating just one meal a day

With regard to HDDS, the procedures suggested by Swindale and Bilinsky (2006) were used to calculate HDDS. During data collection, respondents were probed to recall food, drinks and snacks taken over the previous 24 hours’ recall period. Twelve food groups were included in the HDDS calculations. They included: cereals; white roots and tubers; vegetables; fruits; meat; eggs; fish and other seafood; pulses, legumes and nuts; milk and milk products; oils/fats and red palm oil (if any); sweets; and spices, condiments, and beverages. HDDS refers to the total number of food groups consumed by household members, and it ranges from ‘0’ to ‘12’, with ‘0’ representing the severely food insecure households whereas ‘12’ represents the food secure households. The calculation of HDDS was as follows:

HDDS = Cereals + white roots and tubers + vegetables + fruits + meat + eggs + fish and other seafood + pulses + legumes and nuts + milk and milk products + oils and fats and red palm oil (if applicable) + sweets + and spices + condiments and beverages.

Binary logistic regression was used to test the likelihood of independent variables being associated with UAMs households' food security. The two categorical outcomes of food secure and food insecure were used as dependent variables. The four food security categories suggested by Coates *et al.* (2006) were further categorized into two main categories of the food insecure (incorporating the mild, moderate and severe food insecurity categories) and food secure, hence coming up with a dichotomous dependent variable (0 = food insecure; 1 = food secure). Thirteen independent variables were entered in the binary model. The choice of explanatory variables entered in the model was informed by theoretical and empirical review of literature. The binary logistic model was specified as:

Logit $(p_i) = \log (p_i/1-p_i) = b_0 + b_1x_1 + b_2x_2 + \ldots + b_kx_k$ (Agresti and Finlay, 2009), where:

Logit (p_i) = ln (odds (event), that is the natural log of the odds of an event (food security among UAMs) occurring

P_i = prob (event), that is the probability that the event will occur

$1-p_i$ = prob (non-event) probability that an even will not occur

b_0 = constant of the equation

b_1 to b_k= coeffects of the independent (predictor, response) variables

k = number of independent variables

X_1 to X_{13} = number of independent variables entered in the model, which were:

X_1= UAMs' district of residence (1 = Rural, 0 = Urban)

X_2 = UAMs' age (measured in years)

X_3 = UAMs' actual number of schooling years (measured in years)

X_4 = Type of livelihood strategy engaged by UAM (1= Petty trade, 0 = Otherwise)

X_5 = UAMs' engagement in multiple livelihood strategies (1 = Yes, 0 = No)

X_6 = Household size (measured by number of people in the household)

X_7 =Selling of possessed assets (1 = Yes, 0 = No)

X_8=Availability of support from UAMs' mother (1 = Yes, 0 = No)

X_9=Borrowing food from neighbours and friends (1 = Yes, 0 = No)

X_{10}=Availability of support from father of the baby (1 = Yes, 0 = No)

X_{11}=Income generating activity of UAM's father (1= Farmer, 0 = Otherwise)

X_{12} = Income generating activity of UAM's mother (1= Farmer, 0 = Otherwise)

X_{13} = Availability of support from peers and friends (1 = Yes, 0 = No)

The anthropometric measurements collected from UAMs and their children (aged 0 to 59 months) included age (in years), sex (male/female), height (in centimetres), and weight (in kilograms). To obtain those measurements, the researcher sought consent from UAMs. Female research assistants with Diplomas in Clinical Nursing and who had already been involved in similar anthropometric surveys were recruited for collection of the anthropometric data working under the supervision of the principal researcher. The female assistant data collectors were necessary for ethical considerations as the anthropometric measurements involved touching female respondents, especially in measuring their heights.

Weight of UAMs and their children were measured using a mobile electronic SECA scale whereas height was measured using a measuring board. UAM's children that were below the age of 24 months were measured while lying down on the board (in recumbent position) while the heights of older children (25 to 59 months) were measured while the

children were standing along the board. The children's weights and heights were used to calculate weight-for-height, weight-for-age and height-for-age aimed at assessing the prevalence of stunting, underweight and wasting among UAMs' children. With regard to analysis, UAMs' anthropometric measurements were used to calculate BMI-for-age Z-scores (BAZ) using WHO AnthroPlus software. Children's anthropometric measurements were used to compute nutrition indices using the WHO Anthro software. Children anthropometric Z-scores were derived based on WHO Child Growth Standards and used to determine stunting, wasting and underweight status of children.

4.5 Results and Discussion

4.5.1 UAMs' food security status based on Household Food Insecurity Access Scale (HFIAS)

This section presents and discusses UAMs' experience of food insecurity with reference to a period of previous 30 days being captured using HFIAS. The focus is basically on measuring the 'food access' dimension of food security. The 'Household Food Insecurity Access Prevalence' aimed at getting insights on characteristics and changes in households' food insecurity among the UAMs. The UAMs' households were placed into four ordinal categories of food insecurity access prevalence which were: food secure, mild food insecure, moderately food insecure and severely food insecure.

Table 4.2: Distribution of UAMs' households by food insecurity access prevalence (categories) by Districts

Food Insecurity Access Prevalence	District: Mpanda (n = 120)	Tanganyika (n = 120)	Both districts (n = 240)
Food Secure (%)	32.5	14.2	46.7
Mild Food Insecure (%)	1.7	0.0	1.7
Moderately Food Insecure (%)	27.5	6.7	34.2
Severely Food Insecure (%)	38.3	79.1	117.4

The study findings in Table 4.2 show that overall, prevalence of food insecurity was 76.65% whereas 23.35% were food secure. With regards to districts, UAMs of Urban Katavi were relatively food secure (32.5%) compared to UAMs of Rural Katavi (14.2%) while the prevalence of food insecurity (mild, moderately and severely) was higher in rural (85.8%) compared to urban (67.5%) Katavi. In addition, the findings show that over three-quarters (79.1%) of the UAMs in Rural Katavi were severely food insecure while in Urban Katavi, the severely food insecure were 38.3%. Prevalence of food insecurity among young parenting teens is reported even in developed countries such as the United States of America (USA), particularly involving adolescent mothers from low-income households, who are unable to afford food due to related costs and instead rely on cheap and unhealthy foods that often expose them to poor nutrition and obesity (Grilo *et al*., 2015; Stevens, 2010). With regard to sub-Saharan Africa, Nabugoomu *et al*. (2018) reported food insecurity prevalence among adolescent mothers in Rural Uganda was due to lack of purchasing power for food stuffs of the right quality and quantity. The study findings, therefore, indicate that UAMs of Urban Katavi had more access to food compared to UAMs of Rural Katavi.

4.5.2 Factors associated with UAMs' food security in rural and urban Katavi

A binary logistic regression model was used to analyse the selected variables that are assumed to have influence on the likelihood of UAMs' household being food secure. The dependent variable, food security (1 = Food secure, 0 = Food insecure) was regressed on thirteen predictor variables presented in Table 4.3. The results (Table 4.3) from the model show that, among the thirteen (13) variables, eight (8) were found to be influential in determining UAMs' food security. The influential predictors were: household size, borrowing food from neighbours and friends, availability of support from UAM's mother, availability of support from father of the baby, availability of support from peers and friends, UAM's engagement in multiple LS, UAM's age and UAM's district of residence. Household Size (X_6) was the strongest predictor with the maximum Wald statistic among all (Wald = 9.601), and it was statistically significant at p = 0.002, followed by the predictor of borrowing food from neighbours and friends (X_9) (Wald = 9.061; p = 0.003). Wald coefficients of independent variables give a picture of the relative importance of each independent variable whereby a greater Wald statistic means that the particular independent variable associated with it has a higher contribution to the happening of the dependent variable.

The results from the model further showed a Chi-square statistic of 6.787 (p = 0.560) for the Hosmer and Lemeshow Test. For the particular test not being significant, the implication is that the model adequately fits the data while the opposite, significance of the test (if the significance value is less than 0.05) indicates a poor fit (Field, 2013). The Nagelkerke Pseudo R^2 statistic representing the adjusted Cox and Snell Pseudo R^2 statistic was 0.404, which implies that 40.4% of the variance in the chances of being food secrue was explained by a combination of the independent variables entered in the model.

Furthermore, the Omnibus Chi Square was significant (p = 0.000) implying that the overall model well predicted the outcome (Field, 2013).

Table 4.3: Binary regression results on factors influencing UAMs' food security in rural and urban Katavi

Variables	Coefficient (B)	SE	Wald	Sig	Exp (B)
UAM's district of residence	-1.194**	0.620	3.712	0.054	0.303
UAM's age	0.592*	0.255	5.372	0.020	1.807
UAM's actual number of schooling years	0.019ns	0.053	0.134	0.715	1.020
UAM's type of LS	-0.109ns	0.141	0.595	0.441	0.897
UAM's engagement in multiple LS	-1.055**	0.548	3.713	0.054	0.348
Household size	0.301*	0.097	9.601	0.002	1.352
Selling of possessed assets	-0.686ns	0.479	2.052	0.152	0.504
Availability of support from UAM's mother	1.761*	0.598	8.677	0.003	5.816
Borrowing of food from neighbours and friends	1.212*	0.403	9.061	0.003	3.360
Availability of support from father of the baby	0.817**	0.446	3.352	0.067	2.264
IGA of UAM's father	-0.055ns	0.150	0.135	0.713	0.946
IGA of UAM's mother	-0.350ns	0.280	1.567	0.211	0.705
Availability of support from peers and friends	-2.104**	1.100	3.658	0.056	0.122
Constant	-13.547	4.928	7.558	0.006	0.000

NB: The outcome variable was food security (1 = Food secure, 0 = Food insecure); LS = Livelihood strategies; Cox and Snell R^2 = 0.268; Nagelkerke R^2 = 0.404; Omnibus Test of Model Coefficients (Chi-Square = 74.808, Sig.= 0.000); Hosmer and Lemeshow Test (Chi-square = 6.787, Sig = 0.560); * and ** indicate levels of significance at 5% and 10% respectively; ns = not significant.

The study findings showed that, household size was the strongest predictor of the chances of UAMs being food secure. The findings were statistically significant at p = 0.002 and Exp (B) = 1.352. The Wald statistic of 9.601 indicates that the size of household where UAM resided contributed significantly to predicting the chances of UAM being food

secure or insecure. The findings mean that a unit increase in age led to an increase in the chances of being food secure by 1.352 units, other predictors being held constant. The implication here is that the UAMs residing in smaller households were likely to be less food insecure. Household size matters in a number of ways. During FGDs it was reported that the more the household members available in a particular household the more the availability of social support to UAM whether in terms of provision of tangible or material support to enhance food security of UAMs, but more importantly by supporting UAMs through babysitting so as to provide her with opportunity to work and earn income. During one of the FGDs, an UAM had this to say:

> "*… Going out to work with an infant limits one to perform certain casual jobs like being a bartender or a house maid, as the respective employers won't tolerate those going to work with babies. Even in businesses, say at market places, having a baby limits one's performance…. But if you are lucky to have several siblings and relatives at home who are supportive and you can leave your baby with, you can work conveniently, qualify for multiple casual jobs and hence earn more*" (FGDs in Kawajense Ward, Mpanda District, 11th September 2017).

Kissman and Shapiro (1990) found a positive relationship between family size and assistance with childcare responsibilities among adolescent mothers, in the sense that larger families are more likely to be more helpful with babysitting of UAM's children and not necessarily provision of financial resources. According to Kissman and Shapiro (1990), an enriched support network further functions to mediate the impact of stress among adolescent mothers and thus serves to promote their well-being. Similarly, Motjelebe (2009) points out that the most difficult decision an adolescent mother has to make is deciding to work, by considering who will be responsible to take care of her child regularly in her absence. An adolescent mother with adequate family members or 'social assets', as Motjelebe (2009) calls, will thus be in a better position to look for jobs than

those lacking the same. Furthermore, Furstenberg and Crawford (1978) are also of the opinion that access to child-care support at family level has significant consequences for the likelihood for an adolescent mother to find a stable employment in the sense that parents of unmarried young mothers and other family members play key roles in determining whether an UAM will go to work outside home or not. Therefore, access to child care support at family level has significant consequences for the likelihood for an adolescent mother finding stable employment and hence enhancing her well-being as well.

Borrowing food from neighbours and friends, as a coping strategy to food insecurity, was also statistically significant ($p = 0.003$) which implies that the particular coping strategy was a significant predictor of UAM's food security. The findings indicated an odds ratio of 3.360 on the same, indicating that UAMs borrowing food from neighbours and friends were 3.360 times more likely to be food secure. However, the practice of borrowing of food from either friends, neighbours or relatives is not an exclusive strategy to UAMs, but rather a common and popular coping strategy to food insecurity across communities which has also been widely reported in literature (Semali *et al*., 2011; Ngongi and Urassa, 2014; Assenga and Kayunze, 2016; Saaka *et al*., 2017; Cordero-Ahiman, 2018; Tsegaye *et al*., 2018). However, as revealed by FGDs, borrowing of food stuffs in the study areas did not involve repaying with interest as it is the common practice in other areas, for instance in Kahama, Tanzania, as reported by Ngongi and Urassa (2014), hence suggesting higher levels of social capital between UAMs and their friends and neighbours in the study areas.

The results further showed that availability of tangible support from UAM's mother as well as father of the baby had positive significant influence on the likelihood of UAMs being food secure. UAMs who had received support from their mothers were 5.816 times more likely to be food secure. Empirical literature suggests that UAMs living with their

mothers receive both financial and non-financial support (Furstenberg and Crawford, 1978; Nadeem and Romo, 2008; Schrag and Schimidt-Tieszen, 2014). Non-financial support (particularly babysitting) that UAMs received from their mothers is as important as the financial support since it gives them opportunity to work, and hence influencing their food security. Schrag and Schmidt-Tieszen (2014) underscore the supportive role played by mothers of UAMs in enhancing their well-being. The results also indicated that receiving support from peers and friends was negatively associated with their food security with an odds ratio of 0.122, implying that such UAMs were 0.122 times less likely to be food secure. However, literature (Logsdon *et al*., 2005; Motjelebe, 2009; Sangiamsak, 2016) report that support networks from friends and peers is instrumental in promoting emotional and psychological well-being among UAMs, as well as assistance with household duties, but does not show clearly the impact of such support to UAMs' food security. With regard to support from fathers of UAMs' babies, the findings indicated that UAMs who received support from the fathers had an odds ratio of 2.264, implying that they were 2.264 times more likely to be food secure compared to UAMs who did not get such support. Despite absence of co-residence, some fathers of UAMs' babies often provided emotional support, assistance with babysitting and occasionally, financial assistance (Gee and Rhodes, 2003).

However, a study by Kissman and Shapiro (1990) found that male spouses who babysat were also more likely to provide financial assistance to UAMs. A number of factors influence fathers' involvement in childrearing including cultural norms, community and peer acceptance, social agency responses, parent education, crisis therapy for coping with unplanned pregnancy and attitudes of the adolescent mother and her family (Cervera, 1991). According to Ntoimo (2011), in Nigeria, if the man responsible for adolescent pregnancy is an adolescent's teacher, neighbour or married man, the chances of

acceptance of pregnancy are often slim. Similarly, findings from KIIs and FGDs disclosed that, despite being at large invisible in public discourse and wishing to remain anonymous, some fathers may provide material support from distant by sending money and gifts to UAMs and their families. For example, one key informant narrated:

> "*…we know several old married men in this village who have babies with unmarried adolescent mothers but they have agreed with parents of UAMs to maintain their anonymity due to legal implications and safeguarding their marriages, but they continue providing financial assistance to UAMs and their babies...*" (Key Informant in Kabungu Ward, Tanganyika District, 20th September, 2017).

Multiple livelihood strategies negatively influenced UAMs' food security. UAMs with multiple livelihood strategies were found to have had the odds ratio of 0.348, implying that UAMs with more than one livelihood strategy were 0.348 times less likely to be food secure. This is contrary to what was expected that the more livelihood strategies one has, the more income she has and hence more chances of being food secure. However, during FGDs it was revealed that number of livelihood strategies does not necessarily imply more income but rather the livelihood strategies are basically in form of casual labour which are rarely available and have very little payments. This is in line with literature with suggests that adolescents who become mothers have lower educational attainment and subsequently having worse-paid jobs (Levine, 2014). During an FGD in Ilembo Ward, it was reported that:

> "*... due to hardships at home, we are sometimes forced to go out to search for small temporary jobs like cleaning clothes at peoples' homes or assisting food vendors with cleaning of dishes…what we get paid is normally very little and sometimes we may just be given poor quality food and leftovers in return and not money*…" (FGDs in Ilembo Ward, Mpanda district, 13th September 2017).

The findings further showed that age significantly influenced the likelihood of UAMs being food secure. The findings were statistically significant at p = 0.020 and Exp (B) = 1.807. These findings indicate that, when age of UAM increases by one year, the odds ratio becomes 1.807, implying that the older an UAM gets the more food secure she becomes. The explanation for this can probably be that older UAMs (15-19 years) may be in better positions to secure employments than younger UAMs (10-14 years). With regard to district of residence, the findings showed that UAMs residing in rural Katavi were 0.303 times less likely to be food secure (p = 0.054; Exp (B) = 0.303). This finding is consistent with findings presented in Table 4.4 indicating that the majority (74.2%) of the UAMs interviewed in Rural Katavi consumed less than standard number of three meals per day. Nevertheless, the remaining predictors were not significantly associated with UAMs' likelihood of being food secure. These were schooling years, types of livelihood strategies engaged by UAM, income generating activities of father and mother, and selling of possessed assets.

4.5.3 Unmarried adolescent mothers' coping strategies with food insecurity

Several coping strategies were reported by UAMs in response to food insecurity in the study area (Table 4.4). Food insecure households usually develop varying coping strategies to respond to pertinent situations (Mende *et al*., 2014, Ngongi and Urassa, 2014; Massawe, 2016; Assenga and Kayunze, 2016). The study findings in Table 4.4 show that skipping and/or decreasing the usual frequency and number of meals taken were the most common mechanisms used by UAMs in both Rural (52.8%) and Urban (46.6%) Katavi. Similar coping strategies are common and have also been reported by other studies (Tsegaye *et al*., 2018; Kisi *et al.,* 2018; Saaka *et al*., 2017; Mazengo, 2011; Shariff and Khor, 2008).

Table 4.4: Distribution of UAMs' households by coping strategies to food insecurity

Food Insecurity Coping Strategy	District	
	Mpanda (n=120)	Tanganyika (n=120)
Skipping meals and/or reducing meal portions (%)	46.6	52.8
Food loan from neighbours and/or friends (%)	24.2	27.6
Borrowing food items from a local shops/trader (%)	22.4	15.5
Diet change (Consuming less preferred foods) (%)	12.1	13.9
Selling of possessed assets (%)	23.2	17.4
Picking wild vegetables and fruits from bushes (%)	9.0	32.4
Begging for fish from fishermen and fish traders '*Kusolola'* (%)	12.7	36.9

NB: Multiple responses existed hence column tallies exceed 100%.

Borrowing food from neighbours and friends was also among the coping strategies to food insecurity among UAMs who experienced food insecurity in Rural (27.6%) and Urban (24.2%) Katavi. The finding conforms with what has been reported by Sa-ngiamsak (2016), among UAMs in Thailand who relied on borrowing food, particularly staples from neighbours in times of food insecurity. However, the practice of borrowing food did not involve repaying with interests as it is often practised by other communities elsewhere. Observations from FGDs showed that the existing high levels of social capital particularly in Rural Katavi facilitated interest-free food borrowing among UAMs and their peers and neighbours. Contrary to the study findings, Ngongi and Urassa (2014) reported that, in Kahama District, Tanzania, households borrowing food paid twice or thrice the amount borrowed as interest.

Other coping strategies practised by UAMs who experienced food insecurity were: borrowing food items from local shops/traders which was practised by 15.5% and 22.4% of UAMs from Rural and Urban Katavi respectively; diet change to less preferred food

types which was practised by 13.9% and 12.1% of UAMs from Rural and Urban Katavi respectively; and selling possessed assets, which was practised by 17.4% and 23.2% of UAMs from Rural and Urban Katavi respectively. However, two forms of coping strategies where highly skewed to the UAMs of Rural Katavi. One of them was picking wild fruits and vegetables from bushes which was exclusively practised by 32.4% of UAMs from rural Katavi and only 9% of UAMs from urban Katavi. Although it may sound illusional reporting UAMs from urban Katavi picking wild fruits and vegetables from bushes, it should be noted that, some wards like Mpanda Ndogo are geographically located in Mpanda Municipality however located in distal location from the city hence having access to bushes. Seasonal picking of wild fruits and vegetables from bushes to cope with food insecurity is also reported in literature (Mazengo, 2011; Assenga and Kayunze, 2016).

The other strategy of coping with food insecurity that was highly skewed begging for fish from fishermen or fish traders commonly known as *kusolola*, which was practised by 36.9% and 12.7% of UAMs from Rural and Urban Katavi respectively. Since Katavi is located along Lake Tanganyika, fishing is one of the key economic activities. This finding is in line with observations from FGDs and KIIs that *kusolola* is a traditional practice whereby the needy and poor households usually request for small amounts of fish from either fisher men as they arrive at the lake shores from fishing or from fish traders/middle persons (for the case of Mpanda District). It is usually women and young girls who practise *kusolola*. As revealed by key informants, to the fishermen and fish traders, the practice serves as a way of giving back to the community. However, a critical analysis of the same suggests associated risks of subsequent pregnancy due to the practice being involved with transactional sex.

4.5.4 Unmarried adolescent mothers' food security status based on household dietary diversity score (HDDS)

Food consumption is a primary outcome measure of food security status, which gives an indication of the level of food security and allows classifying the level of severity (URT, 2017). In the study area, various food groups were consumed by UAMs. To compute HDDS, related data were captured by allowing UAMs to freely recall the kinds of foods, snacks and/or drinks consumed over a 24-hour period. The independent T test showed that there was a significant difference in mean HDDS between rural and urban (5.1 vs. 5.9, p=0.000). This implies that the meals of UAMs and their children in urban Katavi are more diverse than those of their counterparts in rural Katavi.

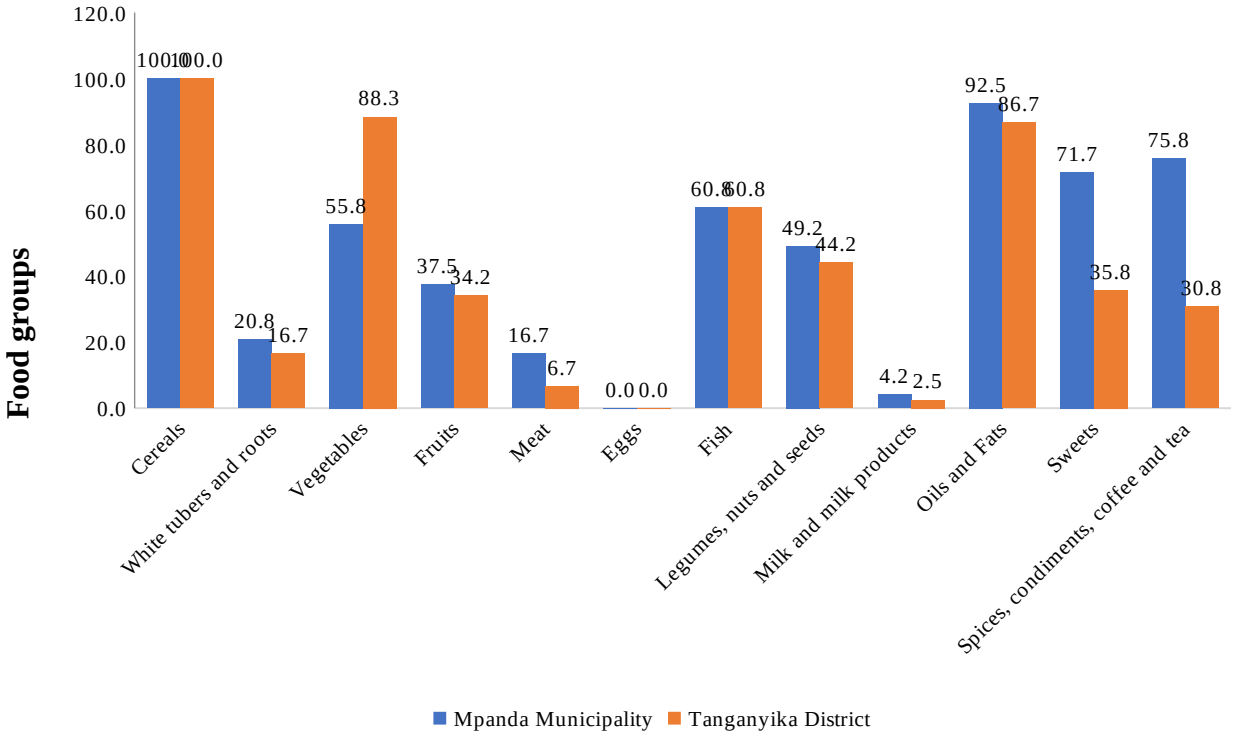

Figure 4.1: Distribution of UAMs' households in rural and urban Katavi by consumption of twelve food groups

The study findings in Fig. 1 show that five food groups were consumed by at least 50% of UAMs in both Rural and Urban Katavi. These included cereals, vegetables, fish, legumes/ nuts/seeds, and oils/fats. Among the five food groups, with exception of vegetables which were more consumed by UAMs of Rural Katavi, the remaining four groups were consumed almost equally by UAMs from both districts. For instance, cereals were found to be the main food staples and were thus routinely consumed by all UAMs in the two districts. The same applies to fish which were also almost equally consumed in both districts and the same can be attributed to their higher supply due to the presence of Lake Tanganyika as the source of the same hence affordability. However, observations from the FGDs showed that higher consumption of vegetables by UAMs of Rural Katavi could be attributed to the fact that most of them opt to eating wild vegetables as a coping strategy to food insecurity as discussed in sub-section 4.5.3. Furthermore, variations in consumption were observed in spices/condiments/coffee/tea and sweets being more consumed by UAMs of Urban Katavi compared to UAMs of Rural Katavi, and the pattern can be explained by unaffordability and probably inaccessibility to the food group by the latter group.

In addition, four food groups were consumed by less than 50% of UAMs in both rural and urban Katavi. These food groups were white tubers/roots, fruits, meat, and milk/milk products. Meat and milk/milk products were consumed by less than 20% of UAMs in both districts and this can also be explained by unaffordability. However, one pressing question remains, despite the presence of poultry in both districts and some even owned by UAMs: why none of the UAMs ate eggs? Part of the answer as disclosed through FGDs could be that eggs were meant for sale rather than for own consumption. As it was also confirmed during FGDs sessions that poultry and other small animals possessed by UAMs were mainly for commercial purposes and particularly for sorting out emergency cases such as

children's medication and not for own consumption. These findings are in line with those of Tanzania Food Security and Nutritional Status Assessment conducted in seventeen regions which found out that the proportion of surveyed households that ate eggs was only 5% (URT, 2017).

4.5.5 Unmarried adolescent mothers' food security status based on number of meals taken

Frequency of meals is also a crucial indicator of individuals' food security. According to URT (2017), it is recommended that individuals should consume at least three meals a day. In line with this, UAMs were asked about the number of meals they usually consumed in a day. The findings in Table 4.5 show that the majority (91%) of UAMs from urban Katavi consumed three or more meals daily, whereas for rural Katavi, it is only 25.8% of UAMs who consumed at least three meals per day. On the contrary, the majority (74.2%) of UAMs from rural Katavi consumed fewer than three meals per day. The three meals consumption pattern among UAMs of urban Katavi is consistent with what is reported by the 2015/16 Demographic and Health Survey and Malaria Indicator Survey (DHSMIS) that urban households in Mainland Tanzania are much more likely than rural households to have three or more meals a day (MoHCDGEC, 2016). Similarly, according to URT (2009a) cited by Ngongi and Urassa (2014), in urban Tanzania, consumption of three meals is a norm.

Table 4.5: Distribution of UAMs' households by number of meals consumed per day (n=240)

Number of meals per day	District	
	Mpanda (n=120)	Tanganyika (n=120)
Less than 3 meals (%)	9.0	74.2
Three meals (%)	79.3	25.8
More than three meals (%)	11.7	0.0

4.6 Nutritional Status of Unmarried Adolescent Mothers

The findings Table 4.6 show somehow an equal distribution of UAMs of moderate malnutrition in both rural (9.1%) and urban (10%) Katavi. However, prevalence of malnutrition among adolescent mothers is less reported in literature, but rather what is often reported is malnutrition among pregnant adolescents. With regard to adolescent motherhood, the available literature is rural-biased, and largely reporting presence of chronic malnutrition to adolescent mothers of rural context irrespective of marital status. For instance, Kalanda *et al*. (2006) report chronic malnutrition among adolescent mothers in Rural Malawi.

Table 4.6: Distribution of UAMs of rural and urban Katavi by nutritional status

Nutrition status	Mpanda (n=120)		Tanganyika (n=120)		Overall	
	n	%	n	%	n	%
Moderate malnutrition	11	9.1	12	10.0	22	19.1
Overweight	0	0.0	0	0.0	0	0.0
Severe Acute Malnutrition	0	0.0	2	1.6	2	2.0

4.7 Nutritional Status of Children of Adolescent Mothers

One of the causes of malnutrition during childhood is insufficient food intake. The study sought to determine nutritional status of UAMs' children under the age of 5 (0-59 months). The results are summarised in Table 4.7.

Table 4.7: Distribution of UAM's children (<5 years) by prevalence of stunting, underweight and wasting

Undernutrition Status	Mpanda (n=120)		Tanganyika (n=120)		Overall (n=240)	
	n	%	n	%	n	%
Stunting (H/A)	**45**	**37.5**	**51**	**42.5**	**96**	**40**
Moderate stunting	21	17.5	35	29.2	56	23.3
Severe stunting	24	20	16	13.3	40	16.7
Underweight (W/A)	**11**	**9.2**	**7**	**5.9**	**18**	**7.5**
Moderate underweight	8	6.7	5	4.2	13	5.4
Severe underweight	3	2.5	2	1.7	5	2.1
Wasting (W/H)	**4**	**3.4**	**2**	**1.6**	**6**	**2.5**
Moderate wasting	2	1.7	1	0.8	3	1.3
Severe wasting	2	1.7	1	0.8	3	1.3

The findings in Table 4.7 show that, the magnitude of stunting among children of UAMs was alarming in both Urban and Rural Katavi, standing at 37.5% and 42.5%, respectively. Generally, the observation reflects a high prevalence of stunting relative to Tanzania's prevalence of 31.8%. Region-wise, stunting in Katavi stands at 33.7% (MoHCDGEC, 2016). Similar findings of stunting among under-five children born to adolescent mothers are reported by Wemakor *et al*. (2018) and Nguyen *et al*. (2017) in Ghana and Bangladesh respectively being associated with poverty and under-nutrition.

However, contrary to the above situation, with regard to underweight and wasting, children of UAMs of Rural Katavi were relatively better than those of Urban Katavi. With regard to underweight, the findings in Table 4.7 show that underweight stood at 5.9% in Rural Katavi and at 9.2% in Urban Katavi. The figures were below the regional figure of 13.6% hence suggesting that UAMs' children were faring relatively well. With regard to

wasting, it stood at 1.6% and 3.4% in Rural and Urban Katavi, respectively. However, these findings contradict with some literature (Abdullah *et al*., 2007; Nguyen *et al*., 2017; Olodu *et al.*, 2019) that report higher prevalence of underweight and wasting among under five children of adolescent mothers.

4.8 Conclusions and Recommendations

This chapter aimed at determining prevalence of food insecurity among UAMs of Rural and Urban Katavi in terms of household food insecurity access and household dietary diversity as well as identifying factors influencing UAMs' food security/insecurity and also the strategies used by UAMs to cope with the same. Furthermore, the study sought to determine nutritional status of UAMs and their children. Based on the empirical results, it can be concluded that UAMs of Urban Katavi are relatively food secure compared to their Rural counterparts whose majority fall under the severely food insecure category. The chapter further concludes that household size, borrowing of food from neighbours and friends, availability of support from UAM's mother, UAM's age and availability of support from father of the baby positively influences UAM's food security while UAM's district of residence, type and number of livelihood strategies and availability of support from peers and friends negatively influence UAM's food security. The negative association of UAMs' number of livelihood strategies and food security is however, contrary to usual expectations. As confirmed by qualitative data, the observation may be due to the nature of livelihood strategies carried-out being worse-paying.

Meals of UAMs and their children in urban Katavi are more diverse than those of their rural counterparts. Regarding nutritional status, there exists a somehow balanced distribution of moderate malnutrition among UAMs across the districts. The magnitude of stunting among children of UAMs is alarming across the districts. Identification of factors

influencing adolescent mother's food security is important to inform relevant community-based interventions targeting the particular vulnerable group. Based on the conclusions, the study recommends that efforts should be put in place by relevant authorities to improve health and nutritional status of UAMs and their children, specifically the unmarried ones. UAMs can be supported to build up their entitlement endowments and minimize the food insecurity-related risks. However, sensitization of adolescents on the consequences of early motherhood and assisting the sexually-active teenagers in meeting their contraceptive needs will help to curb the problem of teenage pregnancy and consequently reduce the high prevalence if under-nutrition to their children.

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CHAPTER FIVE

5.0 WELL-BEING AND SOCIAL SUPPORT OF UNMARRIED ADOLESCENT MOTHERS IN RURAL AND URBAN KATAVI, TANZANIA

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5.1 Abstract

Premarital adolescent motherhood has been associated with numerous social and economic problems including, among others, poverty and low well-being levels among respective adolescent mothers. This study was conducted to establish determinants of unmarried adolescent mothers' (UAMs') well-being in rural and urban Katavi, Tanzania. The study used cross-sectional research design and engaged a sample of 240 UAMs from rural and urban Katavi obtained through convenience sampling. Specifically, the study sought to assess and compare well-being levels of UAMs of rural and urban Katavi. UAMs' incomes and assets' monetary values were used as proxy indicators of wealth status. UAM's well-being levels were categorized into three levels namely low, medium and high. Quantitative data were collected through household survey using semi structured questionnaire while qualitative data were collected using focus group discussions (FGDs)

and key informant interviews (KIIs). Quantitative data were analysed using descriptive statistics, independent t-test, Chi-square and ordinal logistic regression whereas qualitative data were analysed using content analysis. The findings showed that UAMs of Urban Katavi had higher well-being levels compared to their rural counterparts in terms of incomes, assets as well as in some domains of social support. Descriptive statistics revealed that UAMs in high well-being category were more found in Urban compared to Rural Katavi. Results from independent t-test showed that UAMs of Urban Katavi had significantly higher ($p = 0.000$) well-being in terms of annual earnings and total asset value compared to those of Rural Katavi. Results from ordinal logistic regression revealed that UAM's residential location, UAM's number of livelihood strategies and income generating activities of UAM's mother were significantly related to well-being levels of UAMs. In terms of social support. findings also showed that UAMs of Urban Katavi received more support compared to their rural counterparts. The study recommends a need for provision of entrepreneurial skills to UAMs from both localities to enhance their well-being.

Key words: Well-being, unmarried adolescent mothers, incomes, assets, social support

5.2 Introduction

Adolescent pregnancy and early premarital childbearing are strongly associated with several adverse economic outcomes and may have long-term negative effects on the mothers' well-being (Luong, 2008; Wado *et al*., 2019). According to Hotz *et al*. (2005), adolescent mothers have poorer employment opportunities due to their lower education, hence a lower earning potential. Klepinger *et al*. (1999) and Ogbu (1995) argue that women who become young mothers have fewer job opportunities and earn lower incomes because they have less formal education and lack job experience. Consequently,

adolescent mothers often fall under low and non-skilled jobs. It is also argued that, due to being less educated and unskilled, adolescent mothers are found to be less ambitious about careers hence being forced to perform menial or semi-skilled jobs in order to provide for their children (Kiernan, 1980; Nyagetia, 2015). It is the human capital that young women bring to the job market that determines their earning capacity (Klepinger *et al*., 1999). In addition to sufficient income and assets ownership, adolescent mothers negotiating for multiple transitions of adolescence and parenthood require a high level of support to enhance their well-being.

This study assessed well-being using income, asset possessions and perceived social support as proxy indicators of well-being. OECD (2013) defines income as the flow of economic resources that an individual or household receives over time, and it includes wages, salaries and money earned through self-employment as well as resources received from other sources such as property, pensions and social transfers or remittances. Likewise, asset ownership is also one of the important indicators of well-being. Generally, asset ownership is consistent with the concept of human well-being (Maliti, 2019). In fact, assets may provide a better picture of long-term living standards, given the fact that they have been accumulated over time and last longer (Moser and Felton, 2007; Gamage *et al*., 2015). They may also be more reliable indicators of economic well-being in the long run (Wittenberg and Leibbrandt, 2017). Assets have multiple benefits; for instance, Gamage *et al*. (2015) argue that access and possession of physical assets play a vital role in enhancing the welfare of households. Furthermore, assets may have current use value or provide services, may generate rent, provide a source of financial income and may also increase in value and serve as collateral to secure credit during emergencies or shocks (Deere and Doss, 2006). Moreover, Greene and Merrick (2005) argue that borrowing and sale of

assets serve as typical responses of households to shocks and their capacity to respond to such shocks.

The economic consequences of early childbearing are often more extreme because they will need wage-paying jobs, which are lacking (Odu *et al*., 2015). In addition, since low-skilled jobs tend to pay less, it turns out that adolescent mothers will have a higher likelihood of living in low incomes associated with low well-being levels (CBO, 1990; Luong, 2008). These observations are echoed by Paniagua and Walker (2012) who are of the opinion that, if adolescent motherhood has a negative causal effect on the mother's subsequent schooling, it may relegate her to a lower lifetime wage and earnings trajectory than she would otherwise have followed. Oyefara (2009) strongly argues that the problems associated with adolescent childbearing are especially acute for the poor unmarried young mothers who often tend to be overburdened and also lack support. Adolescent mothers, therefore, have fewer monetary resources since a significant number of them are likely to be unmarried, lacking potential support from husbands, hence living in poverty (Population Reports, 1995; SCAA, 2008 cited in Odu *et al*., 2015). It is also worth noting that low income of adolescent mothers affects their own well-being as well as those of their children (Chevalier and Viitanen, 2003).

Furthermore, when experiencing early motherhood, adolescents should receive consistent and adequate social support from their families, the community, health services and any other institution capable of providing such support (Braga *et al*., 2014). Thus, it is extremely important to identify sources of support for motherhood during adolescence as an enriched support network serves to promote well-being among adolescent parents (Kissman and Shapiro, 1990; Braga *et al*., 2014). On the contrary, a detailed analysis of social support variables in predictive studies among adolescent mothers clearly identifies

not having someone to talk with about their problems is a major deficiency in social support (Nunes and Phipps, 2013). Informal support networks appear to be most common among parenting adolescents (Vanderpuije, 2012). Social support ideally involves various sources including family, peers, the father of the child, and the community as a whole, and the components of such support may include help with relief from childcare responsibilities, financial assistance as well as emotional support (Kissman and Shapiro, 1990). In simple terms, social support is help that would be available to an individual in difficult or stress-arousing situations (Sarason and Sarason, 1982) while perceived social support is simply one's general attitudes regarding whether the available social network is supportive enough or not. The components or subscales of social support have been classified differently by different scholars. However, what actually encompasses social support is more or less the same. For instance, Peter *et al*. (2017) have classified social support into tangible support, affectionate support, positive social interaction, and informational support, while Secco and Moffat (1994) have classified social support into emotional support, informational support, appraisal support and instrumental support, and Braga *et al*. (2014) have classified social support into emotional support, reinforcement support, informative support, and instrumental support. Peter *et al*. (2017) further describe the components of social support as follows: tangible support as having access to practical resources and material help; affectionate support as interacting with people who physically demonstrate their love and affection; positive social interaction as interacting with people with whom you relax and have fun; emotional support as ability of social network to meet individual needs in relation to emotional problems; and informational support as interacting with people who advice, inform and guide. The availability of perceived social support is, therefore, instrumental in promoting well-being among adolescent mothers and particularly unmarried ones.

Empirical studies focusing on unmarried adolescent mothers' well-being are hard to find both globally as well as in the sub-Saharan Africa region. This concern is somehow highlighted by Klepinger *et al*. (1999) who report that research on how adolescent childbearing affects wages of adolescent mothers is relatively meagre. The few existing studies are even geographically skewed and do not target the unmarried adolescent mothers (Buvinic, 1998; Singh and Darroch, 2000; Boden *et al*., 2008; Bellamy, 2017). Among the few studies is that by Buvinic (1998) conducted in Chile, Barbados, Guatemala and Mexico which establishes that adolescent motherhood is associated with adverse socio-economic conditions and poor earning opportunities for adolescent mothers. The study reveals that early childbearing can have important economic costs in terms of reduced monthly earnings among the mothers as well as further entrenchment of their poverty. Nguyen *et al.* (2017) compared well-being indicators among adolescent and adult mothers in Bangladesh and found that adolescent mothers had significantly less ownership of assets compared to adult mothers, suggesting low well-being levels among the former. There is also limited empirical evidence with regard to well-being of UAMs in Tanzania and specifically in Rural and Urban Katavi. It is, therefore, imperative to fill in this research gap by establishing empirical evidence on the same. This paper is in line with sustainable development goal number five that focuses on women and girl empowerment. By this paper, it is assumed that UAMs' access to sufficient incomes, assets ownership and social support can positively impact their well-being and that of their children.

5.3 Theoretical Framework

The study on which the manuscript is based was guided by the Sustainable Livelihood Framework of DFID. According to the framework, people are usually obliged to combine a range of strategies to make a living in response to a particular vulnerability context (Krantz, 2001). Through pursuing various livelihood strategies, people achieve multiple

livelihood outcomes including, among many others, more incomes that facilitate their survival as well as acquisition of assets hence enhanced well-being. The paper focuses on assessing UAMs' livelihood strategies and the livelihood outcomes in terms of incomes and assets acquisition. The framework also points-out social capital as one of the assets used by the poor to make a living. Within the framework, social capital refers to resources which individuals rely on in order to achieve certain objectives related to their livelihoods. Social capital further refers to components of social organization such as networks and norms that are advantageous for coordination and cooperation (Putnam, 1995). According to Serrat (2017), those resources include networks and connections (patronage, neighbourhoods, kinship), relationships of trust, mutual understanding and support, reciprocity and exchanges (or "horizontal connections" between individuals with shared interest). For instance, trust itself is likely to develop between people who are connected through kinship relations or otherwise (DFID, 1999). These resources facilitate cooperation that may provide a basis for informal safety nets amongst the poor, especially in times of intense insecurity, and they can be particularly important as a resource of last resort for the poor and vulnerable (DFID, 1999). In the context of this paper, social support serves among the potential resources that UAMs rely upon for their daily survival as well as for promoting their well-being. In view of the presented background, this study was conducted to establish determinants of unmarried adolescent mothers' (UAMs') well-being in rural and urban Katavi, Tanzania. Specifically, the study compared well-being of the studied UAMs in terms of incomes and assets possessions. Furthermore, the study identified the types and sources od social support available to the studied UAMs.

5.4 Methodology

5.4.1 Description of the study areas

The study was conducted in Mpanda Municipality and Tanganyika District in Katavi Region. The selection of the study area was based on the fact that Katavi Region was

reported to have the highest Adolescent Birth Rate among all the regions in mainland Tanzania (URT, 2015; MoHCDGEC, 2016). Mpanda Municipality and Tanganyika District represented Urban and Rural Katavi respectively. The selection of the study districts was based on a number of criteria. Mpanda Municipality represents Urban Katavi due to being the region's administrative centre and also a well-developed urban spot compared to the district administrative headquarters. Tanganyika District was purposely selected among the other three rural districts (Nsimbo, Mlele and Mpimbwe District Councils) to represent Rural Katavi. The other districts were excluded for the study due to having non-resident populations of refugees from neighbouring countries.

5.4.2 Research design

The study adopted a cross-sectional research design. The design allows data to be collected at one point in time. Under the design, the researcher can also establish relationships between variables for purposes of testing hypotheses (Bailey, 1994). It further allows the collection of both qualitative and quantitative data within a short period of time (Babbie, 2014; Rubin and Babbie, 2016. Moreover, Mann (2003) argues that a cross-sectional research design has a great degree of accuracy. Compared to other designs, the cross-sectional designs are relatively cheaper and less time-consuming hence suiting best the present study.

5.4.3 Sample size and sampling procedures

The population for the study encompassed all adolescent mothers who were unmarried and aged 18 years or below when giving birth to their first babies. A total of 240 unmarried adolescent mothers participated in the study whereas 120 were sampled from Mpanda Municipality and the remaining 120 were from Tanganyika District. The study on which the manuscript is based used convenience sampling. According to Dornyei (2007),

convenience sampling is a type of non-probability or non-random sampling whereby members of the target population that meet certain practical criteria are included for the purpose of the study. Non-probability convenience sampling was used to sample respondents who met sampling criteria from the selected districts. The adopted sampling procedure was justified by a number of reasons. It was quite challenging to identify the study's UAMs as they are a hidden population; the absence of readily available documented statistics on the same was also another challenge; and lastly, premarital adolescent childbearing is also considered as unethical in the study area. Non-probability convenience sampling is quite a common sampling method in many studies involving teenage pregnancy and adolescent mothers. Several scholars have also used the method at doctoral level. Such doctoral studies include those by Sa-ngiamsak (2016) from Queensland University, Australia, that studied life experiences of unmarried teenage mothers in Thailand. Other related studies include those of Lehana and Rhyn (2003), Gbogbo (2020) and Baldyga *et al*. (2020) to mention a few.

Due to their hidden nature, snowball sampling was used to recruit the difficult-to-reach unmarried adolescent mothers' population from the study districts. The main inclusion criteria in the sample were that the subjects should be between 13 to 19 years of age and also being unmarried. Respondents who fulfilled the inclusion criteria and who were willing to participate in the study were briefed about the purpose of the study, and they signed written informed consent forms. For those who couldn't write, a parent or guardian assisted filling the consent form on behalf of the UAM.

5.4.4 Data collection

For purposes of triangulation, both quantitative and qualitative data were collected for the study. According to Honorene (2017), triangulation is the application and combination of

several research methods in a study of the same phenomenon and is a powerful technique since it facilitates validation of data through cross verification from two or more sources. Quantitative data were collected through household survey using a semi structured questionnaire involving a sample of 240 UAMs. For qualitative data, focus group discussions (FGDs) and key informant interviews (KIIs) were used. Twenty-six (26) KIIs and ten (10) FGDs were conducted in Mpanda Municipality and Tanganyika District.

Key informants included representatives from Non-Governmental Organizations dealing with women's welfare, District and Municipal Community Development Officers, District and Municipal Reproductive Child Health Coordinators, religious leaders, District and Municipal Social Welfare Officers, Ward Executive Officers, Ward Community Development Officers, nurses responsible for mother-child units, and coordinators of reproductive child health at health centres. FGDs comprised eight to twelve participants who were conversant with the subject matter. These included groups of adolescent mothers, groups of male youths, groups of elderly women, groups of elderly men, groups comprising both elderly males and females and groups of young women who were formerly adolescent mothers (age 20-25 years). During the FGDs and KIIs, the issues that were explored were generally well-being of the UAMs in terms of their incomes, asset possessions as well as social support received with regard to their livelihood strategies.

5.4.5 Data analysis

Well-being of UAMs of Katavi was measured by aggregating total UAMs' annual incomes and their total asset monetary values as adopted from Wendimu (2015). Well-being was then categorized into three arbitrary levels with three cut-off points of low, average and high well-being. In his formula, Wendimu (2015) uses the concept of livelihood outcome. In the context of this study, the concept of livelihood outcomes as

applied by Wendimu (2015) refers to well-being as it entails total annual income and asset value, similar to what is referred to in this paper. The formula by Wendimu (2015) is provided below:

$$LO=\ln\left(\sum_{i=1}^{n} HI + \sum_{i=1}^{n} AMV\right)$$

Where:

LO = Household livelihood outcome,

Ln =The natural logarithm,

HI =Household income, and

AMV= Household Asset Monetary Value

In the context of this paper, LO (Livelihood Outcome) refers to Well-being.

UAMs' incomes were based on annual cash earnings (in TZS) from farm income, off-farm income and other sources (example remittances). Through the FGDs that preceded household survey, UAMs were asked to mention assets which connote wealth status among themselves in the study areas. The assets that were voted by the majority of UAMs were included in the survey questionnaire. The common assets owned by UAMs in the study area included cell phones, kitchenware, wooden furniture, foam mattresses, radio, bicycles, solar panels, sewing machines, goats and poultry. Asset values used in this paper were computed by aggregating the market value of the possessed assets. With regard to social support, three domains of tangible, emotional and informational support were captured from UAMs of Katavi. The categorization was adopted from Peter *et al*. (2017). UAMs were asked to disclose whether they receive the three forms of support or not to establish which forms of social support where dominant across the two localities.

Qualitative data were analysed using content analysis whereby information pieces were organized into different themes and compared based on the study objectives. Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS), Version 20. Both descriptive and inferential statistics were used. Independent samples t-test was used to test whether there was significant difference in mean annual incomes (well-being) among rural and urban UAMs of Katavi; ordinal logistic regression was run to establish whether there was relationship between the dependent variable that was well-being levels (Y) and a set of independent variables. The model was selected due to having an ordinal dependent variable with three levels. Furthermore, Chi-square test was done to test the relationship between form of social support provision and locality.

In the model, the dependent variable (Y), well-being was categorized into three levels (0 = Low 1 = Medium and 2 = High). The independent variables were: location/district, age of UAM, education level of UAM, education level of UAM's father/male guardian, education level of UAM's mother/female guardian, income generating activity of UAM's father/male guardian, income generating activity of UAM's mother/female guardian, UAM's pregnancy acceptance or not, UAMs residential status, UAM's residential status, household size where UAM resides, and UAM's number of livelihood strategies.

The ordinal lo

gistical regression model was specified as follows:

$$P(y) = \frac{e^{\alpha + \beta 1x1 + \ldots \beta kxk \quad k}}{1 + e^{\alpha + \beta 1x1 + \ldots \beta kxk}}$$ (Agresti and Finlay, 2009), where:

P (y) = the probability of well-being level being high

e = the natural log

α = the intercept of the equation

β_1 to β_k = coefficients of the predictor variables

x_1 to x_k = predictor variables entered in the regression model

The dependent and predictor variables that were used in the ordinal logistic regression model were as defined in Table 5.1

Table 5.1: Variables used in the ordinal logistic regression analysis

Variable symbol	Variable Name	Explanation
P (y)	Well-being level	0 = Low, 1 = Medium, 2 =High
X_1	UAM's district of residence/location	0 = Rural, 1 = Urban
X_2	Age of UAM	(in years)
X_3	Education level of UAM	0 = Not educated, 1 = Primary education, 2=Secondary education, 3=College education
X_4	Education level of UAM's father/male guardian	0 = Not educated, 1= Primary education, 2=Secondary education, 3=College education
X_5	Education level of UAM's mother/female guardian	0 = Not educated, 1 = Primary education, 2=Secondary education, 3=College education
X_6	Income Generating Activity of UAM's father/male guardian	0= Unemployed, 1= Farmer, 2= Trader, 3=Formal employee
X_7	Income Generating Activity of UAM's mother/female guardian	0= Unemployed, 1= Farmer, 2= Trader, 3=Formal employee
X_8	Pregnancy acceptance or non-acceptance	0=Not accepted, 2=Accepted
X_9	UAM's Residential status	0=Shared residence 1=Self residence
X_{10}	UAM's number of livelihood strategies (LS)	0=single LS, 2=Multiple LS

5.5 Results and Discussion

This section presents results on livelihood strategies carried-out by unmarried adolescent mothers of rural and urban Katavi, their incomes, assets ownership status, their livelihood outcomes as well as perceived social support provided to them.

5.5.1 Livelihood strategies of unmarried adolescent mothers of rural and urban Katavi

The study findings show that trading was the dominant livelihood strategy carried out by UAMs of Urban and Rural Katavi; which was done by 50.4% and 49.6% of the respondents respectively (Table 5.2). The findings suggest that petty trading was the most popular livelihood strategy across the two localities compared to others. Similar findings were reported by Melvin and Uzoma (2012), Asomani (2017) and Ziblim *et al*. (2018) in their studies involving adolescent mothers of Nigeria and Ghana respectively. According to these empirical studies, petty trading appeared to be a highly preferred source of income among adolescent mothers of the region due to, among other reasons, limited employment opportunities at their exposure.

Apart from trading, the remaining livelihood strategies appear to be highly skewed with regard to location. For instance, those engaged in wage employment were 88.9% in Urban Katavi but 11.1% in Rural Katavi. Those offering labour to households were 40.7% and 59.3% in Urban and Rural Katavi respectively. Through FGDs and KIIs it was established that adolescent mothers offering labour to their respective households were doing the same in the form of survival strategy in exchange with free shelter, food and related basic needs for themselves and their babies. A similar survival strategy is reported among unemployed adolescent mothers of rural eastern Uganda who also produce crops, rear animals with their parents and perform various household chores in return of getting care from parents (Nabugoomu *et al.*, 2018). Those in casual labour stood at 25.0% and 75.0% in Urban and Rural Katavi respectively. Skewness holds for the rest of the livelihood strategies as well.

Table 5.2: Distribution of forms of livelihood strategies carried-out by UAMs of urban and rural Katavi by district (n=240)

Livelihood Strategy	District	
	Mpanda (n=120)	**Tanganyika (n=120)**
Petty trading	69(50.4)	68(49.6)
Wage employment	24(88.9)	3(11.1)
Offering labour to household in form of household chores and/or crop production	11(40.7)	16(59.3)
Crop production on own farm plot	1(6.7)	14(93.3)
Off farm self-employment	9(90.0)	1(10.0)
Casual Labour	6(25.0)	18(75.0)

NB: Numbers in brackets indicate percentage. Multiple responses existed. * The chi-square static is significant at 0.000

5.5.2 Asset ownership among unmarried adolescent mothers

During the FGDs which preceded household survey, UAMs in the study area were asked to mention the assets which connoted wealth status among themselves. Only the assets which were voted by the majority were included in the survey questionnaire. Table 5.3 summarizes these findings whereby assets owned by UAMs are disaggregated by location.

Table 5.3: Assets owned by UAMs of urban and rural Katavi

Type of asset owned	Percent (n= 240) District		Chi-square/Sig.
	Mpanda	Tanganyika	
Furniture	24(20.0)	20(16.7)	0.617
Kitchenware	29(24.2)	28(23.3)	1.000
Mobile phone	75(62.5)	29(24.2)	0.000**
Radio	4(3.3)	2(1.7)	0.684
Foam mattress	20(16.7)	30(25.0)	0.152
Sewing machine	4(3.3)	1(0.8)	0.370
Bicycle	2(1.7)	1(0.8)	1.000
Goats	4(3.3)	2(1.7)	0.684
Poultry	18(15.0)	42(35.0)	0.001**
Solar Panel	1(0.8)	4(3.3)	0.370

**Significant at 0.1%. NB: Multiple responses existed hence column tallies may exceed 240 and 100% respectively

The study revealed that, with exception of mobile phones (p=0.000) and poultry (p=0.001), there was no significant association assets ownership and location. With regard to other types of assets, there was no statistical significance with regard to their ownership in terms of location implying that their ownership was somehow equally distributed. During FGDs with UAMs and their peers it was reported that furniture, kitchenware and foam mattresses were perceived as very potential assets among UAMs. This was due to the fact that although most of UAMs were still co-residing with their parents, however most of them perceived their residences as merely transitional ones, and thus planned to move into their own residences in future in pursuit of autonomy. Therefore, those asset types were perceived very useful for an UAM to establish her residence. Calzada *et al.* (2012) report similar residential mobility intentions among Latina adolescent mothers living with their families of origin, contextually termed as “vertical moves” with intentions of obtaining independent housing and autonomy from parents. According to Elliot *et al.*

(2017), the common residential mobility among Latina adolescent mothers also has implications for their well-being and those of their children.

Poultry was also found to be a popular asset owned mostly by UAMs of Rural Katavi (35%) compared to those of Urban Katavi (15%). During an FGD with UAMs at Karema Ward, participants had this to say:

> "…*When one gets additional income or remittance, keeping local chickens is a very popular undertaking around here since chickens are easy-to-sell anytime one faces financial challenges particularly with child-rearing … and at times one can even trade chickens for staples when faced with food shortage*" (FGD in Karema Ward, Tanganyika District, 8th September 2017).

The above findings are in line with arguments by Deere and Doss (2006), that assets can act as an important buffer during emergencies as they can be pawned or sold to get income or service. According to Nguyen *et al.* (2017), poultry also appears to be both a popular and affordable asset among adolescent mothers of Bangladesh for commercial purposes, but also due to their inability to possess valuable assets such as a house, land and larger animals, like cattle and horses. On the contrary, there appears to be a statistically significant difference in ownership of mobile phones between UAMs of Urban Katavi (62.5%) and those of Rural Katavi (24.2%) with Chi-square=39.905, Sig.= 0.000. Although not a significant predictor, location has been greatly associated with mobile phones ownership in most developing countries. Sylvester (2016) reports a similar skewed pattern of mobile phones ownership amongst urbanites compared to rural dwellers of countries of Bangladesh, India, Pakistan, Sri Lanka and Pakistan. Likewise, in sub-Saharan countries like Malawi and Ghana, ownership of mobile phones is also substantially higher in urban than in rural locations (Porter, 2012).

Participants' opinions from FGDs and KIIs revealed that some of the UAMs of Urban Katavi had their mobile phones purchased by their parents upon request. Likewise, to UAMs from rural Katavi, some of them were sent mobile phones by distant relatives upon request. Through FGDs and KIIs, participants reported that mobile phones were useful to UAMs for facilitating electronic money transfer mainly through receiving remittances from distant relatives specifically their well-off siblings. However, they also serve as mobile-based bank accounts to UAMs for saving their incomes accrued from the various livelihood strategies. These study findings align with those of Sife *et al*. (2010) who reported that mobile phones usage in Rural Morogoro, Tanzania, has enabled users to concurrently handle several livelihood activities efficiently, enhanced their abilities in sending and receiving money, draw complex interactions between social and productive activities and coordinate geographically distant activities.

5.5.3 Well-being levels among unmarried adolescent mothers

Well-being levels of UAMs was categorized into three arbitrary levels with three cut-off points of minimum, mean and maximum incomes earned on an annual basis. Scores which were below standard deviation below the mean were labelled low well-being (below TZS 540 000). Scores which were in the range of standard deviation below or above the mean were labelled as medium well-being (TZS 540 000 – TZS 980 000). Scores which were above standard deviation above the mean (TZS 980 000) were labelled as high well-being.

Table 5.4: Well-being levels among UAMs of rural and urban Katavi (n = 240)

District	Well-being Levels	Frequency	Per cent (%)
Mpanda	Low	31	25.8
	Medium	21	17.5
	High	68	56.7
	Sub-Total	**120**	**100**
Tanganyika	Low	53	44.2
	Medium	57	47.5
	High	10	8.3
	Total	**120**	**100**

Descriptive statistics in Table 5.4 show that the majority (56.7%) of UAMs in the category of high well-being level were in Urban Katavi compared to Rural Katavi which had only 8.3% of UAMs in the similar category. This suggests that UAMs with annual income above TZS 980 0000 were found in Urban Katavi, implying presence of relatively more paying livelihood opportunities compared to Rural Katavi. The same trend applies to the low well-being category whereby more UAMs in the category were found in Rural Katavi (44.2%) compared to Urban Katavi (25.8%). A similar skewed trend is also evident in the medium well-being category. These findings can be justified with the evident income inequalities in the rural urban divide in Tanzania.

Income inequalities between urban and rural areas in Tanzania is basically due to the fact that urban households have higher endowments than their rural counterparts (World Bank, 2015). It is further argued that well-off urban households have been better able to improve their endowments and to benefit from the opportunities generated from economic growth than their rural counterparts (World Bank, 2015).

5.5.4 Comparative well-being among unmarried adolescent mothers

Results from an independent sample t-test showed that there was a significant difference in UAMs' well-being by location ($p = 0.000$) as illustrated in Table 5.5. The results show

that UAMs of Urban Katavi had significantly higher well-being (in terms of livelihood outcomes) of TZS 1 574 616.66 compared to those of Rural Katavi who had annual livelihood outcomes of TZS 598 825.00. As described in the methodology section, well-being was measured by using a formula adopted from Wendimu (2015) by aggregating total UAM's annual incomes derived from UAMs' various livelihood strategies together with the total values of assets that they own.

Table 5.5: Well-being (livelihood outcomes) among unmarried adolescent mothers in TZS

Variable	District	Mean annual livelihood outcome (TZ)	Sig.
Well-being (livelihood outcome)	Tanganyika	598 825.00	0.000
	Mpanda	1 574 616.66	

The findings in Table 5 suggest that UAMs of Urban Katavi (Mpanda Municipality) had generally higher well-being levels compared to those of Rural Katavi (Tanganyika District).

5.5.5 Determinants of UAMs' well-being among unmarried adolescent mothers

Findings from the model showed that the Nagelkerke R^2 value that was 0.238 means that the independent variables which were entered in the model explained about 23.8% of the variation in the outcome variable. It should also be noted that, the model output presented in Table 5.6 only shows variables of interest or reference variables. With regard to the independent variables entered in the model: First, location was significantly associated with well-being levels. Location of UAMs had influence to their well-being levels, other variables in the model being held constant. UAMs residing in Urban Katavi appeared to have higher well-being levels compared to those of Rural Katavi. Arguably, economic growth in urban areas has the potential of opening new livelihood opportunities for

urbanites as well as immigrants from rural areas hence enabling them to escape from poverty. Secondly, UAM's number of livelihood strategies also was significantly related to well-being level. Thirdly, income generating activities of UAMs' mothers or female guardians also had influence to their well-being levels. The same is consistent with literature in the sense that UAMs mothers are reported in literature to be quite supportive to their mothering adolescent daughters both financially and beyond (Nadeem and Romo, 2008, Schrag and Schmidt-Tieszen, 2014). However, results show that the remaining seven independent variables were not statistically significant to influence well-being of UAMs of Rural and Urban Katavi. For instance, UAM's age, education level of UAM's father and mother, and income generating activities of UAM's mother were negatively associated with UAM's well-being levels.

Table 5.6: Determinants of well-being levels among UAMs or rural and urban Katavi (n=240)

	Estimate	**Std. Error**	**Wald**	**df**	**Sig.**
UAM's Age	-.035	0.174	0.041	1	0.840
UAM's number of livelihood strategies	0.118	0.064	3.448	1	0.063
UAM's district of residence/location	1.393	0.402	12.029	1	0.001
UAM's Education level	0.133	0.452	0.086	1	0.769
Education level of UAMs father/male guardian	-.267	00.615	0.189	1	0.664
Education level of UAMs mother/female guardian	-.537	0.856	0.393	1	0.530
Income generating activity of UAMs father/male guardian	0.914	0.626	2.131	1	0.144
Income generating activity of UAM's mother/female guardian	-16.410	00.362	20.094	1	0.000
UAMs pregnancy acceptance or non-acceptance	0.069	.324	0.045	1	0.832
UAMs residential status	0.503	0.348	2.083	1	0.149

Model summary: Cox and Snell R^2 = 0.212, Nagelkerke R^2 = 0.238, Model fitting information Chi-square 52.300 ($p \leq 0.001$)

4.5.6 Availability of social support to unmarried adolescent mothers

The study also sought to assess the network of social support available to UAMs and identification of the sources of social support so as to establish the most supportive sources and vice versa. The findings on the same are presented in Table 5.7.

Table 5.7: Social Support to Unmarried Adolescent Mothers of rural and urban Katavi

Social Support Type	Source	District				Chi-Square/Sig
		Tanganyika		Mpanda		
Tangible	Baby's father	Yes 7 (5.8)	No 113(94.2)	Yes 42 (35.0)	No 78(65.0)	31.414 0.000*
Emotional	Baby's father	Yes 0 (0)	No 120 (100)	Yes 4 (3.3)	No 116(96.7)	4.068 0.122ns
Informational	Baby's father	Yes 0 (0)	No 120 (100)	Yes 5(4.2)	No 115(95.8)	5.106 0.060***
Tangible	Father	Yes 11(14.1)	No 67(85.9)	Yes 26(29.2)	No 63(70.8)	5.503 0.025*
Emotional	Father	Yes 3(3.8)	No 76(96.2)	Yes 4(4.4)	No 87(95.6)	0.038 1.000ns
Informational	Father	Yes 2(2.5)	No 78(97.5)	Yes 3(3.3)	No 88(96.7)	0.095 1.000ns
Tangible	Mother	Yes 82(72.6)	No 31(27.4)	Yes 92(83.6)	No 18(16.4)	3.984 0.053***
Emotional	Mother	Yes 87(76.3)	No 27(23.7)	Yes 91(82.7)	No 19(17.3)	1.410 0.251ns
Informational	Mother	Yes 87(76.3)	No 27 (23.7)	Yes 83(75.5)	No 27(24.5)	0.023 1.000ns
Tangible	In-laws	Yes 3(2.5)	No 117(97.5)	Yes 5(4.2)	No 115(95.8)	0.517 0.772ns
Emotional	In-laws	Yes 1(0.8)	No 119(99.2)	Yes 0(0)	No 120(100)	1.004 1.000ns
Informational	In-laws	Yes 1(0.8)	No 119(99.2)	Yes 0(0)	No 120(100)	1.004 1.000ns
Tangible	Siblings	Yes 5(4.2)	No 15(95.8)	Yes 6(5.0)	No 114(95.0)	1.095 1.000ns
Emotional	Siblings	Yes 31(25.8)	No 89(74.2)	Yes 46(38.3)	No 74(61.7)	4.302 0.053***
Informational	Siblings	Yes 30(25.0)	No 90(75.0)	Yes 39(32.5)	No 81(67.5)	1.648 0.254ns
Tangible	Friends	Yes 15(12.5)	No 105(87.5)	Yes 7(5.8)	No 113(94.2)	3.203 0.116ns
Emotional	Friends	Yes 18(15.0)	No 102(85.0)	Yes 7(5.8)	No 113(94.2)	5.403 0.033**
Informational	Friends	Yes 18(15.0)	No 102(85.0)	Yes 7(5.8)	No 113(94.2)	5.403 0.033**
Tangible s	Neighbours	Yes 10(8.3)	No 10(91.7)	Yes 5(4.2)	No 115(95.8)	1.778 0.286ns
Emotional	Neighbours	Yes 10(8.3)	No 10(91.7)	Yes 1(0.8)	No 119(99.2)	7.717 0.010**
Informational	Neighbours	Yes 10(8.3)	No 110(91.7)	Yes 2(1.7)	No 118(98.3)	5.614 0.034**

*=Significant at 1%; ** =Significant at 5%; ***= Significant at 10%; ns = not significant

Comparatively, in terms of all domains of social support (tangible, emotional and informational), the findings show that UAMs of urban Katavi received more social support compared to UAMs of Rural Katavi. Qualitative findings from FGDs and KIIs also revealed that, due to the fact that families in Urban Katavi are relatively well-off economically compared to those of rural Katavi, tangible support to UAMs is likely to be more available in Urban compared to Rural Katavi. Cross-tabulation results in Table 5.7 show that UAMs' spouse/father of the child, mother/female guardian, father/male guardian and siblings often provided more social support compared to the rest of the individuals in UAMs' network of social support. On the contrary, support from people outside of UAMs' family of origin was negligible. Discussion with a Community Development Officer in Rural Katavi confirmed that:

> "*... UAMs rarely get support from the community ... the problem of underage premarital childbearing is more of a family one and hence the general community is less concerned ... when a school girl conceives, there is a common saying from the neighbours to the girls' family that each donkey should carry its luggage, implying that each family should solve its own problems on its own*." (Key Informant, Ikola Ward, Tanganyika District, 11th October 2017).

The study findings show that mothers of UAMs of Urban Katavi offered relatively more tangible support to UAMs compared to their Rural counterparts; the Chi-square test of the same was slightly significant at 10% ($p = 0.053$). This finding is also consistent with empirical literature which suggests that irrespective of location, mothers of adolescent mothers are the most supportive family members to their daughters during premarital adolescent motherhood (Lesser *et al*., 1998; Spear, 2001; Nadeem and Romo, 2008, Schrag and Schmidt-Tieszen, 2014). However, apart from tangible support, adolescent mothers usually depend on their mothers for emotional support, love and stability (Spear,

2001) and usually perceive support from their own mothers as having big positive impact on their well-being (Lesser *et al.*, 1998). It is further argued that continued close relationship between an adolescent mother and her mother provides higher levels of life satisfaction and positive parenting skills on the part of adolescent mothers (Nadeem and Romo, 2008). With regard to emotional support from their mothers, 82.7% and 76.3% of UAMs of Urban and Rural Katavi respectively fall in that category whereas, with regard to informational support, 75.5% and 76.3% of UAMs from Rural and Urban Katavi respectively fall under that category.

The findings also showed that 29.2% of UAMs from urban Katavi received tangible support from their fathers compared to UAMs (14.4%) from Rural Katavi; the Chi-square test of the same showed significant relationship at 0.05% ($p = 0.025$). In addition, 38.3% of UAMs from Urban Katavi received emotional support from their siblings compared to their rural counterparts (25.8%); the Chi-square test of the same was slightly significant at 10% ($p = 0.053$). Similarly, more UAMs from Urban Katavi (32.5%) also received informational support from their siblings compared to their rural counterparts (25%). However, the Chi-square test for the same showed no significant difference. Arguably, sibling support is a preferred option to UAMs because younger siblings are likely to be early or middle adolescents themselves, who are old enough to help with childcare (Polatnik, 2002), and it is usually the female siblings who are more typically engaged in sibling care-taking and spend more time on the same compared to male siblings (Zukow-Goldring, 2002). With regard to poor support from fathers, a coordinator of Mother Child Health (MCH) unit from a dispensary based in Rural Katavi asserted:

> "*.... at family level, life is bitter to some UAMs ... they get tortured by male parents particularly due to the early pregnancy incidents ... in some families, fathers do not talk to their daughters at all due to being disgusted by the pregnancy incidents*

> *and hence offer no support of any form .... it is only mothers who are sympathetic and supportive to UAMs*...." (Key Infomant, Kabungu Ward, Tanganyika District, 13th September 2017).

The particular finding is consistent with what is reported by Nabugoomu *et al*. (2018) that adolescent mothers of rural eastern Uganda were at a risk of hypertension and depression due to stress at home particularly from male parents. According to Nabugoomu *et al*. (2018), parents and community members were of the view that they had to be tough on young mothers to teach them and other children in the community a lesson to not repeat or make similar mistakes. The findings further showed that relatively more UAMs (35%) from Urban Katavi received tangible support from their spouses compared to their counterparts of Rural Katavi (5.8%); the Chi-square test of the same was significant at 0.1% ($p = 0.000$). The particular finding is also supported by literature. For instance, Wiemann *et al*. (2006) report that paternal support during child rearing basically in the form of financial support and sharing of tasks may largely enhance unmarried adolescent mothers' well-being. However, the findings showed absence of emotional support ($p = 0.122$) but slight significant ($p = 0.060$) informational support from UAMs' spouses of Rural and Urban Katavi. Findings from FGDs and KIIs showed that, in most cases, due to being out of wedlock, adolescent mothers are less likely to receive support from the father of their babies in all the three domains of tangible, emotional and informational support. Even for those from Urban Katavi who receive tangible support, it is only a small portion of UAMs (less than half of the sampled population) who receive such support. During an FGD with a group of male youths, they admitted and acknowledged to be responsible for the pregnancies but they chose to reject purposely due to economic hardships. Apart from that, they also wished to avoid unnecessary pressure from UAMs' family members who might often demand for financial assistance. One male youth from Urban Katavi asserted:

> "*…if you impregnate a girl from a poor household, you will end up getting the burden of caring for the whole family financially, and that is why most of us reject such pregnancies. However, if the girl is from a financially well-off family, there is no need to reject pregnancy, and one does not worry much about the financial implications since they usually take care of their daughter on their own*." (FGD Participant, Makanyakio Ward, Mpanda Municipality, 4th September 2017).

The findings further showed the presence of emotional and informational support from friends as well as neighbours of UAMs of Rural Katavi compared to their urban counterparts; the Chi-square tests of both were significant at 5% ($p = 0.010$ and $p = 0.034$). These findings suggest the presence of relatively higher levels of social capital in rural compared to Urban Katavi. A study conducted among unmarried adolescent mothers of Thailand also reported presence of emotional support from friends and absence of tangible or financial support from the same (Sa-ngiamsak, 2016). Likewise, Motjelebe (2009) studied social support network of teenage mothers of Botshabelo Township in Free State Province of South Africa and found that neighbours of adolescent mothers were usually likely to provide emotional support to adolescent mothers in several domains such as interpersonal influence and informal advising. However, in their study of social support among black American adolescent mothers, Schrag and Schmidt-Tieszen (2014) report adolescent mothers' desire of wanting to be supported financially by their friends.

5.6 Conclusion and Recommendations

This study concludes that as far as well-being is concerned, UAMs of Urban Katavi are relatively better-off than those of Rural Katavi. This conclusion concurs with literature reviewed which generally reports that endowments and opportunities available in urban areas allow urbanites to earn more incomes compared to their rural counterparts, hence having relatively high well-being. In terms of social support, the study findings showed

that UAMs of urban Katavi received more support in all the domains compared to their rural counterparts. Specifically, it appears that mothers of UAMs are the main sources of support compared to any other individuals in UAMs' network. However, the study found out that UAMs of rural Katavi receive more emotional and informational support from their neighbours and friends than their urban counterparts and the same can be attributed to higher levels of social capital existing in rural context compared to urban. The study recommends that there is a need to empower adolescent mothers in both rural and urban contexts on entrepreneurship and various life skills so as to enable them to employ themselves in sustainable livelihoods that will enhance their incomes and well-being respectively.

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CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Major Findings

6.1.1 Factors associated with adolescent pregnancy and pre-marital childbearing

Factors associated with adolescent pregnancy and pre-marital childbearing were discussed in chapter two. The chapter was guided by the theory of culture of poverty by Oscar Lewis (1959). The theory holds that poverty perpetuates itself from generation to generation because these attitudes are passed on to the children, rendering them incapable of taking full advantage of changing conditions and increased opportunities that may occur in their lifetime. To this regard, adolescent pregnancy and pre-marital childbearing represent many dysfunctional attitudes and values, relative to mainstream society, about family, education and work. The attitudes are passed to subsequent generations. The findings showed that multiple factors are associated with adolescent pregnancy and pre-marital childbearing in the study districts. However, the major factor was household poverty that influences adolescent girls into early onset of transactional sexual practices for survival. Another influential factor was long periods of parents' absence from homes for farming activities. Apart from the two, other factors were peer pressure, separation of families, poor parent-child communication, neglect of education and vibrant business and employment environment.

6.1.2 Types of livelihood strategies carried out by UAMs of rural and urban Katavi

The typologies of livelihood strategies (LS) carried out by UAMs of Katavi are discussed in the second manuscript presented in chapter three of the thesis. The manuscript was guided by the sustainable livelihood framework (SLF), which is also the guiding theoretical framework for the overall study. Findings from Chi-Square Test showed that

three LS namely casual labour, wage employment, off farm self-employment and crop production on own farm were significantly associated with location. However, although not significantly associated with any location, petty trading appeared to be the most dominant livelihood strategy among UAMs in both Rural and Urban Katavi. The most popular trading activities preferred by the majority of the UAMs were: selling of food stuff through stalls (19.4%); owning kiosks (14.6%); selling of vegetables (14.6%) and selling of fish (12.5%) locally known in the study areas as *kulangua.* However, a small proportion (11.3%) of UAMs had no paid jobs but rather offered labour in kind to households where they resided in order to sustain themselves and their children. Other LS were casual labour (both in farm and off-farm), crop production, and varying off-farm self-employment activities. One of the peculiar findings was the practice of *kusolola*, which involved UAMs requesting for fish from fishermen and fish traders for the purpose of own consumption, but the end was selling the same to earn incomes for sustaining other expenditures. The study, however, argues that the practice might be associated with risks of subsequent pregnancies among UAMs.

6.1.3 Food and nutritional status among UAMs of Katavi

Food and nutritional status of UAMs of Katavi are discussed in the third paper which is presented in the fourth chapter. The manuscript was guided by Amartya Sen's entitlement approach which introduces important concepts of endowment and entitlement with regard to food access. The findings show that UAMs of urban Katavi were relatively food secure (32.5%) compared to their rural counterparts (14.2%). Furthermore, findings from the binary logistic regression showed that eight predictors were significantly associated with UAMs households' food security/insecurity whereas the remaining five predictors were not. The strongest predictors were household size as well as borrowing food from neighbours and friends; these predictors had greater Wald statistics. With regard to

nutritional status, findings showed somehow an equal distribution of UAMs of moderate malnutrition in both rural (9.1%) and urban (10%) Katavi. Furthermore, the magnitude of stunting among children of UAMs was alarming in both Urban and Rural Katavi standing at 37.5% and 42.5% respectively. Generally, the observation reflects a relative high prevalence of stunting compared to Tanzania's prevalence of 31.8%.

6.1.4 Well-being of UAMs in terms of incomes, assets possessions and social support

Well-being and social support of UAMs in rural and urban katavi is discussed in the fourth paper which is presented in the fifth chapter. The manuscript was guided by the SLF which postulates that people are usually obliged to combine a range of strategies to make a living in response to a particular vulnerability context. With reference to the SLF, through pursuing various livelihood strategies, people achieve multiple livelihood outcomes including, among many others, more incomes that facilitate their survival as well as acquisition of assets and enhanced well-being. Social capital is also mentioned in the framework as one of the assets used by the poor to make a living, and in the study, it reflects the social support available to UAMs. Findings showed that UAMs of urban Katavi had higher well-being levels compared to their rural counterparts in terms of incomes, assets as well as in some domains of social support. Descriptive statistics showed that UAMs in high well-being category were more found in Urban compared to Rural Katavi. In addition, the independent t-test showed that UAMs of Urban Katavi had significantly higher ($p = 0.000$) well-being (in terms of annual earning and total asset value) compared to those of Rural Katavi. Findings of the ordinal logistic showed that UAM's residential location, UAM's number of livelihood strategies and income generating activities of UAM's mother were significantly related to well-being levels of UAMs. With regard to social support, the findings showed that UAMs of urban Katavi received more support compared to their rural counterparts, and mothers of UAMs made

the most significant supportive sources in all domains of social support assessed. The same is highly consistent with empirical literature.

6.2 Conclusions

6.2.1 Factors associated with adolescent pregnancy and pre-marital child bearing

The study findings have shown that poverty is the main influencing factor to the incidences of adolescent pregnancy and pre-marital childbearing in both rural and urban Katavi. The rest of the factors associated with adolescent pregnancy and premarital childbearing in the study area are also related to poverty. Ideally, poverty emanates from households having limited livelihoods and lack of diversification of the same. Most of the households depend largely on farming with exception of a small proportion that engages in fishing and fish products value chain. The segment is found in few settlements located along Lake Tanganyika. In view of the study findings, poverty was also associated with laziness and irresponsibility among male parents. Over dependence on few livelihoods exposes households to poverty. Poverty at household level pushed adolescent girls to seek financial and material assistance outside their homes hence early onset of sexual practices. Apart from poverty, findings further indicated that single parenthood, poor parent-child communication and neglect of education represent other factors associated with adolescent pregnancy and pre-marital childbearing in the study area which are also related to household poverty.

6.2.2 Well-being of UAMs in terms of incomes, assets possessions, social support, food and nutritional status

Study findings have indicated that UAMs of both rural and urban Katavi lack skills to qualify for sustainable livelihoods. That being the case, UAMs fall in an array of livelihood strategies which are basically for subsistence nature. Despite the fact that

trading was the major livelihood strategy, the kinds of trading activities carried out by the respective UAMs were mainly of subsistence nature. The same applied to the casual labour activities and even the self-employment category. Furthermore, as disclosed through FGDs and KIIs, most of the adopted LS pose UAMs into risks of subsequent pregnancy. With regard to the SLF, it can be concluded that UAMs of both rural and urban Katavi lack sustainable livelihoods.

6.2.3 Food and nutritional status among UAMs of rural and urban Katavi

Study findings indicated that UAMs of urban Katavi were better positioned to be food secure compared to those of rural Katavi. Reflecting from Amartya Sen's Entitlement to food approach, it can be concluded that UAMs of urban Katavi where better positioned in terms of entitlements and endowments that privileged them to be food secure compared to their rural counterparts. Through FGDs and KIIs, findings showed that UAMs of urban Katavi might have benefited from social networks that allowed them to acquire food supplies contrary to the rural UAMs. However, with regard to nutritional security, findings showed that existence of moderate malnutrition across the study districts. Stunting among children of UAMs was also alarming across the study districts.

6.2.4 Well-being and social support of unmarried adolescent mothers in rural and urban Katavi

Findings have indicated that UAMs in both study districts possessed an array of assets which were mainly for two key reasons. The assets were purchased purposely for intentions of establishing their own residence in future or for serving as collateral in times of shocks. The findings partly reflect the SLF which highlights how the poor operate within the vulnerability context and respond to shocks. With regard to incomes, as indicated earlier, majority of the LS that UAMs of both rural and urban Katavi engage

with were mainly for subsistence nature hence earning them very little incomes. The findings might have theoretical implications with reference to the SLF's five livelihood capital assets (natural, social, financial, human, and physical assets) in the sense that UAMs of Urban Katavi might have more access to the combination of those assets and hence better positioned to be in well-off compared to their rural counterparts who might be disadvantaged on the same. Furthermore, study findings showed that, regardless of location, mothers of UAMs were the most supportive sources of support in terms of all the domains of social support assessed.

6.3 Recommendations

Based on the study findings and conclusions, the following recommendations are put forward to improve well-being of UAMs, but also to address adolescent pregnancy in order to control pre-marital adolescent child bearing in Tanzania as well as other localities with similar challenges:

i. Sensitization of adolescents on the socio-economic consequences of early motherhood. Through the ministry of Health, Community Development, Gender, Elderly and Children, the sexually active teenagers should be assisted in meeting their contraceptive needs in order to curb the problem of adolescent pregnancy and consequently halt the emergence of adolescent pre-marital childbearing. Sensitization should also put into consideration the risky practices that UAMs are engaged in which might pose threats to their subsequent pregnancies and hence being caught in a vicious circle of poverty. Such risky practices are those of *kusolola* which have been widely exhausted in chapters two and three. However, some other livelihood strategies in form of casual labour also pose similar risks by exposing UAMs into prey of sexually greed men.

ii. Strict legal enforcement should be put in place to deal with those who impregnate adolescent girls and school-going girls in particular. Through KIIs, it was revealed that men who impregnate adolescent girls escape easily from legal enforcement through corruption, something which creates loopholes of continuation of the vice.

iii. Various stakeholders involved with women's welfare should strive to empower UAMs in both rural and urban contexts on entrepreneurship and apprenticeship so as to enable them to employ themselves in sustainable livelihoods. UAMs capacity building projects have proved success in various countries in SSA and Uganda serves a good example of the same.

6.4 Areas for Further Research

The study suggests the following areas for further research:

i. Comparative studies should be carried out on the LS and well-being of the married and unmarried adolescent mothers to establish whether the former are faring well than the latter or otherwise.

ii. Similar studies like the present one can be conducted along the coastal regions of Tanzania to explore whether LS of UAMs of the coastal regions like Tanga, Pwani, Mtwara and Lindi are similar to those of non-coastal regions like Katavi and the like. Furthermore, one might wish to compare the two localities to come up with more details. Nevertheless, other urban areas need to be researched on, on the same, since urban areas have received less research attention with regard to the same.

iii. There is a need for undertaking a qualitative research on LS and well-being of UAMs so as to get deeper insights which the study on which this thesis is based might have missed. Qualitative studies involving UAMs and adolescent mothers in

general have been widely carried out outside SSA and proved fruitful in terms of findings.

iv. It is also imperative that one research on the health seeking behaviours of UAMs as well as uses of contraceptives. This is necessary to establish whether the same are not risking UAMs fall into poor health outcomes and risks of sexually transmitted diseases, hence putting both UAMs and their children at risk.

APPENDICES

Appendix 1: A copy of Household Survey Questionnaire

My name is Noel Matemba, a PhD student at Sokoine University of Agriculture, Morogoro, Tanzania. I am conducting a study on Unmarried Adolescent Mothers' Livelihood Strategies and their well-being in Rural and Urban Katavi. I therefore would like to ask you questions related to the topic. The information that you will give will be confidential and only used for writing a PhD thesis and not otherwise.

SECTION A: PRELIMINARY INFORMATION

Name of Respondent: Contact of Respondent:

Date of Interview:	Division:	Village/ Hamlet:
District:	Ward:	Street:

1. Anthropometric Assessment

UAM					
Weight (kgs)		Height (cm)		MUAC (cm)	
Child					
Date of Interview:	Date of Birth:	Sex 1=male 2=female	Weight:	Length/height:	

2. When/in which year were you born? _____

3. (a) Actual Number of Years of Schooling ..... (years)
   (b) Education Level

Education Level	**Tick against the relevant level**
1 = No Formal Education	
2 = Informal Education	
3 = Complete Primary education	
4 = Incomplete Primary education	
5 = Complete Secondary Education	
6 = Incomplete Secondary Education	
7 = Technical/Vocational Education	
9 = Others (***Specify***)	

SECTION B. PROFILE OF UAM'S PARENTS/GUARDIANS

4.Parents'/Guardians' education level:

Father/ Male Guardian 1 (_____)		**Mother/ Female Guardian 2 (_____)**	
Education Level	**Actual Number of Years***	**Education Level**	**Actual Number of Years***
1 = No Formal Education		1 = No Formal Education	
2 = Informal Education		2 = Informal Education	
3 = Complete Primary education		3 = Complete Primary education	
4 = Incomplete Primary education		4 = Incomplete Primary education	
5 = Complete Secondary Education		5 = Complete Secondary Education	
6 = Incomplete Secondary Education		6 = Incomplete Secondary Education	
7 = Technical/Vocational Education		7 = Technical/Vocational Education	

9 = Others (***Specify***)		9 = Others (***Specify***)	

5. Income generating activities of UAMs' parents/guardians

Father/ Male Guardian 1 (_____)	**Mother / Female Guardian 1 (_____)**
1=Farming/crop production	1=Farming/crop production
2=Livestock keeping	2=Livestock keeping
3=Fishing	3=Fishing
4= Trading	4= Trading
5=Self-employed off farm	5=Self-employed off farm
6=Salaried employment	6=Salaried employment
7=Casual labour on farm	7=Casual labour on farm
8= Casual labour off farm	8= Casual labour off farm
9= Others ***(Specify)***	9= Others ***(Specify)***

SECTION C. BACKGROUND INFORMATION TO UAM'S ADOLESCENT PREGNANCY AND PREMARITAL CHILDBEARING

6. Did your boyfriend/father of the baby accept the pregnancy? 1 = Yes 2 = No
7. If he denied the pregnancy, what was the reason for the same?
   1= Escaped responsibilities 2 = Escaped legal measures 3 = I do not know 4 = Other (specify): _____
8. How many children do you have at the moment?
   1 = One 2 = Two 3 = Three

9 (a). At which age did you get pregnant with your child/children?

Child	*Your age (in years) when you got pregnant/ the actual year when you got pregnant*	*1=While in school 2=After school drop-out 3=After completing school 4=Not schooling*	If while in school, in which class/grade were you? *1 = Grade 5, 2 = Grade 6, 3=Grade 7, 4=Form 1, 5=Form 2, 6=Form 3, 7=Form 4, 8=Other (**Specify**):*
First child			
Second child			
Third child			

9 (b). Please provide month(s) and year(s) of birth for your child/children

Child	Month and Year of Birth
1st child	
2nd child	
3rd child	

Note: This information should be verified with the child's health clinic card

10 (a). If you have more than one child, are the children of the same biological father? 1 = Yes 2 = No

10 (b). If they belong to different fathers, could you explain the circumstances?
1 = I separated with the 1st boyfriend 2 = Life hardships 3 = The first boyfriend denied pregnancy 4= Others (Specify) _____

11.After getting your first child, what were the reactions of the following individual(s) towards your teenage pregnancy and underage non-marital childbearing?

Relatives	**Reactions** *1= Just ok with-it 2= Angry about it 3= Abandoned me 3= Chased me away 4= Sad/sympathetic about it 5= doubted the pregnancy 6=Others (Specify)*
1. Father/Male guardian	
2. Mother/Female guardian	
2. Boyfriend/father of the baby	
3. Siblings	
4. In-laws	
5. Other close relatives	

12.In general terms, how does this community perceive underage non-marital childbearing?
1= a normal practice 2=no one cares 3= it is unacceptable and shameful, 4=Other (specify):
_____

13 (a). Did you and your partner consider getting married immediately after becoming pregnant/prior to giving birth? 1=Yes 2=No

13 (b). If the answer to question 13a is No, what were the reasons for the same?
1=it wasn't important, 2= we never had such plans 3=he refused to do so 3=he had another wife/woman, 4=he was a womanizer 5=I do not know 5= Other: _____

13 (c). If you had plans to get married, what prevented you from doing so up to now?
1= He didn't keep his promise 2= life hardships 3= other (specify): _____

13 (d). Did you and your boyfriend/child's father have plans for marriage after having your baby born?
1=Yes 2=No

13 (e). If the answer for question 13d is Yes, what has prevented the two of you from getting married up to now? *1= He didn't keep his promise 2= Life hardships 3= Other (specify): _____*

14. Details about the father(s) of your child/children:

(a). Do you currently know the whereabouts of the father(s) of your child/children?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1 = Yes	2 = No	1 = Yes	2 = No	1 = Yes	2 = No
(b). If yes, where does he/do they reside?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1=Within the village/street 2=Outside the village/street 3=Outside the region		1=Within the village/street 2=Outside the village/street 3=Outside the region		1=Within the village/street 2=Outside the village/street 3=Outside the region	
(c). Do you make regular contact with him/them?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1 = Yes	2 = No	1 = Yes	2 = No	1 = Yes	2 = No
(d). If you make contact with him/them, what kind of contact do you make?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1=in person contact 2=telephone contact 3=Other (specify)		1=in person contact 2=telephone contact 3=Other (specify)		1=in person contact 2=telephone contact 3=Other (specify)	
(e). How often do you make regular contact with him/them?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1= on a daily basis *2=on a weekly basis* *3=on a monthly basis* *4= Other: _____*		*1= on a daily basis* *2=on a weekly basis* *3=on a monthly basis* *4= Other: _____*		*1= on a daily basis* *2=on a weekly basis* *3=on a monthly basis* *4= Other: _____*	
(f). If you make contact with him/them, for what purpose?					
Father of your 1st child		**Father of your 2nd child**		**Father of your 3rd Child**	
1=asking for child rearing funds 2=greeting each other 3=when the child/children fall sick 4=He wants to get updates of child's health status 5=For love/affection 6=Other(specify):		1=asking for child rearing funds 2=greeting each other 3=when the child/children fall sick 4=He wants to get updates of child's health status 5=For love/affection 6=Other(specify):		1=asking for child rearing funds 2=greeting each other 3=when the child/children fall sick 4=He wants to get updates of child's health status 5=For love/affection 6=Other(specify):	

SECTION D. DETAILS OF UAM'S CURRENT HOUSEHOLD

15 (a). What is your current residential status? (*circle/tick where appropriate*):

1=Self residence 2= Shared residence with both parents 3= Shared residence with father only, 4=shared residence with mother only 5=shared residence with guardian/guardians 6=shared residence with other people (specify): _____

15 (b). If living in a shared residence, how many household members (including yourself and children) comprise the household? _____

15 (c). If living in a shared residence, I would like to know all household members whom you live with. Please identify the household head and describe your relationship with each of the other household members:

S/N	Sex	Age	Relationship to UAM	Highest level of formal education
1				*1=no formal education, 2=informal education, 3=complete primary education, 4=incomplete primary education, 5=complete secondary education, 6=incomplete secondary education, 7=technical/vocational education, 8=student/pupil, 9=non-schooling child*
2				
3				
4				
5				
6				

SECTION E: LIVELIHOOD STRATEGIES OF UAMs

16 (a). How do you earn your income for survival?

1= I am employed 2=I do business 3= I am entirely dependent 4=Others (specify)_____

16 (b). If entirely dependent, whom do you depend on for the survival of yourself and your baby?

1=father of my child 2= my father 3=my mother 4= My father and Mother 5=my guardian(s) (_____) 6=my sibling (_____) 7= neighbours 7=friends 8= Other (specify): _____

16(c). If you are not engaged in any income generating activity, what are the reasons for the same?

1= I don't have capital 2= I don't have someone to help me with babysitting 3= There are no jobs 4= Other reasons (specify): _____

17 (a). Are you engaged in more than one livelihood strategy? *1=Yes 2=No*

17 (b). If your answer to 17(a) is Yes, could you explain the reasons for engaging in more than one livelihood strategy?

1=to improve my income 2=life hardships 3=there are opportunities 4= Others (specify): _____

18 (a). Please mention your primary/main livelihood strategy that earns you income for your survival (*Tick/circle where appropriate*)

Type of livelihood Strategy	Tick against the relevant livelihood strategy (*Multiple selection allowed*)
1=Farming/crop production	
2=Livestock keeping	
3=Fishing	
4= Trading	
5=Self-employed off farm	
6=Salaried employment	
7=Casual labour on farm	
8= Casual labour off farm (***Specify***)	
9= Others ***(Specify)***	

18 (b). Please rank the three most important livelihood strategy/strategies among the above-mentioned ones (*Use the above codes*):

1._____ 2. _____ 3. _____

19. Can you please explain the factors that have specifically influenced you to adopting these particular livelihood strategies over others?

1 = They are relatively easy to start 2 = They are more profitable than others 3 = I had no other alternative 3 = Other reasons (Specify): _____

SECTION F: ASSETS, INCOMES AND FOOD SECURITY STATUS OF UAMs

A. ASSETS

20 (a). Kindly disclose the asset(s) that you possess:

S/N	Asset Type	1=Yes 2=No	Quantity	Monetary value of asset by September 2017
1	Mobile phone			
2	Kitchen ware (specify)			
3	Furniture (specify)			
4	Mattress			
5	Other asset types not listed above 1. 2. 3.			

20 (b). Do you keep any of the following animals and birds?

S/N	Animal/Bird	1=Yes 2=No	Quantity/ Number	Purpose of keeping	Monetary value of asset by September 2017
1	Cow				
2	Goat /Sheep				
3	Poultry				
4					
5					

B. INCOMES

21. Could you estimate the revenue generated from each livelihood strategy either daily, monthly or annually for the past one year i.e., from 1st July 2016 to 30th June 2017?

S/N	Livelihood Strategy (LS)	Amount of revenue obtained per month (in TZS)	Number of months in 2016/17
1	Crop production		
2	Livestock keeping		
3	Petty trading		
4	Wage labour		
5	Casual labour		
6	Manufacturing		
7	Fishing		
8	Others (*Specify*):		

C. FOOD SECURITY

22**.** Do you and your child/children share the pot with the other household members? *1 = Yes 2 = No*

23 (a). How many meals do you normally take in a day?

1= one meal 2= two meals 3= three meals 4 = four meals

23 (b). How many meals does/do your child/children (aged 6 to 59 months) normally take a day?

1= one meal 2= two meals 3= three meals 4=four meals

23 (c). What is the interval (in hours) between the meals that you and your child/children consume?

Meal(s) taken	Interval of hours for yourself	Interval of hours for your child/children
Meal 1 and 2		
Meal 2 and 3		
Meal 3 and 4		

24 (a). From July 2016 to June 2017 did you and your child/children face food shortage?

1=Yes 2=No

24 (b). If yes, for how long? _____ Months

24 (c). In times of food shortages, how do you cope with the situation? (*Tick/Circle where appropriate*)

*1=reduce portion/meal sizes, 2 = food loan **3**= requesting for food from neighbours 4 = borrowing food from a local shop 5 = requesting for food from parents, 6 = skipping meals, 7=eating inferior/less preferred foods, 8=food remittance from relatives, 9= Others (specify)_____*

25. **Household Food Insecurity Access Scale (HFIAS) Measurement Tool**

NO	QUESTION	RESPONSE OPTIONS	CODE
1	In the past four weeks, did you worry that your household would not have enough food?	0=No (skip to Q2) 1=Yes	
1a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
2	In the past four weeks, were you or any other household member not able to eat the kinds of foods you preferred because of lack of resources?	0=No (skip to Q3) 1=Yes	
2a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
3	In the past four weeks did you or any household member have to eat a limited variety of foods due to lack of resources?	0=No (skip to Q4) 1=Yes	
3a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
4	In the past for weeks did you or any household member have to eat foods that you really did not want to eat because of a lack of resources to buy other types of food?	0=No (skip to Q5) 1=Yes	
4a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
5	In the past four weeks did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	0=No (skip to Q6) 1=Yes	
5a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
6	In the past four weeks did you or any household member have to eat fewer meals in a day because there was not enough food?	0=No (skip to Q7) 1=Yes	
6a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
7	In the past four weeks, was there ever no food to eat of any kind in your household because of	0=No (skip to Q8) 1=Yes	

	lack of resources to get food?		
7a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
8	In the past four weeks did you or any household member go to sleep at night hungry because there was no food?	0=No (skip to Q9) 1=Yes	
8a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	
9	In the past four weeks did you or any household member go a whole day and night without eating anything because there was not enough food?	0=No (questionnaire is finished) 1=Yes	
9a.	How often did this happen?	1=Rarely (once or twice in the past four weeks) 2=Sometimes (three to ten times in the past four weeks) 3=Often (more than ten times in the past four weeks)	

26 (a). **Dietary Diversity Assessment (Adopted from Hoddinot, 2002)**

I would like to ask you about all the different foods you and your child/children have eaten in the last 30 days. Could you tell me whether you ate the following foods: 16 to 30 days in the last month- that is, at least every other day if not more frequently than that (J); 4 to 15 days in the last month- that is, once or twice a week (S); 1 to 3 days in the last month (M); 0 days- not at all (R).

Item	**Frequency**				**Item**	**Frequency**			
	J	**S**	**M**	**R**		**J**	**S**	**M**	**R**
Cereals					**Fish**				
Millet					Dried				
Sorghum					Smoked				
Rice					**Fruits**				
Maize					Bananas				
Bread					Mangoes				
Wheat					Oranges				
Other Cereals					Pawpaw				
Tubers					Pineapple				
Sweet Potatoes					Baobab				
Round Potatoes					Other fruits				
Groundnuts					**Meat**				
Yams					Beef				
Other tubers					Chicken				
Vegetables					Sheep/goat				
Tomatoes					Pork				
Onions					Other meat				
Beans					**Milk Products**				
Carrots					Cow’s milk				
Cabbage					Goat’s milk				
Leaf Vegetables					**Other items**				
Legumes, nuts and other seeds					Butter				
Beans					Tea				
Cow Peas					Salt				
Bambara nuts					Honey				
Ground nuts					Sugar				

26 (b). **An assessment of Dietary Diversity Score**

Please describe the foods (meals and snacks) that you ate yesterday during the day and night, whether at home or outside the home. Start with the first food or drink of the morning.

First Step: *All the foods and drinks mentioned should be filled below. When composite dishes are mentioned, a list of ingredients should be asked. When the respondent is ready, probing should be done for meals and drinks not mentioned.*

Breakfast	Snack	Lunch	Snack	Dinner	Snack

Second Step: *When the respondent's recall is complete, food groups should be filled below based on the information recorded in the table above.*

QUESTIONS AND FILTERS	**CODING CATEGORIES**
Now I would like to ask you about the types of foods that you and your child/children ate yesterday during the day and night	**1 = Yes 2 = No**
A. Any (*ugali*/*other local food*_____), bread, rice noodles, biscuits or any other food made from millet, sorghum, maize, rice, wheat, or (*insert any other locally available grain* _____)	
B. Any potatoes, yams, maniac, cassava or any other foods made from roots or tubers?	
C. Any vegetables?	
D. Any fruits?	
E. Any beef, pork, lamb, goat, rabbit, chicken, duck, or other birds, liver, kidney, heart or any other organ meat?	
F. Any eggs?	
G. Any fresh or dried fish or shellfish?	
H. Any foods made from beans, peas, lentils, or nuts?	
I. Any cheese, yogurt, meat, milk or other milk products?	
J. Any foods made with oil, fat or butter?	
K. Any sugar or honey?	
I. Any other foods such as condiments, coffee, or tea?	

26 (c). **Assessment of Micronutrient Adequacy among the UAMs / Minimum Dietary Diversity – Women (MDD-W)**

	Food Categories	**Description**	**Consumed Yes=1, No=0**
A	**Foods made from grains**	*Porridge, bread, rice, pasta/noodles or any other food made from grains*	
B	**White roots and tubers and plantains**	*White potatoes, white yams, manioc/cassava/yucca, cocoyam, taro or any other foods made from white-fleshed tools or tubers or plantains*	
C	**Pulses (beans, peas, and lentils)**	*Mature beans or peas, (fresh or dried seed), lentils or bean/peas products, including hummus, tofu and tempeh*	
D	**Nuts and Seeds**	*Any tree nut, groundnut/peanut or certain seeds, or nut seed "butters", or pastes*	
E	**Milk and milk products**	*Milk, cheese, yoghurt, or other milk products but NOT including butter, ice cream, cream or sour cream*	
F	**Organ meat**	*Liver, kidney, heart or other organ meats or other blood-based meats, including from wild game*	
G	**Meat and poultry**	*Beef, pork, lamb, goat, rabbit, wild game meat, chicken, duck, or other bird*	
H	**Fish and seafood**	*Fresh or dried fish, shellfish or seafood*	
I	**Eggs**	*Eggs from poultry or any other bird*	
J	**Dark green leafy vegetables**	*List examples of any medium-to dark green leafy vegetables, including wild/foraged leaves*	
K	**Vitamin A-rich**	*Pumpkin, carrots, squash or sweet potatoes that are*	

	vegetables, roots and tubers	*yellow or orange inside*	
L	**Vitamin A-rich fruits**	*Ripe mango, ripe papaya,*	
M	**Other vegetables**		
N	**Other fruits**		

27 (a). Did your child breastfeed yesterday? (*Applies to children of 0-23 months age*) 1=Yes 2=No

27 (b). What fluids and foods did your child consume yesterday? (ORS, vitamin and mineral syrups or medicines may be given) *(Indicate one choice only)* (*Applies to children of 0-23 months age*)

1. Breast milk alone
2. Breast milk, water, other liquids (e.g. tea, herbals, ritual fluid, juice)
3. Breast milk, non-human milk (e.g. animal milk, infant formula)
4. Breast milk, porridge, non-human milk
5. Breast milk, porridge, semi-solid or solid foods
6. Semi-solid, solid or soft foods
7. Did not eat anything

27 (c). How many times yesterday did you feed your child semi-solid, solid or soft foods?

_____

27 (d). Please describe the foods (meals and snacks) that your child ate or drank yesterday during the day and night, whether at home or outside the home. Start with the first food or drink of the morning.

First Step: *Write down all foods and drinks mentioned. When composite dishes are mentioned, ask for the list of ingredients. When the respondent has finished, probe for meals and snacks not mentioned.*

Breakfast	Snack	Lunch	Snack	Supper/ dinner	Snack

Second Step: *When the respondent recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed.*

8-food groups

Food group	**1 = Yes 0 = No**
Cereals, roots, tubers, green bananas	
Legumes (e.g. beans, cowpeas, pigeon peas), nuts and oilseeds (e.g. groundnuts, sunflower, sesame)	
Animal milk and milk products e.g. yoghurt	
Flesh and organ meats (e.g. beef, fish, goat, pork, lamb, chicken, duck, liver/kidney, fish, sardines	
Eggs	
Vitamin-A rich vegetables (e.g. green-leafy, pumpkin, carrots) and fruits (red/yellow/orange e.g. mango, papaya)	
Other fruits and vegetables (e.g. ripe bananas, baobab fruit pulp, tomatoes, onion)	
Fats and oils	

SECTION G. FINANCIAL CAPITAL

28 (a). Are you aware of any credit institutions existing in this community? *1 = Yes 2 = No*

29 (b). Which financial institutions are you aware of their existence? (*tick against, multiple selection is*

allowed)				
1=Bank	2=ROSCAS	3=VICOBA	4=SACCOS	5=Others(specify)_____
29 (c). Which financial institutions do you have credit access to? (*Tick against, multiple selection is allowed*)				
1=Bank	2=ROSCAS	3=VICOBA	4=SACCOS	5=Others(specify)_____

28 (b). Do you have any of the following capital assets?

Financial assets	**Yes**	**No**
Money in the saving account at a bank	1	2
Rotating Saving Credit Association (ROSCAS)	1	2
Village Community Bank (VICOBA)	1	2
Saving and Credit Cooperative societies (SACCOS)	1	2
Others (Specify)	1	2

29. If the answer for question 28(b) is No, what are the reasons for not being able to access credit from the available financial institutions?

1=you need to own a business as a prerequisite 2=afraid of inability to repay 3=I am not a member of any

30 (a). What/Who are your other sources of credit when in need?

1= relatives (specify) 2=friends 3=neighbours 4= father 5= mother 6=grandparents 7= siblings 8=landlord 9=Local shopkeeper 10=none 11=Others (specify) _____

30 (b). Why do you choose to borrow from these sources?

1= Close location 2= Friendly interest rates 3= Easy requirements and procedures 4= No formal requirements and procedures 5=other (specify):_____

31 (a). Do you normally get remittance from relatives from outside here? *1=Yes 2=No*

31 (b). If the answer for 31(a) is yes, then, on average, how much remittances have you received from July 2016 to June 2017?

1= below 100,000 2= 101,000 – 200,000 3=201,000 – 300,000 4= above 300,000

31 (c). From whom did you receive the remittance?

1= father of my child 2= sister 3= brother 4=cousin 5=uncle 5=aunt 6= friend 7=others(specify):_____

31 (d). On what do you usually spend the acquired remittances?

1=for household consumption 2=for baby's consumption 3=for enhancing my business 4= saving for emergency cases

SECTION H: SOCIAL SUPPORT TO UAMs:

32(a). If working/doing business, who takes care of your child/children whenever you go to your work/business place?

1=I take the child/children with me 2= My mother 3=My siblings 4=My grandparents 5=My relatives 6=My friends 7=Others (specify) _____

32(b). Apart from yourself, who is/are the other person(s) responsible for daily caring of your child/children?

1= my parents 2=my father 3=my mother 4=my current spouse (not father of my baby/babies) 5=my ex-spouse (father of my baby/babies) 6=my siblings 7=my in-laws 8=none, Others (specify)_____

33. **Availability of various forms of social support to UAM**

Kindly disclose individuals around you who usually provide you with social support and the various forms of social support that they provide to you.

N.B Prior gathering this information the interviewer should clarify to the respondent what is meant by social support and its various types

S/N	**Source of Support**		**Type of Social Support**		
1	Father of my child		Tangible (tick)	Emotional (tick)	Informational (tick)
2	My new partner				
3	My parents/guardians	Father/male guardian			
		Mother/ female guardian			
4	My guardian (specify):				
5	My in-laws	Father-in-law			
		Mother-in-law			
6	My siblings	Brother			
		Sister			
7	Friends				
8	Neighbours				
14	Others (***Specify***) 1 2. 3.				

THANK FOR YOUR COOPERATION!

Appendix 2: A copy of Focus Group Discussion Guide

PhD Research Topic: Unmarried Adolescent Mothers' Livelihood Strategies and their Well-being: A Comparative Study of Rural and Urban Katavi, Tanzania.

1. What is your understanding of adolescent pregnancy and adolescent premarital childbearing?
2. How does the community perceive adolescent pregnancy and adolescent premarital childbearing?
3. What is the situation of unmarried adolescent mothers in this community?
4. What usually happens when an adolescent girl gets pregnant?
5. How prevalent is adolescent pregnancy and adolescent premarital childbearing in this community?
6. In your opinions, which factors contribute to the occurrence of adolescent premarital childbearing in this community?
7. Which livelihood strategies are most popular to the unmarried adolescent mothers in this community? Why do you think they are popular? Which challenges do the unmarried adolescent mothers face for each livelihood strategy?
8. How effective are the mentioned livelihood strategies in meeting the wellbeing of unmarried adolescent mothers?
9. What are your opinions with regard to incomes earned by the unmarried adolescent mothers from those livelihood strategies?
10. Do the unmarried adolescent mothers possess any assets? If yes, which ones and why?
11. Does the community offer any form of support to the unmarried adolescent mothers?
12. What type of social support is usually given to UAMs in caring for their children by the community?

13. What about tangible, emotional and informational support? *A clarification of the concepts should be made here*
14. From whom are the unmarried adolescent mothers likely to receive the forms of social support listed in question number 13?
15. What are your opinions with regard to food security status of the unmarried adolescent mothers and their children?
16. What are your opinions with regard to nutritional status of the unmarried adolescent mothers and their children?
17. What can be done to reduce the rate of adolescent pregnancy and adolescent premarital childbearing in this community and Katavi region in general? What are the specific roles of parents, siblings, relatives and community in general?
18. Any general opinions on adolescent premarital childbearing?

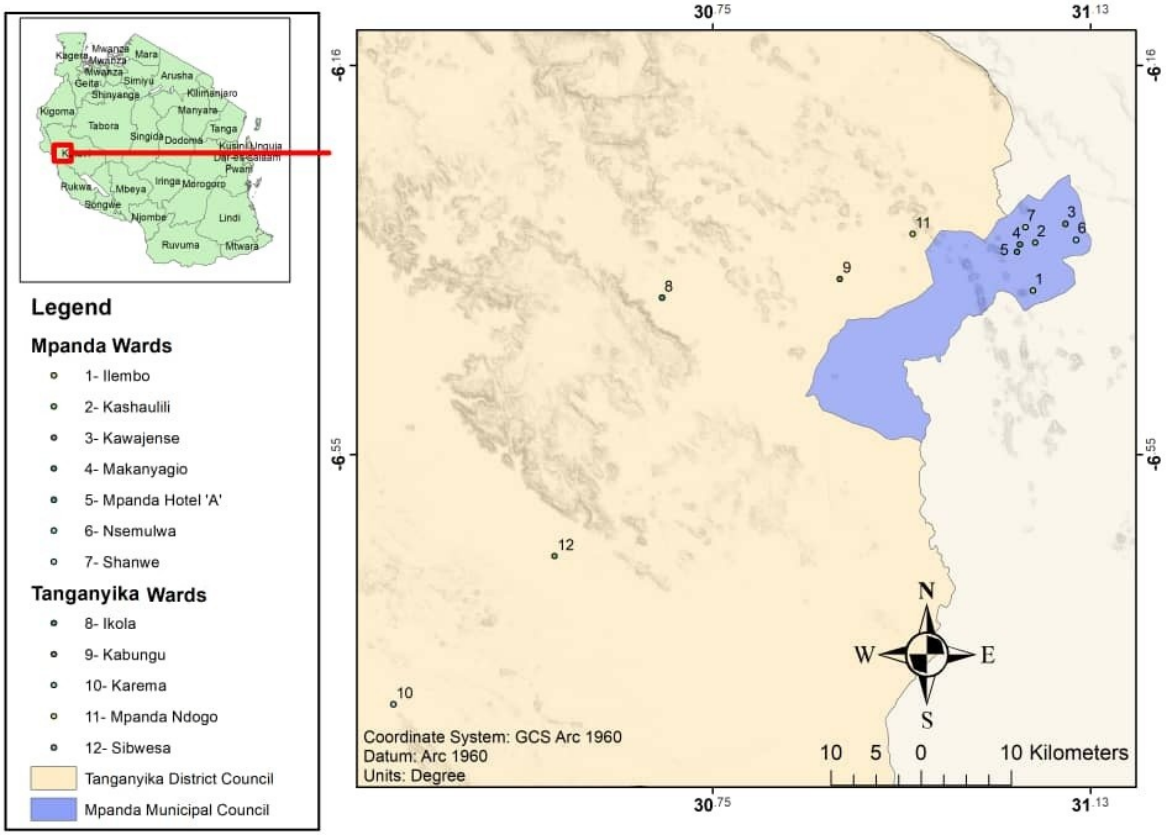
Appendix 3: A copy of Key Informants' Interview Guide

PhD Research Topic: Unmarried Adolescent Mothers' Livelihood Strategies and their Well-being: A Comparative Study of Rural and Urban Katavi, Tanzania.

1. Does your organization or institution (if any) recognize the problem of adolescent pregnancy and adolescent premarital childbearing in this community? What is the position of your organization/institution with regard to the same?
2. How prevalent is adolescent pregnancy and adolescent premarital childbearing in this community?
3. In your opinions, what could be main contributing factors to the occurrence of adolescent pregnancy and adolescent premarital childbearing in this community?
4. Which livelihood strategies are most popular to the unmarried adolescent mothers in this community? Why do you think they are popular? Which challenges do the unmarried adolescent mothers face for each livelihood strategy?
5. How effective are the mentioned livelihood strategies in meeting the wellbeing of unmarried adolescent mothers?
6. What are your opinions with regard to incomes earned by the unmarried adolescent mothers from those livelihood strategies?
7. Do the unmarried adolescent mothers possess any assets? If yes, which ones and why?
8. Does the community offer any form of support to the unmarried adolescent mothers? How supportive is the community towards the unmarried adolescent mothers?
9. Does your organization provide any kind of support to the unmarried adolescent mothers?
10. How does the community perceive adolescent premarital childbearing?
11. Which challenges do unmarried adolescent mothers face?

12. What kind of social support is usually given to the unmarried adolescent mothers?
13. From whom are the unmarried adolescent mothers likely to receive the above forms of social support?
14. What about tangible, emotional and informational support? A clarification of the concepts should be made here
15. What are your opinions with regard to food security status of the unmarried adolescent mothers and their children?
16. What are your opinions with regard to nutritional status of the unmarried adolescent mothers and their children?
17. What can be done to reduce the rate of adolescent pregnancy and adolescent premarital childbearing in this community and Katavi region in general? What are the specific roles of parents, siblings, relatives and community in general?
18. Any general opinions on adolescent pregnancy and adolescent premarital childbearing?

Appendix 4: Map of Katavi region showing the location of study districts and wards



Appendix 5: Research proposal approval

SOKOINE UNIVERSITY OF AGRICULTURE
DIRECTORATE OF RESEARCH AND POSTGRADUATE STUDIES

Our Ref:	PDS/D/2015/0013	Our Date	20.10.2016
Your Ref:		Your Date	

Mr. Noel Matemba
Department of Development Studies
Sokoine University of Agriculture
Morogoro.

u.f.s

Head
Department of Development Studies
SUA- Morogoro.

Congratulation for Approval
M Sinde
24/10/2016

Dear Mr. Matemba,

RE: APPROVAL OF YOUR PhD RESEARCH PROPOSAL

Please refer to the above mentioned subject.

I am writing to inform you that the Chairman of SPGSC has noted the approval made by the Board of College of Social Sciences and Humanities for your PhD Research Proposal. This means you are now officially registered for your PhD studies at SUA.

You are allowed to embark on your research work for your PhD study.

Wishing you all the best for studies.

Sincerely,

Ms. A. Mwageni
for **DIRECTOR**

c.c. Chairman College Postgraduate Studies Committee

Postal address:	Telephone:	Fax:	Telex:	E-mail Address:
P.O. Box 3151 Morogoro, Tanzania	+255 23 260 4388	+255 23 260 4388	55308 UNIVMOG TZ	drpgs@suanet.ac.tz

Appendix 6: Research clearance

CLEARANCE PERMIT FOR CONDUCTING RESEARCH IN TANZANIA

SOKOINE UNIVERSITY OF AGRICULTURE
OFFICE OF THE VICE-CHANCELLOR
P.O. Box 3000 CHUO KIKUU, MOROGORO, TANZANIA
Phone: 255-023-2640006/7/8/9, Direct VC: 2640015; Fax: 2640021;
Email: vc@suanet.ac.tz; vc2004sua@yahoo.com

Our Ref. SUA/DRPSG/R/126/3/93 17 August, 2017

The Reginal Administrative Secretary,
P.O. Box 235
KATAVI

Re: UNIVERSITY STAFF, STUDENTS AND RESEARCHERS CLEARANCE

The Sokoine University of Agriculture was established by University Act Number 7 of 2005 and SUA Charter of 2007 which became operational on 1st January 2007 repealing Act Number 6 of 1984. One of the mission objectives is to generate and apply knowledge through research. For this reason the staff and researchers undertake research activities from time to time.

To facilitate the research function, the Vice-Chancellor of the Sokoine University of Agriculture (SUA) is empowered to issue research clearance to both staff, students and researchers of SUA onbehalf of the Government of Tanzania and the Tanzania Commission for Science and Technology.

The purpose of this letter is to introduce to you **Mr. Matemba Noel** a bonafide **PhD(College of Social Sciences and Humanities)** student with registration number **PDS/D/2015//2013** of SUA. By this letter **Mr. Noel** has been granted clearance to conduct research in the country. The title of the research in question is **"Unmarried Adolescent Mothrs' Livelihood Strategies and their Households wellbeing in Tanznaia: The case of Katavi Regional.".**

The period for which this permission has been granted is from **1st September, 2017 to 30th November 20178.** The research will be conducted in **Katavi Regional.**

Should some of these areas/institutions/offices be restricted, you are requested to kindly advice the researcher(s) on alternative areas/institutions/offices which could be visited. In case you may require further information on the researcher please contact me.

We thank you in advance for your cooperation and facilitation of this research activity.

Yours sincerely,

Prof. Raphael T. Chibunda
VICE-CHANCELLOR

Copy to:– **Mr. Matemba Noel - Researchers**

Appendix 7: Researcher's introduction letters

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS

TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA KATAVI
Telegraphic: "REGCOM"
Simu. No:025-2820068
Fax No. 025-2820068
E-mail:raskatavi@pmoralg.go.tz

OFISI YA MKUU WA MKOA,
P. O. Box 235,
MPANDA - KATAVI.

Kumb. BA. 184/334/01/101

30 / 08 / 2017

MKURUGENZI
HALMASHAURI YA MANISPAA
MPANDA

WAKURUGENZI WATENDAJI
HALMASHAURI ZA WILAYA
TANGANYIKA NA NSIMBO.

YAH: UTAMBULISHO WA MTAFITI NA MKUSANYAJI TAKWIMU KUTOKA CHUO KIKUU CHA KILIMO (SUA).

Husika na kichwa cha habari hapo juu.

Ofisi ya Mganga Mkuu Mkoa wa Katavi kwa kupitia Wizara ya Afya,Maendeleo ya Jamii,Jinsia,Wazee na Watoto kwa kushirikiana na Chuo Kikuu cha Kilimo (SUA) inaendelea na utekelezaji wa shughuli za Utafiti katika nyanja mbalimbali. Utafiti huu ni wa kitaaluma ambapo mwanafunzi wa Chuo cha Kilimo ameomba nafasi ya kufanya utafiti pamoja na ukusanyaji takwimu zitakazo leta matokeo katika utafiti wake utakaofanyika katika ngazi ya kaya na Halmashauri tatu Mkoani Katavi.

Lengo la barua hii ni kutaka kukufahamisha kuwa **Ndg.Matemba Noel** mtafiti na mkusanyaji wa takwimu yenye kichwa cha habari "Unmarried Adolescent Mothers Livelihood Strategies and their households wellbeing in Tanzania" atafanya kazi hiyo katika halmashauri tajwa Mkoani Katavi.

Pia napenda kuwafahamisha kuwa kibali na zoezi la ukusanyaji wa taarifa za utafiti linatarajia kuanza tarehe 1 / 9 / 2017 mpaka 30 / 11 / 2017 ,ambapo kazi hii itakua imekamilika katika halmashauri zote tatu Mkoani Katavi. Ushirikiano wa dhati kwa mtafiti tajwa hapo juu unahitajika katika kufanikisha utafiti huu kwa Halmashauri yako .

Nawatakia utekelezaji mwema.

DR. YAHAYA R. HUSSEIN

K. N.Y KATIBU TAWALA MKOA

KATAVI

Nakala:- Katibu Tawala (**W**) **Mpanda** - (Aione kwenye jalada)

Katibu Tawala (**W**) **Tanganyika**

HALMASHAURI YA WILAYA YA MPANDA

Simu/Nukushi Na.025-2820068
Barua pepe: ded @mpandadc.go.tz
Tovuti: www.mpandadc.go.tz
Unapojibu tafadhali taja:

S.L.P.1,
MPANDA

Kumb. Na. KTV/MDC/E.50/7/52.

30/10/2017

Watendaji wa Kata,
Halmashauri ya Wilaya,
MPANDA – TANGANYIKA

YAH : UTAMBULISHO WA MTAFITI NA MKUSANYAJI TAKWIMU KUTOKA CHUO KIKUU CHA KILIMO (SUA)

Tafadhali rejea mada tajwa hapo juu.

Ofisi hii imepokea barua kutoka Ofisi ya Katibu Tawala wa Mkoa wa Katavi kuhusu utambulisho wa Mwanafunzi wa Uzamivu/ Mtafiti na mkusanyaji takwimu kutoka Chuo cha Kilimo (SUA).

Kwa barua hii ninamtambulisha kwenu **NDG. NOEL MATEMBA** mwanafunzi wa Shahada ya Uzamivu kutoka Chuo Kikuu cha Kilimo (SUA) mtafiti na mkusanyaji wa takwimu katika utafiti wenye kichwa cha habari "Unmarried Adolescent Mothers Livelihood Strategies and their households wellbeing in Tanzania". Pia mtafiti huyu atatembelea vituo vya afya ili kufanikisha utafiti wake.

Hivyo mnapaswa kumpokea na kumpatia ushirikiano ili aweze kufanikisha utafiti huu maana kufanikiwa kwa utafiti huu kutaleta manufaa katika Halmashauri yetu na Taifa kwa ujumla.

Ninawatakieni utekelezaji mwema.

Samson Z. Medda
Kny; MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
MPANDA

Nakala : Maafisa Tarafa,
Halmashauri ya Wilaya,
MPANDA

MKURUGENZI MTENDAJI (W)
MPANDA

Watendaji wa Vijiji,
Halmashauri ya Wilaya,
MPANDA

Waganga Wafawidhi,
Vituo vya Afya,
Halmashauri ya Wilaya,
MPANDA

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA MPANDA

MKOA WA KATAVI
Telegraphic "REGCOM"
Simu Na. 025 – 252957128
Nukushi Na. 025 - 252957129
Baruapepe:mpandatown@yahoo.com
www.mpandatown go.tz.
Unapojibu Tafadhali taja:

Ofisi ya Mkurugenzi wa Manispaa,
Halmashauri ya Manispaa,
S. L. P. 216,
MPANDA.

Kumb Na. KTV/MMC/MMH/H.10/22/....

05/09/2017

Watendaji wa Kata
Halmashauri ya Manispaa Mpanda,
S.L.P 216,
MPANDA - KATAVI.

YAH; KUMTAMBULISHA NDG. NOEL MATEMBA

Mada tajwa hapo juu yahusika sana.

Mtajwa hapo juu ni mwanachuo wa shahada ya uzamivu chuo kikuu cha kilimo Sokoine (SUA) ambaye ana dhima ya kufanya utafiti (Research) juu ya **'Ufanisi wa Mikakati ya maisha ya akinamama mabinti ambao hawajaolewa na ustawi wa kaya zao.'** Katika Halmashauri yetu atakuwa kwenye vituo vya afya. Hivyo, pamoja na kumtambulisha nasisitiza apewe ushirikiano kwa ukamilifu ili aweze kufikia malengo yake ambayo yatakuwa na mchango mkubwa katika kushughulikia tatizo la Mimba za Utotoni. Aidha ikumbuke kuwa, Mkoa wa Katavi unaongoza kwa tatizo la Mimba za Utotoni Tanzania kwa asilimia 45.

Nakutakieni ushirikiano mwema.

Michael F. Nzyungu
MKURUGENZI HALMASHAURI
MPANDA MANISPAA

MKURUGENZI WA MANISPAA
S.L.P. 216
MPANDA-KATAVI