SCHOOL BASED REPRODUCTIVE HEALTH EDUCATION PROGRAMMES AND TEENAGE PREGNANCY IN MTWARA REGION, TANZANIA

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A DISSERATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN RURAL DEVELOPMENT OF SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA.

2015

ABSTRACT

Teenage pregnancy is one of the complex health and development problems facing the world. In Tanzania, teenage pregnancy has been identified as one of the reasons for girls dropping out from school. The purpose of this study was to determine the contribution of school based reproductive health education programme on teenage pregnancy. The study adopted a cross-sectional exploratory design and was conducted in Mtwara District and Mtwara Municipality, Tanzania. Simple random sampling was used to select the participating schools from the Prevention and Awareness in schools of HIV and AIDs (PASHA) intervention schools and non-intervention schools. The respondents were randomly selected to participate in the study from four schools. Data were collected using a questionnaire, focus group discussions and key informant interviews. A total of 156 people participated in the study. Results from the study show that teenage pregnancy is a major problem in Mtwara. Attributing factors included poverty, culture, desire for money, lack of education on reproductive health issues, peer pressure and poor parental support. The study found that school based reproductive health education was effective in terms of knowledge creation. Results from the reproductive health test administered between intervention and non-intervention schools were significant ($P \leq 0.001$). The study also found a significant difference at ($P \leq 0.001$) between rural and urban non-intervention schools. The study therefore concludes that school based reproductive health education programmes are effective in knowledge dissemination among adolescent girls and recommends that comprehensive School based Reproductive Health Education programme (SBRHEP) be expanded in more schools.

DECLARATION

I, **HAWA DUNOR,** do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution

....

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The above declaration is confirmed

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(Supervisor)

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ACKNOWLEDGEMENTS

Sincere thanks to the Almighty God for allowing me to successfully complete this study. Sincere gratitude goes to my Supervisor Dr. J.K. Urassa who tirelessly devoted his time and skills in making this research a success. I would like to thank the West Africa Agricultural Productivity Project (WAAPP), through the Ministry of Agriculture Liberia who made the study possible through its funding and support. Heartfelt appreciation goes to the President's Young Professional Programme and the Ministry of Gender and Development families for keeping in touch with me during my study.

My deepest appreciation goes to those instructors who were always willing to read my work whenever they were asked, your contributions made completion of this work possible. Thanks very much (*Asante sana*) to my brilliant research assistants Mansura Yusuph and Fatuma Mzee for guiding me in Mtwara and their help during data collection. You guys are the best!

I would like to appreciate the warm welcome I received from the Regional Administrative Office, Mr. Joel Mwanga of the Tanzania Commission for AIDS (TACAIDS), heads of the health facilities visited and all the educational offices in Mtwara Municipality and Mtwara District for their support. They were always willing to help. I would like to acknowledge the support that I got from the heads of the schools where the pretesting and the research was conducted for organizing and allowing me to interview their students.

Heartfelt appreciation to the students who volunteered to give their personal information for my study; they were the foundation for this work. Profound gratitude goes to Mr. Prince Saah Varney for his patience and moral support during this study.

Warm acknowledgement goes to the Liberian Students Association in Tanzania (LIBSA-Tanzania) for their support and encouragement during this academic sojourn.

To my family, friends and loved ones who have been praying for me during the period of my study; I want to let you know that it couldn't have been possible without you! We did it together! God bless you all!

DEDICATION

This Dissertation is dedicated to my parents Mr. Joseph T. Kettor, Mrs. Fatu S. Kettor, Mrs. Boikai S. Dunor and my late aunty Bendu Mento Dunor- Farfoday for laying my educational foundation. This dissertation is also dedicated to all parents who endlessly pray and strive for their children's education.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

AFY	Advocate for Youth
ARHS	Adolescent Reproductive Health Strategy
BMRB	Behavioural Medicine Research Building
FGDs	Focus Group Discussions
FLE	Family Life Education
HBFF	Hazelden Betty Ford Foundation
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immuno Deficiency Syndrome
IPFF	International Planned Parenthood Federation
KI	Key Informant
KIIs	Key Informant Interviews
MDGs	Millennium Development Goals
NARHS	National Adolescent Reproductive Health Services
NGO	Non-Governmental Organization
PASHA	Prevention and Awareness in Schools on HIV and AIDs
PE	Peer Education
PIH	Pregnancy Induced Hypertension
PRB	Population Reference Bureau
RECAPP	Resource Center for Adolescent and Pregnancy Prevention
RH	Reproductive Health
SBRHEP	School Based Reproductive Health Education Programmes
SC	School Counseling
SLT	Social Learning Theory
SPSS	Statistical Package for Social Science

SRH	Sexual Reproductive Health Services
SSA	Sub - Saharan Africa
STI	Sexually Transmitted Infections
TACAIDS	Tanzania Commission for Aids
TDHS	Tanzania Demographic and Health Survey
UNESCO	United Nations Organization for Education, Science and Culture
UNICEF	United Nations Children Fund
UNFPA	United Nations Population Fund
URT	United Republic of Tanzania
WHO	World Health Organization
YFS	Youth Friendly Services

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Teenage pregnancy and childbirth related complications are the primary killers of teenage girls worldwide (UNFPA, 2007). According to UNFPA (2013a), the issue of teenage pregnancy is not just considered as a health issue; but also as a development issue that is deeply rooted in poverty, gender inequality, violence, forced marriage, lack of education, to mention a few. In the world today, there are approximately 600 million girls, and more than 500 million of these girls live in developing countries. Additionally, UNFPA (2013b) points out that about 16 million teenage girls aged 15-19 give birth each year worldwide. According to UNFPA (2013b), 95 % of the world's births to adolescent girls occur in developing countries. Nine in 10 of these births occur within marriage or a union. Moreover, about 19 % of young women in developing countries become pregnant before the age of 18. Girls below 15 years account for 2 million of the 7.3 million births that occur to adolescent girls under 18 every year in developing countries (UNFPA, 2013b).

The Population Reference Bureau (2013) points out that adolescent girls in Sub-Saharan Africa (SSA) have the highest rate of pregnancy in the world. According to UNFPA (2013b), every day, 20 000 girls below the age of 18 years give birth in the developing countries, while 70 000 adolescent girls die every year due to pregnancy complications and child bearing. In addition, 3.2 million unsafe abortions are carried out among adolescent girls each year. UNFPA (2013b) further predicts that births to adolescent girls under the age of 15 are going to double in SSA in the next 17 years (i.e. by the year 2030). The main reason for the above is inadequate information on this group; information on this group is either rare, incomplete and in some countries it is not even available.

In Tanzania, rates of teenage pregnancy differ between regions with Mtwara being among those regions with a high prevalence (Bangser, 2010; URT, 2010). The Tanzania Demographic Health Survey TDHS (URT, 2010) shows that nationally, 23% of women aged 15-19 have started bearing children while 44 % of them are either mothers or pregnant with their first child by the time they are 19 years old. Tanzania, like other countries, is not immune to the problem of teen pregnancy according to a report by the Center for Reproductive Rights (2013), it shows that between the periods of 2003 and 2011, over 55 000 teenage girls dropped from both primary and secondary schools due to pregnancy.

The government of Tanzania and development partners have made efforts in reducing teenage pregnancy by initiating programmes and policies to ameliorate teenage pregnancy. These initiatives have come in the form of reproductive health education taught in both primary and secondary schools, sponsoring of media campaigns with a variety of messages promoting teen pregnancy prevention, introduction of youth friendly services at health centres to mention a few (URT, 2001). An example of media campaigns include those organized by Fema which are: the Fema magazine, *Si mchezo*, *Ruka juu* and the Fema Radio Programme all these focus on creating awareness among young people about their reproductive health and rights (Femina, 2013). Based on the above -mentioned reasons, the study was conducted to determine the impact of school-based reproductive health education programmes (SBRHEP) on teenage pregnancy.

1.2 Problem Statement

Despite the aforementioned efforts in Section 1.1 to reduce teenage pregnancy, teenage pregnancy remains one of the major social problems facing Tanzania today. Data from the World Health Statistics (WHS) show Tanzania to be among the developing countries with

high rates of teenage pregnancy in the world (WHS, 2013). Although, school based reproductive health education programmes (SBRHEP) are run in the study area (Mtwara Region), teenage pregnancy is high, though the major concern of these programmes among other things is reducing teenage pregnancy. A study conducted in Mtwara by Mbeba *et al.* (2012) found that adolescent girls were highly exposed to the risk of early pregnancy, Sexually Transmitted Infections (STI) and HIV/AIDS infections; with the initiation of sexual activities at the age of 9 to 10 years.

The current study was therefore conducted to determine the impact of some of these programmes because there was inadequate information on their effectiveness. Studies by Makundi (2010), Nyakubega (2009) and Ewald (2008) on the subject have focused more on the factors that cause teenage pregnancy and contraceptive use rather than intervention and prevention programmes, thus, creating the gap that prompted the current study. The study basically aimed at analyzing the contribution of SBRHEP to reduction of teenage pregnancy in Mtwara Region, in Southern Tanzania.

1.3 Justification for the Study

As pointed out in Sections 1.1 and 1.2, teenage pregnancy is a problem in Tanzania and particularly in Mtwara Region. Therefore, the study was very essential as it intended to generate information on the contribution of the SBRHEP in reducing teenage pregnancies in the region. It is hoped that findings from this study could inform policy makers, development partners and other stakeholders working on teenage pregnancy prevention or reduction.

This study is also in line with the Tanzania's Health Policy of 2003 as well as the Tanzania Development Vision of 2025 which seeks, among other things, to provide access to quality

health care for all as well as access to quality reproductive health services for all individuals (URT, 2003). Internationally, this study was significant in that it supported the aim of the Millennium Development Goal (MDG) 5 which seeks to improve maternal health. The current study contributed to this goal by unveiling the contribution of teenage pregnancy intervention programmes in the study area. Moreover, the findings could help to improve future programmes aimed at reducing teenage pregnancy in Tanzania and other countries with similar socio-economic characteristics as Tanzania.

1.4 Objectives of the Study

1.4.1 General objective

The general objective of the study was to determine the contribution of school based reproductive health education programmes (SBRHEP) to teenage pregnancy in Mtwara Region.

1.4.2 Specific objectives

i. To determine socio-economic factors responsible for teenage pregnancy.
ii. To determine teenagers' accessibility to reproductive health support.
iii. To assess the content of school based reproductive health education aimed at reducing teenage pregnancy.
iv. To assess the contribution of school based teenage intervention programmes on teenage pregnancy.

1.5 Research Questions

(i) What are the socio-economic factors responsible for teenage pregnancy in the study area?

(ii) How accessible is reproductive health education to teenage girls in Mtwara Region?

(iii) Are the current school based pregnancy prevention programmes comprehensive?

(iv) Why is teen pregnancy in Mtwara Region still high amidst several intervention programmes?

(v) What are the methods used by reproductive health education providers in secondary schools in Mtwara Region?

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Operational Terms

2.1.1 Teenage/adolescence

The definition of teenage varies, for example, WHO (2004: 11) and UNICEF (2011: 3) define teenage as the second decade of life, the period between the ages of 10 to 19 in which an individual moves from the initial appearances of secondary sexual characteristics to full sexual maturity and during which psychological and emotional processes develop from those of a child to those of an adult. However, according to the Cambridge Advanced Learners' dictionary, a teenager is someone who is between the ages of 13 and 19 years. The study, therefore, employed the definition by UNICEF and WHO. Teenage and adolescence are used interchangeably in this dissertation.

2.1.2 Teen pregnancy

Teen pregnancy is considered as formation of an embryo in a woman at age 19 and below (Nyakubega, 2009:31). According to UNICEF (2008:1), it refers to a teenage girl, usually within the ages of 13-19, becoming pregnant. This study utilized the definition of teenage pregnancy as defined by Nyakubega (2009). Nyakubega was chosen on the basis of teenage girls early initiation of sex as early as 9 years above which Nyakubega's definition has captured (Mbeba *et al.,* 2012)

2.1.3 Sexuality education

Sexuality education is considered as a lifelong process of acquiring information and forming attitudes, beliefs, and values about identity, relationships, and intimacy. It involves sexual development, reproductive health, interpersonal relationships, affection, intimacy,

body image, and gender roles. Sexuality education addresses the biological, socio-cultural, psychological, and spiritual dimensions of sexuality (Smith and Coleman, 2012:2).

2.1.4 Intervention programmes

Intervention programmes involve the combination of strategies intended to produce behavioural changes or improve health status among individuals or an entire population. Intervention can be in the form of educational programmes, new or stronger policies, improvement in the environment, or a health promotion campaign. The overall objective of an intervention is to confront a person in a non-threatening way and allow them to see their self-destructive behaviour, and how it affects them, family and friends (HBFF, 2014).

2.1.5 Adolescent fertility rate

Adolescents' fertility rate measures the number of births per 1000 women aged between 15 and 19 (PRB, 2013).

2.1.6 Abstinence only programmes

Abstinence only programmes are programmes that do not include information about contraceptives. Abstinence education programmes focus on delaying sexual initiation, and many of such programmes focus specifically on delaying sexual activity until marriage (Smith and Coleman., 2012:2; Bennet and Assefi, 2005).

2.1.7 Abstinence plus programmes

Abstinence plus programmes are programmes that include information on contraceptives and prevention of sexually transmitted infections into the curricula along with abstinence education. Such programmes provide comprehensive sex education approaches and generally include information on (or otherwise promote) both the benefits of abstinence

and risk mitigation through condom and contraceptive use for sexually active adolescents (Smith and Coleman, 2012: 2; Bennet and Assefi, 2005).

2.2 Factors Contributing to High Teenage Pregnancy Rates

2.2.1 Early marriage

Several factors contribute to adolescent births or teenage pregnancy. In many societies, girls may be under pressure to marry and bear children early, or they may have limited educational and employment prospects. In low and middle income countries, over 30% of girls marry before they are 18 years of age and around 14% before the age of 15 (WHO, 2012).

In Mtwara, studies (Erhardt *et al.,* 2011; Mushi *et al.,* 2007) have reported a worrying increasing trend of early marriage among girls, both forced and unforced. Although the average age at first marriage remains 20 for women and 24.9 for men in the region, there is a difference between urban and rural areas. For example, forced early marriages are seen particularly popular in the rural areas where many parents eagerly give their young daughters out because of the dowry (Erhardt *et al.,* 2011; Bangser, 2010). According to McCleary-Sills *et al*. (2011), one of the reasons for this is extreme poverty which makes parents to ultimately barter their daughters to sustain their own needs, while at the same time assuming that her needs will be met by her husband.

2.2.2 Peer pressure

Peer pressure is a great influential force during adolescence. During the period of middle adolescence, 15-16 years of age, adolescents begin to develop ideals and select role models. Peers are very important to adolescents in this age group and can be strongly influenced by them (UNFPA, 2009). Smith and Coleman (2012), argue that peer pressure

plays a major role in teenage pregnancy. Smith and Coleman (2012) further point out that teenagers can be particularly vulnerable to external influences, especially the opinions and behaviours of their friends and classmates. Sexual behaviour is one of the many areas in which teens are influenced by their best friends and peers. Teens are more likely to have sex if their best friends and peers are older, use alcohol or drugs, or engage in other negative behaviour. Similarly, they are more likely to have sex if they believe their friends have more positive attitudes toward childbearing, have permissive values about sex, or are actually having sex. If teens believe their friends support condom use or actually use condoms, chances are greater that they will also use condoms (Kirby, 2011). A study conducted by Makundi (2010) in Mtwara region found that peer pressure highly influenced teenagers in the region to get pregnant. Makundi's findings further show that peer pressure led to adolescents engaging in sexual debut as early as at the age of 10 thus, leading to the risk of falling prey to teenage pregnancy.

2.2.3 Lack of knowledge on teenage pregnancy prevention

Teenage pregnancies are most often a consequence of a lack of knowledge of contraceptive methods and/or a lack of access to family planning services and products. Lack of appropriate and comprehensive sexual and reproductive health education, including information and services for reproductive tract infections, sexually transmitted infections, and pregnancy-related issues indicates that many adolescents do not know how or lack capacity to prevent pregnancy (UNICEF, 2011). Accurate, balanced sex education including information about contraception and condoms is a basic human right of youth. Such education helps young people to reduce their risk of potentially negative outcomes, such as unwanted pregnancies and sexually transmitted infections (STIs). Such education can also help youth to enhance the quality of their relationships and to develop decision-making skills that will prove invaluable over life (AFY, 2007).

According to WHO (2012), some adolescents do not know how to avoid pregnancy, or are unable to obtain contraceptives and there is a lack of sexuality education in many developing countries. A global coverage measure related to sexuality education estimates that only 36% of young men and 24% of young women aged 15-24 in developing countries have comprehensive and correct knowledge of how to prevent HIV. Therefore, sexuality education is very important in achieving higher results of level of abstinence, later initiation of sexual activity, greater use of contraceptives and fewer sexual partners. Programmes aimed at reducing the rate of teen pregnancy include numerous approaches including encouraging abstinence, providing education about birth control, promoting community service activities, and teaching skills to cope with peer pressure (Bennett and Assefi, 2005).

2.2.4 Culture

Cultural practices of many societies in many parts of the world influence teenage pregnancy. In some parts of the world, especially in the developing countries, girls are expected to marry and have children in their early or middle adolescent years, well before they are physically or mentally prepared to do so (UNFPA, 2013b). Parents may be pressured by existing cultural norms, traditions and economic constraints to marry their daughters at an early age. According to a study by Erhardt *et al.* (2011), social cultural factors such as '*jando'* (circumcision) and '*unyango'* (initiation) for boys and girls respectively were among cultural factors reported to be responsible for teenage pregnancy in Mtwara Region. Moreover, the traditional system of receiving bride price or dowry price is among the reasons that encourage teenage pregnancy.

2.2.5 Poverty

Economic deprivation sometimes causes young girls to engage in transactional and/or unprotected sex to meet basic needs, or to improve their living conditions. Poverty and its related problems are both a cause and a consequence of teen pregnancy and childbearing. According to Siettou and Sarid (2011), poor teens are more likely to get pregnant and have children, and teens that have children are more likely to be living in poverty. Poverty and various manifestations of social disorganisation are greatly associated with adolescent childbearing. However, estimates of the consequences of early childbearing once rested on incorrect assumptions about the causes of pregnancy. In many societies, poverty pressurizes parents to give their young girls into early marriage. In addition, teenage girls living in poverty get engaged in transactional sex or as a livelihood strategy to meet their basic needs (Bansger, 2010).

2.3 A Review of Teenage Pregnancy in Tanzania

Teenage pregnancy is a major issue in Tanzania, with 17% of all women within the ages of 15-19 having given birth (URT, 2012b), and is even more persistent within Mtwara. Adolescent pregnancy has been identified as one of the reasons for girls dropping out of schools in Tanzania (Madeni *et al.*, 2011). Adolescent sexual and reproductive health is a particularly urgent problem in Tanzania; four in ten women in Tanzania are married by the age of 18. As pointed out earlier in section 1.2, the country has one of highest teenage pregnancy and birth rates in the world. However, according to an analysis of the TDHS 2004 - 2010 by UNICEF (2011), there has been a 12% decline in adolescent pregnancy and childbirth rates among older adolescents, especially those aged 19 years from 132 per 1000 females in 2004 to 116 per 1000 in 2010.

The key reasons for the above-mentioned decline include a major drop in the proportion of adolescent girls who are married and a significant increase in contraceptive use among sexually active adolescents. Nonetheless, there was an increase in adolescent childbearing among 15 years old girls from 3.7% in 2004 to 5.2% in 2010 (UNICEF, 2011). According to Erhardt *et al.* (2011), Mtwara Region continues to record more pregnancies among school going girls, as indicated in the numbers from Mtwara Municipality 53 and 212 pregnancies in 2009 and 2010 respectively.

The issue of teenage pregnancy generally bears a lot of burdens, and the situation for girls in Mtwara is more pathetic and challenging especially for those girls who get pregnant (Bansger, 2010). One of the challenges that girls in Mtwara face is the compulsory pregnancy testing which is carried out in schools nonetheless, this is in conformity with national practice. This testing is conducted on girls in standards five to seven (usually equivalent to ages twelve to fourteen). According to Bansger (2010), though the policy is not formally written in law, it is implemented as if it was. In addition, it is a school administration self-authorized exercise, and once a girl tests positive for pregnancy she is expelled from school immediately, thus denied the opportunity to get education and skills. Even though girls could return to school after child bearing, the reality is that many do not return whether it is due to financial constraints or social stigma (Nguma and Muhondwa, 2010). As a result, there is a tendency of girls dropping out between primary and secondary school, as parents fear that they will get pregnant during the latter stages of their schooling (Bangser, 2010). Therefore, the decision to stop these girls from continuing with their education due to early pregnancy eventually stunts their social and economic growth leaving them and their children in a continuous vicious cycle of poverty.

2.4 Health Implications of Teenage Pregnancy

Teenage pregnancy is known for several health implications that come along with it. Some of those health implications among others include a very high risk of death and illness for the adolescent mother and child (Zheng and Anderson, 2009). A study conducted by Dev Raj *et al.* (2010) found that pre-term delivery, still births, foetal distress, birth asphyxia, anaemia, low birth weight, pregnancy induced hypertension (PIH), and spontaneous abortions were the most frequently encountered complications during teenage pregnancy. In Tanzania the situation is not encouraging for teenage girls; data show that over 42% of girls 15 to 19 years are anaemic, a reduction from 49% in the previous five years (UNICEF, 2011). A study conducted in Kenya showed that secondary school girls who had been pregnant were twice more likely to report poor health than those with no pregnancy history (Youri, 1993).

Further to the above, teenage girls' health is put at risk by abortion, resulting from teenage pregnancy. In many developing countries, Tanzania included abortions are illegal, except for special consideration such as high risk of death for the mother or low chances of survival of the child to mention a few. Therefore, due to unwanted pregnancy and for fear of being expelled from school, girls undergo unsafe, unhygienic and unprofessional abortions at home, which can even lead to death due to excessive blood loss, sepsis etc. Additionally, the teenager might experience during birth, an increased danger of prolonged labour, ruptured uterus and ending up with fistula, due to underdevelopment of the reproductive organs for pregnancy and birth. Moreover, prolonged labour is one of the main causes of maternal deaths (Erhardt *et al.,* 2011).

2.5 Use of Contraceptives by Tanzanian Teenagers

Trends in contraceptive use show that a growing number of sexually active adolescent girls are trying to prevent unwanted pregnancy. Between 2004 and 2010, use of the pill and contraceptive injections rose from 8 to 15% among sexually active girls aged 15 to 19 years (URT, 2004; 2010). However, according to WHO (2012), due to cost, confidentiality and accessibility of the services; teens are less likely to use contraceptives compared to adults. Moreover, some teens might not want their parents to know they are sexually active. In Tanzania, an average of 90.6 % of the women and 87.2% of the men know that people can reduce the risk of getting infected with HIV by using condoms every time they have sexual intercourse. Despite the above, use of condoms in marriage is very low; and a lack of sexual and reproductive health education in the communities, schools, and families contributes to this situation (TACAIDS, 2008).

2.6 Sexuality Education in Developing Countries

The increase in number of young people in the developing world today is the highest ever reported (UNFPA, 2013). The above lack of access to sexuality education and sexual and reproductive health (SRH) services poses a great challenge to adolescents and youth reproductive and sexual health. Among the challenges are unintended pregnancies, unsafe abortions, maternal mortality and morbidity, violence, sexually transmitted infections (STIs) including HIV, exploitation (such as exchanging sex for food or money), and discrimination on the basis of gender or sexual orientation (Presler-Marshall and Jones, 2012).

In developing countries and around the world, the school environment has largely provided an important opportunity to reach large numbers of young people with sexuality education, normally before they become sexually active. The school also offers an appropriate

structure (i.e. the formal curriculum) within which to do so. These programmes are particularly well designed to be implemented in schools where they can potentially reach large numbers of youth (Kirby *et al.,* 2005; Kirby, 2011). Thus, schools provide an opportunity for interventions to reach most young people from diverse social backgrounds before or around the time they become sexually active.

According to Kirby *et al.* (2006), the choice and implementation of a school-based SRH curriculum in poorer countries including Tanzania is constrained by the availability of teachers, together with lack of access to the necessary financial, material and technical resources. In addition, the culture and norms of local communities and the schools themselves may prohibit open discussion of sexual matters and actively discourage condom use in an attempt to promote abstinence. As well as having to compete in a crowded curriculum, the HIV/AIDS and Life Skills education programme which does not have the same status as other subjects, either for pupils or teachers.

Evidence from review of sexual education programmes by Kirby (2011) and Boonstra (2011) has shown that these programmes have a positive effect on initiation of sex, frequency of sex, number of sexual partners, condom use and other sexual behaviours that can prevent negative sexual and reproductive health outcomes. Sexuality education can make a positive impact on the lives of adolescents beyond these important sexual and reproductive health outcomes. According to Kirby (2011), the effectiveness of sexuality education is universal and the success is largely determined by the context to which they are developed and implemented, as well as by their characteristics and the quality of implementation.

Teaching of sexuality education in developing countries, especially in Africa is focused mostly on trying to convince young people to delay the initiation of sex, generally until after marriage. This approach is based on the premise that sex before marriage is a taboo, because it is morally wrong and that young people can be convinced to wait, even well into their 20s (Boonstra, 2011). These "abstinence-only-until marriage" programmes focus primarily or exclusively on the assumed benefits of abstaining from sex. They may also distort and actively denigrate the effectiveness of contraceptives and safer-sex behaviours (Boonstra, 2011). The basis of reinforcing this approach is based on the opinion that adolescents should not be informed about sexuality at the age that they are not fully prepared for it. Furthermore, cultural and religious factors play an important role in the encouragement of abstinence only programmes in schools.

In many countries, sexuality education is a sensitive issue that may generate opposition. This is often fuelled by the false belief that sexuality education leads to earlier debut of sexual activity or to sexual promiscuity (Markham, 2003). For example in 1973, sensitive to the family planning needs of the general population, the Family Planning Association of Tanzania (UMATI) initiated efforts to make sexuality information accessible to young people and published two books; *Jando na Unyago (Initiation ceremonies for boys and girls) and Ujana (youthhood).* However, the books were banned by the government, then headed by the Tanganyika African National Union (TANU), based on reasons that the books would encourage sexual promiscuity (URT, 2001). Furthermore, in Nigeria and India, sexuality education programmes initially came to a halt because of socio-cultural opposition, thereby causing years of delay and related loss of investments. Furthermore, for the case of Nigeria, the initial comprehensive programme had to be reduced: all elements related to actual sexual and preventive behaviour, including contraception and condoms were removed (UNESCO, 2011).

2.7 Content in the Guidelines for Implementing HIV/AIDS/STDs and Life Skills Education in Schools and Teachers' Colleges in Tanzania

The HIV/AIDS and Life Skills Education Curriculum is a general curriculum which guides HIV and life skill education (*reproductive health education*) inclusive in Tanzanian. The purpose of the HIV/AIDS and Life Skills education curriculum is to enable teenagers to develop self-awareness and to use the acquired knowledge to solve daily problems and challenges (URT, 2002). These guidelines were first developed in 1996 and revised in 2002 to help the education sector and others to plan, implement and evaluate their efforts better for efficient and effective management, administration and financing of the school HIV/AIDS/STIs education programmes. The need for the guidelines came as HIV/AIDS/STIs prevention and control started to involve many actors. Thus, it is based on the objective of standardizing the approaches to HIV/AIDS/STIs and life skills education to schools that these guidelines were initiated to guide the context and content of HIV/AIDS/STIs preventive education, coordination and implementation in schools. The guidelines are in accordance with the principles of the Tanzania Education and Training Policy (1995) and those of the National Policy on HIV/AIDS with regard to preventive education and counselling intervention strategies (URT, 2002).

According to the Guidelines, teaching of HIV/AIDS and other aspects of sex education shall be covered in the Social Studies and Science subjects in primary school syllabi and Biology and Civics for secondary schools (URT, 2002). Throughout the guidelines, much emphasis has been placed on HIV/AIDS with little emphasis placed on teenage pregnancy prevention. However, in section 4.6 of the guidelines under the caption "*Teaching strategies*", the guidelines acknowledge that the major mode of transmission of HIV/AIDS/STI and unwanted pregnancies is through unprotected sexual intercourse and therefore encourages that youth should be educated to have an understanding of their own

physical and emotional development during adolescence, so that they can gain insight into their own and others' sexuality. In this way they will be able to make informed decisions, to develop skills, promote positive and responsible attitudes and behaviour. Additionally, the guidelines encourage abstinence as the first choice while giving information on HIV prevention among others issues. Below are some quotes from the guideline:

> *"Delaying Sex - Young school pupils or at early ages should be advised not to indulge in sex. - The older students should be encouraged to delay sex"* (URT, 2002:11).

The guidelines further emphasize the importance of peer education in teaching sexual and reproductive health has shown in Section 4.8.3 of the guidelines:

> *"This is a pupil-to-pupil or student-to-student education programme in a school aimed to promote responsible sexual behaviour through abstinence and postponement of initial sexual activity. Peer Education approach has an influence on change of behaviour. Moreover, peer education is beneficial for groups of people who experience strong peer pressure concerning their behaviour, such as school/college youths"* (URT, 2002:14).

The guideline acknowledges that proper use of condom may be an effective way of avoiding being infected with HIV/STIs. The guideline permits education for proper used but prohibits distribution of condoms in school.

> "*Although education for proper use of condoms will be given but the distribution of condoms in schools will not be permitted" (*URT, 2002:12).

To ensure that adolescents receive comprehensive knowledge on SRH information, the content in the guideline has to be revisited to ensure that relevant issues such as teenage pregnancy and its prevention are captured because SRH education has the potential of reducing teenage pregnancy and other STIs when it is comprehensive. According to Mkumbo and Tungaraza (2007), Tanzanian school policy makers have been reluctant to introduce comprehensive sex education because of fear of parents' reaction. Yet, it is proven that well designed and executed school-based education programmes can be effective in changing young people's sexual behaviour that leads to sexual health problems.

2.8 Types of Teachings to Prevent Teenage Pregnancy in Schools

Teaching reproductive health education in the schools is always a hot issue because it is closely connected with social and parental interpretations of right and wrong, and with people's feelings about religion and personal view (Broontra, 2011; Collins *et al.,* 2002; AFY, 2013). However, the purpose of sex education, among other things, is to reduce the risk of STIs, HIV/AIDS, and unintended pregnancies among the country's young people. These are goals of sex education that fundamentally everyone agrees on. However, the debate centres on a question of methods (i.e. how to prevent negative health outcomes) and the ancillary goals of advocates on all sides (e.g. teaching particular moral values, or encouraging autonomous decision making). It is, however, argued that abstinence-only programmes risk alienating the young people at highest risk of negative health outcomes by promoting a 'one size fits all' vision of adolescence that matches the true experiences of only a minority of youth. It is argued that there is no evidence that abstinence-only programmes delay sexual initiation or reduce STIs or pregnancy. However, some comprehensive sex education, or "abstinence-plus," programmes can achieve positive behavioural changes among young people and reduce STIs; such programmes do not

encourage young people to initiate sexual activity earlier or have more sexual partners (Collins *et al*., 2002).

It is further stated that some comprehensive sex education programmes can reduce behaviour that puts young people at risk of HIV, STIs and unintended pregnancy. In addition, these programmes do not promote earlier onset of sexual activity or an increased number of sexual partners among adolescents as argued by some people (AFY, 2013). Actually, what comprehensive sex education does is promote abstinence as the best option for young people, while at the same time providing them with information about self-protection if they do have sex. It is argued that Abstinence-only programme does not address the concerns of adolescents, but tries to turn away from the challenges young people face as they make decisions about sexuality and self-protection. According to Kirby *et al*. (2006), the focus of sexuality and HIV/AIDS education, among other things, should address multiple sexual psycho-social risk and protective factors affecting sexual behaviours, including knowledge, perceived risks, values, attitudes, perceived norms and self-efficacy.

2.9 A Review of Some Teenage Interventions Programmes Carried Out in Tanzania

Several initiatives and programmes have been and continue to be instituted in Tanzania to stop teenage pregnancy and to ensure that teenage girls stay in school and complete their education. These programmes are being implemented by the government in partnership with national and international organizations. See detail description of initiatives below:

2.9.1 Introduction of family life education (FLE)

Family Life Education programmes and guidelines were introduced in Tanzanian public primary and secondary schools in the year 2004. The key aim of this programme was to

empower youth with information in order to make positive changes in attitudes, behaviour and practices related to sexual and reproductive health (URT, 2001). Introduction of the FLE in schools aimed at ensuring that students understand issues such as sexuality, parenthood, family size, gender and environment.

The task of curriculum design, and integration into "carrier subjects" such as core subjects in the school curriculum that relate to sexuality and reproductive health is headed by the Tanzania Institute of Education. In the primary school curriculum, FLE is taught in subjects such as science, general knowledge and livelihood skills, while in the secondary school curriculum, FLE is integrated into biology, geography, civics and home economics (URT, 2001). The introduction of FLE and the creation of the guidelines policy on sexuality education in Tanzania was also prompted by the circumstances of the AIDS epidemic whose impact in the country reached a significant toll in the early 1990s (Chandra-Mouli *et al.,* 2013). The focus of the guidelines were in two categories. The first was to mainstream the teaching of HIV/AIDS education in schools and other educational institutions; the second was to guide and control the amount and type of HIV/AIDS information and materials that should reach school premises and classrooms.

Accordingly to Chandra-Mouli *et al.* (2013), the development of the guidelines, led the Tanzanian Government to committing itself to ensuring that HIV/AIDS/STIs preventive education is accessible to all schools and other educational institutions in the country. Moreover, the guidelines envisaged an interdisciplinary approach to providing sexuality education in schools. The guidelines stipulate that HIV/AIDS/STIs preventive education should be integrated into the core curriculum through Science and Social Studies for primary schools, Biology and Civics for ordinary secondary school and General Studies and Biology for advanced secondary school (Chandra-Mouli *et al.,* 2013).

2.9.2 Establishment of Youth Friendly Services (YFS)

The governments of Tanzania and partners have been able to initiate some programmes on YFS. Among them is the Pathfinder International initiative which was implemented as part of the African Youth Alliance (AYA) in 2001. This project was implemented in 10 strategically-selected districts, targeting 1.2 million youth between 10 and 24 years of age both in the urban and rural areas. The objective of the YFS component was to increase the use of quality, youth-friendly adolescent sexual and reproductive health services. The intermediate results from the component were as follows: availability of quality YFS in the project districts increased, supportive environment for YFS provision increased, demand for YFS services increased, monitoring and supervision of YFS for clinic and outreach activities established competence of facilities to deliver and sustain quality YFS activities improved (Pathfinder International, 2006).

The Ministry of Health with the assistance of its partners also implemented some model adolescent reproductive health and HIV/AIDS projects. These included the GTZ supported projects in Lindi and Mbeya regions, as well as the *Mpango wa Elimu na Maadili ya Afya* (MEMA) *kwa Vijana* (literally translated as Youth Health Education Programme), a project which was a collaborative trial programme on adolescent sexual and reproductive health involving the National Institute for Medical Research (NIMR), African Medical Research Foundation (AMREF), London School of Hygiene and Tropical Medicine (LISHTM). This project was an innovative sexual and reproductive health intervention aimed at reducing HIV infection rates among young people in rural Mwanza (Pathfinder International, 2006). In Tanzania, according to UNICEF (2011), about one-third of Tanzania's health facilities are reported to provide "youth-friendly" sexual and reproductive health services, including access to contraceptives.

2.9.3 The development of the national adolescent reproductive health strategies (2001-2006) and (2010-2015)

The Adolescent Health and development Strategy (ARSH), (2001-2006) aimed at improving the overall quality of life for adolescents. The strategy provided a framework to guide the government, NGOs and private sector partners in addressing adolescent health and development in Tanzania (URT, 2001). The strategy outlines a range of services needed by young people in Tanzania, including: information and education on adolescent development and sexual and reproductive health and rights issues; information and education on basic health and lifestyles; contraceptive services, STI management maternal health services, management of teenage pregnancy including post-abortion care, HIV related services; and management of sexual violence.

In order to promote effective programmes in the above areas, the following key priorities for action were taken: the development of a training manual for service providers on youth-friendly services, the creation of training materials for lay counsellors on health and counselling skills, the training of in and out-of school peer educators; and the development of curricula and training materials for use with out-of-school adolescents (URT, 2001).

Following the completion of the NARHS (2001-2006), another strategy was developed for 2010-2015. The development of the NARHS (2010-2015) sought to strengthen the adolescent policy, legal and community environment for sexual and reproductive health information, services and life skills. Generally, it aimed to improve health system responses to adolescent health needs and to provide a platform for linkages with other sectors dealing with adolescents and young people (UNICEF, 2011). The instrument further seeks to ensure that adolescents received all the necessary information they need on SRH issues to make the right choice on matters pertaining to sexuality. Among those

essential issues that the current NARHS tries to address is the issue of school girls' pregnancy and drop out. The strategy seeks to create and advocate for an environment where school girls can be permitted to go back to school even if they were pregnant and have given birth (UNICEF, 2011).

2.9.4 Prevention and Awareness in School of HIV/AIDS (PASHA) programme

The Prevention and Awareness in Schools of HIV/AIDS (PASHA) was an initiative of the Ministry of Education and Vocational Training, (MoEVT) of Tanzania. The project was implemented in collaboration with the German Government through GIZ formally GTZ as part of the Tanzanian German Programme to Support Health (TGPSH). The project generally started in 2003 and reached Mtwara Region in 2007 and ended in 2012 (URT, 2012). The overall goal of the programme was to help young people, to have access to information on Sexual and Reproductive Health (SRH) and to improve quality reproductive health services. The programme was implemented under the National guidelines for Implementing HIV/AIDS and Life Skills Education Programmes in Schools, with the general interest of PASHA specifically on students and to ensure that a specific support package of school based services was in place as a strategy to prevent HIV and promote SRH in both primary and secondary schools.

The programme provided a comprehensive support package of school based services for both primary and secondary schools (focusing on counselling and life skills based peer education). As part of the programme promotion of SRH and rights, and HIV prevention, the issue of teenage pregnancies was of great concern to PASHA (URT, 2012). PASHA started with a pilot approach for Peer Education (PE) and School Counselling (SC) services and was developed in collaboration with the Ministry of Education and Vocational Training (MoEVT). The approach was later scaled up in three ways. The first scaling up

was done horizontally, by increasing coverage of more schools, more regions, and more partners. The second scaling up was done vertically, meaning institutionalization and functional scaling up extending the scope of the programme (URT, 2012a).

The above-mentioned project was done in phases. The first phase of the project was conducted between 2003 and 2006 which was a pilot approach of SC (School Counselling) services. The above was developed and tested in secondary schools only, Tanga being the intervention region. The second phase was from 2006 to 2009 which was functional scaling up by adding PE (Peer Education) to the approach, including primary schools as beneficiaries of the programme, and supplementing HIV activities with a comprehensive SRH and life skills approach. In addition, there was a horizontal scaling up by adding two more regions including Lindi and Mtwara. Phase three of the project was from 2010-2012, which was also horizontally scaling up whereby Mbeya region was added under the support of GIZ. In addition, several other regions supported by other partners were added vertically by scaling up with the integration of the programme into MoEVT policies. On the other hand, functional scaling up was done in collaboration with UNICEF. Overall, SC services and PE were introduced in at least 712 schools in Tanzania i.e. 414 primary and 298 secondary schools (URT, 2012a).

2.10 A Summary of the Reviewed Literature

Review of literature on the subject under study has revealed that teenage pregnancy is indeed a global problem. Generally, the authors were writing on teenage pregnancies but had specific focus on their areas of interest. However, the most important themes were factors causing teenage pregnancies, teaching school based reproductive health education, adolescent SRH and the effectiveness of SBRHEP among others. Several authors (for example Siettou and Sarid, 2011; Bansger, 2010; Kirby 2007, 2011; Nyakubega, 2009;

Kirby, 2007) attributed the causes of teenage pregnancy to factors such as poverty, peer pressure, culture, early marriage, lack of education of SRH and access to RH services.

On the theme of teaching SBRHEP, most of the authors for example (Kirby, 2007; Thato *et al.*, 2008; Collins *et al.,* 2002 ; AFY, 2013) have observed that most often, the school environment is used for teaching SBRHEP as this is where most teenagers are officially found. According to these authors, the appropriate teaching of SBRHEP should be "comprehensive" which means that it should be more detailed by giving all information about reproduction, contraceptive and anything that has to do with pregnancy prevention. The above-mentioned authors argue that teaching abstinence only education to teenagers does no good. On the theme of SBRHEP being effective, Boonstra (2011) and Kirby *et al.* (2005) argued that the effectiveness of SBRHEP are universal and that these programmes have a positive effect in delaying initiation of sex, frequency of sex and reduction in number of sexual partners. Although there have been numerous researches and general conclusions on the subject under study, it is nonetheless important to test their viability in our local settings. This is exactly what the study on which this dissertation is based was set to achieve, that is to either validate the findings of the previous studies or refute them.

2.11 Theoretical Framework

The study was guided by the Social Learning Theory (SLT). The SLT is one of the best theories identified as appropriate for sexuality education as well as many other areas of health education, including substance abuse prevention and violence prevention. The theory seeks to show how an individual's behaviour could be changed. Generally, it is a good fit for prevention-based sexuality programmes. The SLT is particularly good for pregnancy, STI and HIV prevention programmes because sexual behaviour is influenced

by personal knowledge, skills, attitudes, interpersonal relationships, and environmental influences and all of these factors are addressed by the SLT (RECAPP, 2009).

The biggest strength of social learning theory is that real world examples can be applied and can be quickly and easily administered. However, the social learning theory cannot account for all development behaviour since thoughts and feelings are influenced by many internal and external factors as well as inherited and maturation factors. The SLT has had important implications in education and yet, in spite of great discoveries, it still lacks an overall understanding of the complexity of human behaviour, personalities and human differences as well as biological differences (Smith and Berge, 2009). Nevertheless, this theory directed the study in showing the connection between those specific personal and environmental factors that are contributing to teenage pregnancy in the region.

According to a review by Kirby (2007), individual personal factors can lead to teenage pregnancy. Those factors include: teens' own sexual beliefs, values, attitudes, skills, and intentions towards school to mention a few. Kirby (2007) further argues that teens are more likely to have sex more frequently and to have more partners, if they have permissive attitudes toward premarital sex. For example, as regards to intention towards school, if a teenager is performing well in school, and has plans for a brighter future, the chances of that teenager becoming pregnant is low compared to a teenager who is falling behind in school and does not have plans for the future. Furthermore, environmental factors could lead a teen to becoming a high risk to teenage pregnancy. Those environmental factors are interpersonal relationships such as weak family connections and support, peer pressure, community norms and culture that support earlier sexual activities of teenagers. Therefore, the theory guided the study in relation to the above constructs.

2.12 Conceptual Framework

The study's conceptual framework (Fig. 1) shows how the independent variables are related to the dependent variable (teenage pregnancy). Most school based adolescent health programmes are held in schools with teachers serving as facilitators; something which is believed to have implications on the effective implementation of the programmes due to factors such as poor teacher training and insufficient time for programme delivery. Furthermore, sometimes the teachers might not be interested in the programme, among others (Dane and Schneider, 1988). According to Dane and Schneider, the matter becomes more complicated when the subject is considered private and sensitive, and teachers may see sex education as different from their academic role. Additionally, individual characteristics of youth, family and peer support systems, community norms and resources, and policy-related factors all influence the effectiveness of school-based teen pregnancy prevention programmes. Others are the specific services provided under different programmes, and how services are delivered (Smith and Coleman, 2012).

According to Fig. 1, individual, community, and policy-level factors also influence prior sexual behaviours and the availability of and access to existing services, as well as participation in teen pregnancy prevention programmes and subsequent behavioural choices and outcomes. In addition, policy factors influence the effectiveness of school based reproductive programmes by guiding how the lessons are offered. Kirby *et al.* (2006) observed that culture and norms of local communities and schools themselves may prohibit open discussion of sexual matters and actively discourage condom use in an attempt to promote abstinence. For example, according to Plummer *et al.* (2007) during the *Mema Kwa Vijana programme* (Things that are good for youths) Tanzania policies prevented teachers from showing condoms or pictures of condoms in schools though they were

allowed to describe the same. Therefore, as a result, students might not be able to know how to correctly use the same when they become sexually active.

SBRHEP often provides information on health, relationships, and sex education topics, and may also address related social and behavioural issues, including life skills development, mental health, access to contraceptives and other health services, academic performance, and employment opportunities (Smith and Coleman, 2012).

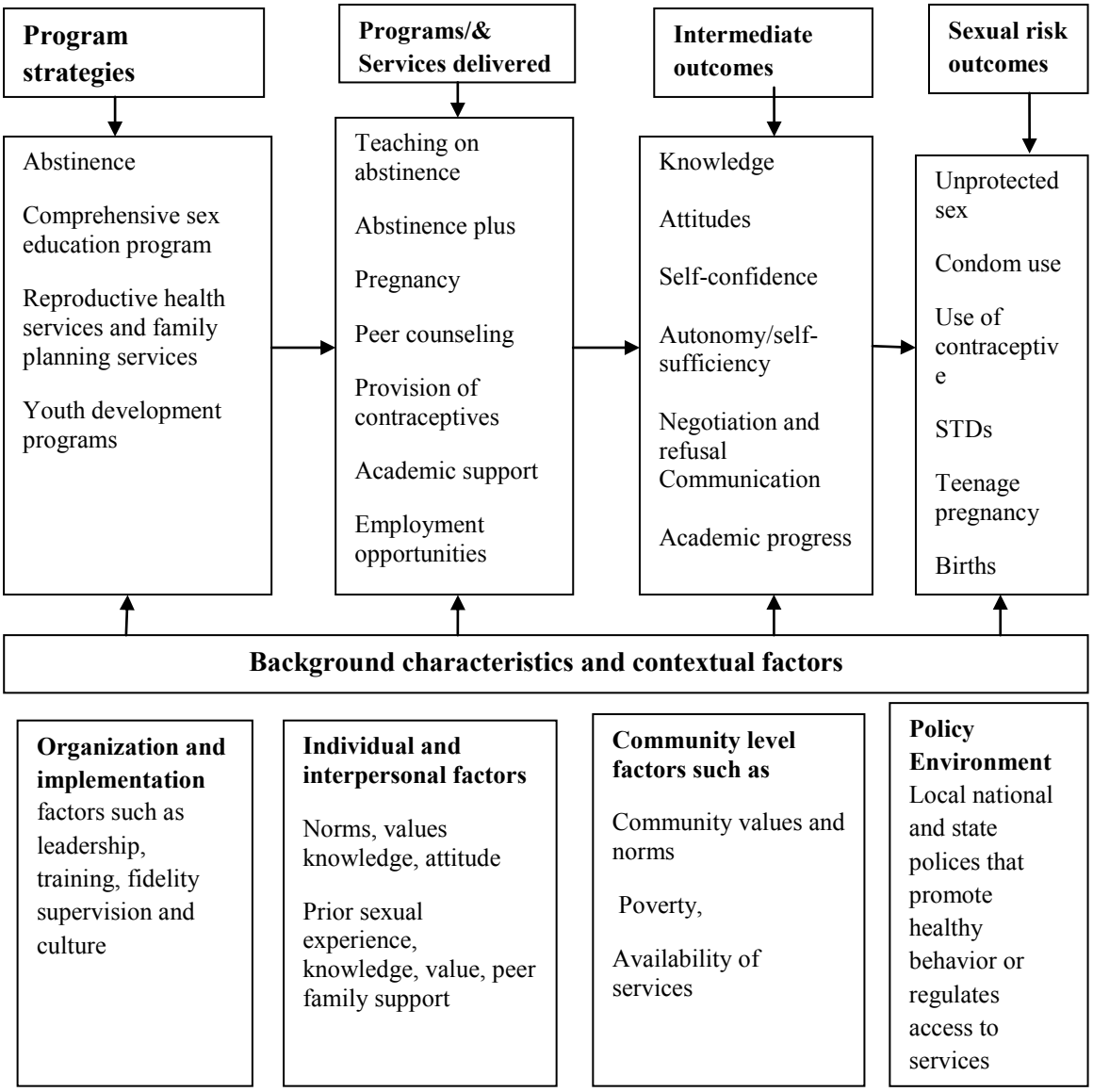

Figure 1: Conceptual map adapted from Smith and Coleman (2012:4)

***NB*:** Not all variables in figure 1 were covered by the study based the scope of the study.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Description of the Study Areas

The study was conducted in Mtwara Region located in the southeastern part of Tanzania (URT, 2012b). The study area was chosen based on the high prevalence of teenage pregnancy as mentioned earlier in Section 1.2 and literature (URT, 2010; Bansger, 2010 and Mbeba *et al.,* 2012). The region is composed of one municipality (Mtwara Mikindani) and five districts: Masasi, Mtwara, Newala, Nanyumbu and Tandahimba. However, the study was only conducted in Mtwara Mikindani Municipality and Mtwara District. This was done to allow comparison of the contribution of school based sex education programmes between urban and rural settings of the region. The detailed socio-economic profile of the study areas is as presented below.

3.1.1 Mtwara District

Mtwara District is one of the 5 districts of Tanzania's southern region of Mtwara region and covers a total area of 3 597 km^2 which is 22% of Mtwara region land area of 16 720 km^2. It is the second largest district after Masasi. The district has a population of 228 003 (URT, 2012b). It constitutes grasslands with poor soils. The district is administratively subdivided into 6 divisions, 28 wards, 157 villages and 638 hamlets. The dominant ethnic groups are Makonde, Makua, Yao and Mwera. Agriculture is the predominant activity in the District. About 90% of the agricultural output is by smallholder farmers. Food crops grown include: cassava (*manihot esculenta*), sorghum (*sorghum bicolor*), paddy (*oryza sativa*), maize (*zea mays*), and sweet potatoes (*ipomoea batatas*), bananas (*musa sp*.) and

legumes. Cash crops include: cashew nuts (*anacardium occidentale*), sesame (*sesamum indicum*), coconuts (*cocos nucifera*) and groundnuts (*arachis hypogaea*) (URT, 2014a).

The district has a total of 51 health facilities, four of which are health centres and 44 are dispensaries. The district has a total of 12 Public Health Personnel, based in the Community. The contraceptive prevalence rate (CPR) for Mtwara in 2013/2014 fiscal year was 43%. Mtwara District council has a total of 130 primary schools and 21 secondary schools (URT, 2014a).

3.1.2 Mtwara Mikindani Municipality

Mtwara Mikinkani Municipality is one of the Local Government Authorities (LGA's) in Mtwara Region. The Municipality has a total area of 162 km^2, of which 64 km^2 (39%) is classified as urban proper and 98 km^2 (61%) as suburb-urban areas. The municipality has a total population of 108 299 (URT, 2012b). The municipality has 15 wards, 10 of which are in Mtwara Urban division while the rest are in Mikindani division, characterized by rural activities. Administratively, the municipality is divided into two divisions with 15 wards, 85 streets, 6 villages and 27 hamlets. The two main divisions are Mtwara Urban and Mikindani Division. The original inhabitants of the municipality are Makonde, Yao and Makua, with more than 75% of the population being Makonde although there are other minority ethnic groups such as Mwera and Maraba. The municipality is metropolitan compared to the other LGA's (districts) in the region. People tend to flow into the municipality in search of better life through the engagement in different economic activities such as commerce and industry (cement factory, oil and gas exploration fishing, construction) among others (URT, 2014b).

Mtwara Mikindani Municipality has 29 primary schools and 19 secondary schools. The Municipality has one regional hospital (Ligula hospital) where various health services are

provided, in addition to 21 other health facilities and several private laboratory facilities and pharmacies. Traditional herbalists also operate discretely in the outskirts of the municipality (URT, 2014b).

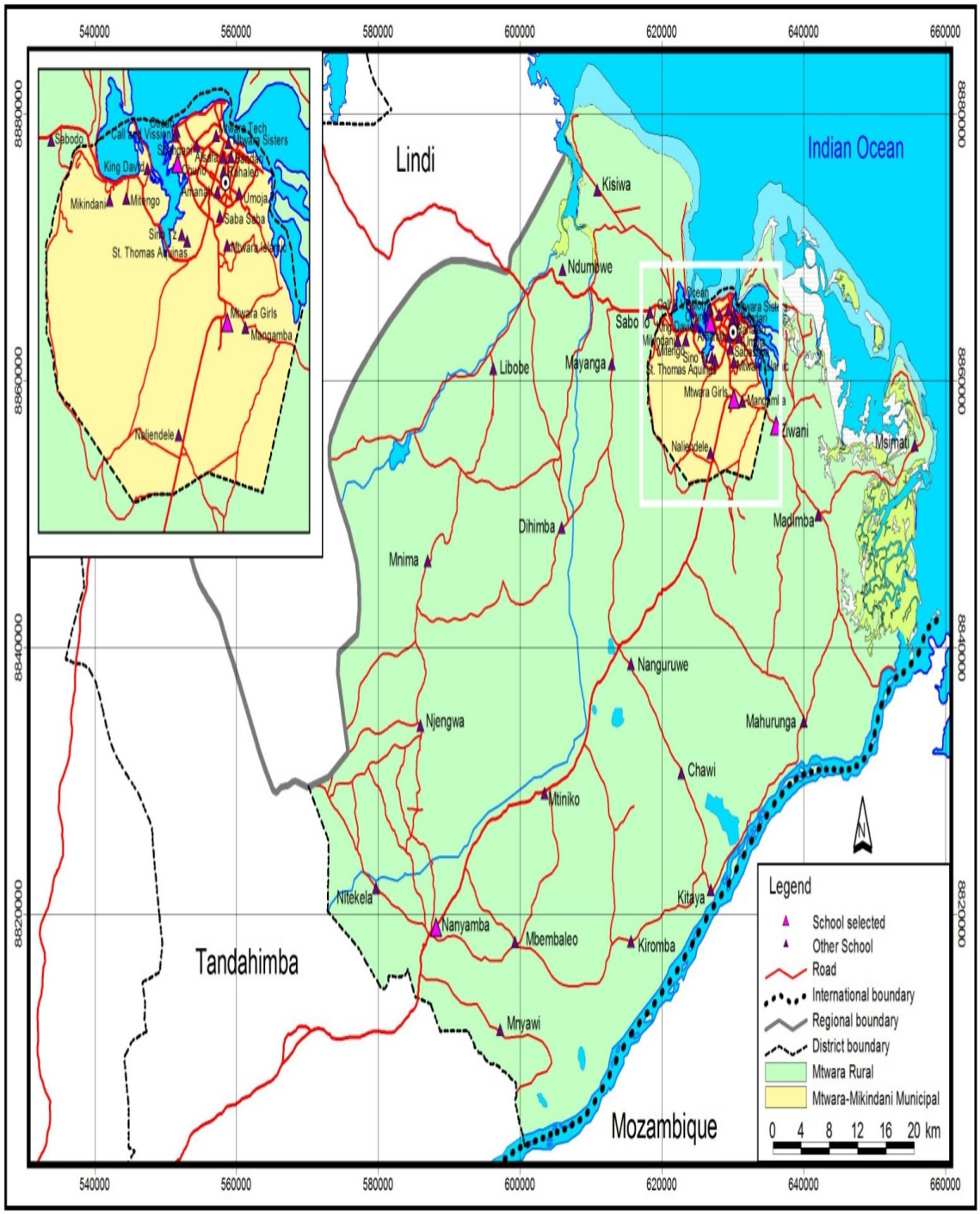

Figure 2: Map showing the Municipality and Mtwara District and schools sampled

***Source*:** GIS Unit Naliendele Agricultural Research Institute, Mtwara

3.2 Study Design

The study adopted a cross sectional exploratory research design whereby data were collected at one point in time (Olsen and George, 2004). This design was chosen because of the nature of the study which needed data to be collected and analyzed within a one year period. In addition, the design allows reliability and validity of the results by following all procedures required to ensure that a research meets the appropriate standards. Furthermore, data collected could be gotten within the required period of time.

3.3 Study Population

The study was conducted among female students from four secondary schools in Mtwara region. The schools included Mtwara Girls Secondary School, Chuno Secondary School, Ziwani Secondary School and Nanyamba Secondary School. The study focused on two schools that implemented the PASHA programmes and two schools that did not implement the programme. In addition, the study also considered those students that had dropped out of school due to pregnancy; some key informants familiar with the subject were also consulted to ensure that adequate information was gathered in order to exhaustively answer the research questions.

3.4 Sampling Procedure

The sampling frame for the study was students from the above-mentioned four secondary schools in Section 3.3. The study's sample size was 104 respondents. According to Sunder (2007), a sample size intensity of 30 households could be considered for any research to be considered usable and reliable. Additionally, Warren (2002) also suggests that the minimum requirement for sample size in qualitative studies needs to be between 20 and 30 in order for an interview-based qualitative study to be published. Therefore, based on the above, 52 students were drawn from intervention schools while another 52 were drawn

from non-intervention schools. Random sampling technique was employed to select 2 schools from the Prevention and Awareness in Schools on HIV and AIDS (PASHA) Peer Education intervention schools while the other two 2 non-intervention schools were also randomly selected. Random Sampling was employed to select the respondents from both categories of schools. This technique is convenient because all elements within the sample have the opportunity to be chosen. Snowball sampling technique was employed to identify adolescent girls who had dropped out of school because of pregnancy issues to serve as key informants. Additionally, other key informants were purposefully selected, specifically targeting stakeholders who were knowledgeable on the subject i.e. teachers, health workers and parents. Information collected from key informants focused on access to reproductive health, prevalence rate, and causes of teen pregnancy.

3.5 Ethical Considerations

Ethical clearance for this research was obtained from Sokoine University of Agriculture (SUA) ethical committee. Permission letter to conduct research within Mtwara Municipality and Mtwara District was obtained on September 17, 2014 from the Regional Commissioner's Office for the periods of September 2014 to July 2015. Every procedure to maintain human rights including informed consent, the right to participate in the study, the right to privacy and confidentiality were taken into consideration. Participants of the research were clearly informed about the purpose of the study and that participating in the study was voluntary and one could leave at any time. Participants were also encouraged to provide sincere information and this was strictly confidential and could only be used for the purpose of the study.

3.6 Data Collection Methods

3.6.1 Data type

Both qualitative and quantitative data types were used by the study. This decision was made based on the importance of triangulation in social science studies. Triangulation is a combination of two or more methodological approaches, theoretical perspectives, data sources, investigators and analysis to study the same phenomenon for the purpose of increasing study credibility (Hussein, 2009). Additionally, the study also used both quantitative and qualitative data collection methods. According to Coviello (2005), using the mixed methods approach is good because a combination of the two approaches helps in adequately answering research questions.

3.6.2 Primary data

Primary data were obtained using a questionnaire (Appendix 1), from Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs). The FGDs and in depth interviews involved students, teachers of sex education subjects, health workers, school dropout and other stakeholders associated with the problem under study. The FGDs and KIIs were guided by an FGD guide and a check list respectively (Appendices 2 and 3). Generally, the FGDs and KIIs were used to collect in-depth qualitative information to complement the data collected from the respondents. There were four FGDs held in total with each session comprising nine participants summing up to 36 persons. Additionally, for the Key informant interviewees, there were five school drop outs, four school teachers, four health workers and three parents summing up to 16 key informants. The information collected focused on issues of sexuality, pregnancy, culture and views about teenage pregnancy. Therefore, a total of 156 individuals were involved in the study.

Before the actual survey, a pilot study was conducted in order to ensure that the questionnaire was valid and reliable. Testing of the research tools was done to ensure clarity and familiarity with the tools as well as the study area. The pre-testing was done on 19 students from two secondary schools namely Umoja and Nanguruwe secondary schools found in rural and urban Mtwara respectively. The two schools were not included in the final survey.

3.6.3 Secondary data

Secondary data were also collected to augment the primary data. Data collected focused on the past and present rates of teenage pregnancy. School dropout reports were collected from published and unpublished documents, reports from participating schools, the Regional Administrative Office Annual report on teenage pregnancy and the District education offices of both Mtwara Municipality and Mtwara District.

3.7 Data Analysis

Qualitative primary data collected from FGDs and KI's for objectives one to three were analyzed using content analysis. This method is useful for identifying intentions, focus of communication trends of an individual, group or organization (Busch *et al.,* 2012).

On the other hand, quantitative data collected through the structured questionnaire were analyzed using a non-parametric analysis known as the Independent Mann Whitney U-Test. This non parametric test was used to analyze objective four of the study which was to determine the effectiveness of school based reproductive health education among students in terms of knowledge. The U-Test was used to compare the difference in knowledge reproductive health and teenage pregnancy prevention between girls from PASHA intervention schools against those non-intervention schools. This test was chosen because

the results obtained from the test scores were not normally distributed and therefore did not meet the specific assumptions for using a parametric test e.g. the Independent Samples T-test (DeCoster, 2006:6).

Generally, the quantitative data were coded and analysed using the Statistical Package for Social Sciences (SPSS) software. In additional, to analyze factors contributing to teenage pregnancy in the study area, multiple responses obtained from respondents were analyzed using descriptive statistics whereby the frequency and percentages of those factors mentioned were considered. Access to reproductive health support was analyzed using descriptive statistics whereby cross tabulation was used to show the difference in access between rural and urban respondents. Cross tabulation is a joint frequency distribution of cases based on two or more categorical variables (DeCoster, 2006: 6).

3.8 Study Limitations

The researcher's inability to speak and understand the language of the respondents (Kiswahili) was a challenge. However, the researcher hired the services of two research assistants (two females) who were fluent in both Kiswahili and English to aid in the process of the data collection to ensure that data collected were valid and reliable. Another challenge encountered during the study was locating the dropped out key informants for interviews. Some of them were usually found busy cooking, washing or on their way to hospital with their babies. The researcher had to wait around when the KI's were doing domestic chores and come later when the KI's were taking babies to hospital or doing other time consuming tasks. However, the above mentioned challenges did not have any impact on the reliability and validity of the study.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSIONS

4.1 Socio-Demographic Characteristics of Respondents

4.1.1 Age of respondents

The socio-demographic factors considered in the study included age of respondent, education of parents, employment status of parents and whether the respondent was living with both biological parents or with guardians. Study results (Table 1) show that the majority (61.5%) of respondents were aged between 15 to 16 years and the mean age of the respondents was 15.45 years. Age has an impact on teens' sexual behaviour. According to Kirby (2007), as teens become older, they are much more likely to engage in sexual activities. Moreover, if they mature physically at an early age, they begin menarche early, and appear older than their age; they are also more likely to initiate sex earlier. Additionally, some of the effects of getting older are strictly physical, including increased sexual maturity and higher testosterone levels, which may lead to a greater desire for intimacy and sex, greater sexual attractiveness, or both.

Other effects are social, such as increased pressure from peers to have sex, changes in perceived norms about sexual and contraceptive behaviour, and increased opportunities to have sex, which come with greater freedom and independence. At the same time, teens are increasingly likely to become pregnant and to parent a child as they grow older. In other words, because more teens have sex more often as they grow older, they are increasingly likely to become pregnant, even though they may also be more likely to use contraception (Kirby, 2007).

Table 1: Demographic characteristics of respondents (n=104)

Category		Frequency	Percent
Age category	13-14	22	21.2
	15-16	64	61.5
	17-19	18	17.3
Living with parents or guardians	Both parents	48	46.2
	Single parent	*25*	24.0
	Guardian	31	29.8
Education level of parents/ guardians	Non formal Education	20	19.2
	Primary	56	53.8
	Secondary	23	21.1
	Tertiary	5	4.8
Main occupation of parents /guardians	Farming	59	56.7
	Business	23	22.1
	Teaching	6	5.8
	Others	16	15.4

4.1.2 Living with both biological parents or guardians

Living with both biological parents was considered an important demographic variable. Observations from the study show that under half (46.2%) of the respondents were living with both of their biological parents followed by about a quarter (24.0%) living with a single parent and the rest (29.8%) living with guardians or relatives. According to literature (Kirby, 2007; Miller *et al*., 2001; Markham *et al*., 2003), family characteristics are very important in determining risk of teen pregnancy. The risks of teenage pregnancy are very low for teenagers living with both their biological parents and enjoying a close relationship with them. Teens in this group are less likely to have unprotected sex and become pregnant. Specifically, if teens live with biological parents (instead of only one parent or step-parents), they are less likely to have sex, but if they do, they are likely to have sex less frequently. Miller *et al.* (2001) found that Parent/child closeness or connectedness, parental supervision of children's activities, and parents' values against teen intercourse (or unprotected intercourse) decrease the risk of adolescent pregnancy. The chances of becoming victims of teenage pregnancy are low for those teenagers who live with both

biological parents as compared to those who lived with a single parent or guardian. If biological parents divorce or separate, their children are more likely to initiate sex at an early age than if the parents are not divorced or separated (Kirby and Lepore, 2007; Adu-Mireku, 2003; Markham 2003; Miller, 2001).

The study's observation is similar to that of an earlier assessment conducted by Munir (2012) in Mtwara Region which also reported a high percent of children living with single parents or guardians. The reason for such a scenario could be attributed to high rate of divorces in the area (Munir, 2011). In Mtwara Region, there are few matrilineal communities, which suggest that for such communities whenever there is divorce, the children are left with the mother usually without support and the husband has to leave the house (Erhardt *et al.,* 2011). Although the children are left with the woman, when she enters into a new relationship she moves in leaving the children behind. Thus, leaving the care of the children in the custody of a relative, most often with their grandmothers this is supported by the quote below:

> *"In Mtwara divorce is a very common issue. Many women and men do not stay long in marriage. Usually when a woman gets divorced she remarries to ensure her survival and if she already had children in the previous marriage, she leaves them behind with either her mother or other relatives because she can't carry them along into her new husband's home. That is the system here"* (KI female aged 47, Mtwara Municipality, October 20, 2014).

> *"Many women feel they need to enter into a second marriage childless to avoid burdening their new husband"* (KI male aged 45, Mtwara District, October 24, 2014).

4.1.3 Education of respondents' parents

One of the socio-economic factors considered by the study was the educational status of the respondent's parents. Findings show that more than half (53.8%) of the respondents' parents had primary school education, under a quarter (21.1%) had secondary school education and very few (4.8%) had tertiary education while the rest (19.2%) lacked formal schooling. According to Phetla *et al.* (2008), education enables a person to acquire skills and knowledge that expands their understanding capacity. It helps individuals to access and become cognizant of different issues in their environment and their daily lives including how to take care and plan for their children. In addition to making one aware of happenings, education is also a key factor in changing individual attitudes towards values unfavourable in respect to culture and other practices such as early marriage.

According to Kirby (2007), teens whose parents are more educated are less likely to become pregnant compared to teens whose parents have less education. Furthermore, parents with higher education and income usually emphasize to their children the importance of education, pursuing a career and avoiding early childbearing. Moreover, in most of the cases they make resources available to support teens in these pursuits. The same author argued that, if parents monitor, supervise and have conversations with their children about sex and contraception well before they become sexually active, the initiation of sex may be delayed and use of condoms or other contraceptives is increased. However, this effect is most likely to occur when the teen is a daughter, when the parent is the mother, when the teens and their parents feel connected to one another, when the parents disapprove of teens having sex or support contraceptive use, and when parents can discuss sexuality in an open and comfortable manner (Kirby, 2007:16).

Generally, as for the results of this study, the primary education obtained by respondents' parents is counted as having low education that cannot enable a person to find a well-paid employment. In turn the above implies that, this category of parents could struggle in meeting up the basic social needs of their children in the absence of other income generating activities such as petty trade and remittances.

4.1.4 Main occupations of respondents' parents

Parent's employment is very essential when studying issues of teenage pregnancy because their occupation determines the fulfillment of the students' academic needs as well as other basic needs. Family income is an issue to consider for teen's high risk of pregnancy. According to the study results, more than half (56.7%) of respondents' parents had farming as their main occupation; under a quarter (22.1%) were involved in business and very few (15.4%) and (5.8%) were engaged in other activities (driving, tailoring teaching and construction respectively).

According to literature (Siettou and Sarid, 2011; Kirby, 2011) teens from families with higher incomes are less likely to become pregnant or to bear children early. When the parents are employed and capable of providing basic necessities, it is difficult for their children to easily fall prey to teen pregnancy by not engaging in activities that will lead to pregnancy. As observed from the study, most of the students' parents were farmers. Due to the general poor performance of the agricultural sector in Tanzania households could be struggling to meet most of the basic needs of teens and respondents due to lack of money. Moreover, agriculture in Tanzania over the past years has not translated into poverty reduction, especially in rural areas. The poor performance in the sector, according to Mashindano *et al*. (2011), can be attributed to several factors such as low utilisation of fertilizer and improved seeds and low government budget allocation, among others.

In Mtwara, cashew nut is among the major cash crops produced in the region. However, the cashew nut industry in the world and Tanzania in particular, is facing a major challenge (Rweyemamu, 2002; Baregu and Hoogeveen 2009; Rabobank, 2012). Tanzania unlike other countries such as Mozambique and Kenya who usually process their cashew nut is mostly exporting its cashew nut raw because most of their processing facilities are not functional, only about 20 000 tonnes of the raw cashew nuts are processed out of the 160 000 tonnes produced. It was reported that cashew nut produced from Tanzania is usually left over and unprocessed. For example, it was reported by Rabobank (2012) in April 2012 that, Tanzania had an unsold stock of 90 000 tonnes of raw cashew nuts still lying in the villages. Such a situation might cause most parents not to be able to pay their children's school fees as well as being unable to provide food for their households. Additionally, such a scenario has the potential of enticing more young girls into sexual relationships in prospect of getting their necessities, and as a consequence they could get pregnant (Siettou and Sarid, 2011; Kirby *et al.,* 2011).

4.2 Factors Contributing to High Rates of Teenage Pregnancy in Mtwara

One of the specific objectives was to determine factors responsible for teenage pregnancy in the study area. Observations from the study (Table 2) show that several factors lead to teenage pregnancy in the studied area. Among the key contributors mentioned by most of the respondents were poverty (75%), culture (74%), and desire for money (68.3%), followed by peer pressure, lack of education on reproductive health issues and poor parental care. However, according to the results, lack of access to reproductive health support especially for adolescents is also among the challenges teens are facing in the region. The findings showed the major factor contributing to teenage pregnancy was poverty. Three quarters (75%) of the respondents admitted that poverty in the region contributes immensely to the high rate of teenage pregnancy as most of Mtwara's

population is engaged in farming activities as aforementioned in Section 4.1.4 that farming activities are not performing well in the region. The agricultural sector in Tanzania has been performing poorly compared to other sectors in the country. Based on these reasons one can easily be tempted to conclude that those engaged in such agricultural activities are not earning sufficiently to enable them to provide for their household needs, including some specific needs for their teenage girls thus leading to teenage girls being forced to provide for themselves and as the result end up being pregnant and drop out of school.

Table 2: Factors causing teenage pregnancy in the study area as per respondents (n=104)

Factors responsible for teenage pregnancy	Frequency	Percent
Poverty	78	75.0
Culture	77	74.0
Desire for money	71	68.3
Peer Pressure	59	56.7
Lack of SRH education	48	46.2
Poor parental care	38	36.5
Self-interest for sex	5	4.8
Watching pornographic films	4	3.8
Globalization	3	2.9
Rape	3	2.9
Temptation from men	2	1.9
Attending Night Club	2	1.9
Alcohol and drug use	2	1.9
Prostitution	1	1.0

NB: Due to the multiple responses, the responses reported are more than the sample of 104.

As shown in Table 2 above, more than two thirds (68.3%) of the respondents mentioned the desire for money among young girls as a major factor contributing to teenage pregnancy. The greed for material things, known as *tamaa* in Kiswahili was reinforced during the focus group discussions (FGDs) and key informant interviews (KIIs) as a cause of teenage pregnancy among girls. However, the girls admitted to the fact of desire for money being an issue. Nonetheless, they claimed that it is a strategy to meet up with basic

needs such as food, clothing, and school fees which are not met by most parents and guardians. More evidence is provided by the quotes below:

> "*Some girls see the lovers of their friends buy good things such as clothes, phones, cosmetics etc. for them. So they want to have those things too, so they do what their friends do*" (KI female aged 40, Mtwara Municipality, October 22, 2014).

> "*Some girls find lovers who will provide the basic needs they are lacking*" (FGD participant aged 17, Mtwara District, October 27, 2014).

> *"One needs to eat and look good. If my family cannot provide these things, I will surely find someone who will provide for me*" (FGD participant aged 16, Mtwara Municipality, October, 22, 2014).

Table 2 shows that about three-quarters (74%) of the respondents associated teenage pregnancy with cultural practices ('*Jando* and *Uyango'* i.e. boys circumcision and girls initiation ceremonies respectively) in the Region. These are the initiation ceremonies that attract young children usually entering their puberty, normally between the ages of nine and twelve years. During the above cultural practices, attendees are taught cultural norms, including respect for elders and gender roles. Other lessons include sexual practices and techniques. Males are circumcised during the *jando* ceremonies and are encouraged to have sex with females of their age thereafter (Munir, 2011). It was observed during the study that *Jando* and *Unyago* were cultural practices influencing early sexual engagement by teens in the region, thus leading to teen pregnancy. The finding is comparable to a review conducted by Dev Raj *et al.* (2010) that socio-economic factors, cultural and family structure were all consistently identified as risk factors for teenage pregnancy in Asia.

Table 2 further shows that more than half (56.7%) of the respondents thought peer pressure was contributing to teenage pregnancy. Similar findings were reported by Smith and Coleman (2012) that peer pressure plays a major role in teenage pregnancy. It was further argued by Smith and Coleman (2012) that teenagers can be particularly vulnerable to external influences, especially the opinions and behaviours of their friends and classmates. A study by Bearman and Brukner (1999) found that larger peer groups, or cliques, exert influences on sexual debut and pregnancy of teenagers. Bearman and Brukner (1999) further argued that, as the number of high-risk members in a girl's peer group rises, so does her risk of sexual debut.

Study findings as summarized in Table 2 indicate that less than half (48%) of the respondents thought the lack of reproductive health education among school age girls was a factor contributing to school girls teenage pregnancy. The respondents stated that they didn't have accurate knowledge on how to prevent themselves from becoming pregnant. According to WHO (2012), lack of reproductive health education is a major challenge in many developing countries. The organization further asserts that many adolescents do not know how to avoid getting pregnant, or are unable to obtain and use contraceptives correctly and that there is a lack of sexuality education in many developing countries.

In addition to the above-mentioned factors, poor parental support was cited as one of the major causes of teenage pregnancy in the region. According to Whitbeck *et al.* (1992), lack of parental support was related to depression for teen males and females, but the association between depressive symptoms and sexual activity was much stronger for females than for males. The authors argue that low support from parents is associated with a greater propensity for alcohol use, which is more strongly associated with early sexual

activity of teens. Both daughters and sons who view their parents as being unsupportive are likely to report depressed moods and use alcohol, whereas depression influences sexual behaviour for daughters, while alcohol use is more strongly related to the sexual behaviour of sons.

A study conducted by Pauja and Kazimoto (2004) also found that poor parental support was a factor for many adolescent girls getting pregnant and dropping out of school. The authors stated that children raised by single parents often get little protection or emotional support and that such a situation may lead children to easily fall prey to teen pregnancy, especially when parents are not providing food, not meeting school requirements and not making proper follow up on their activities. Separation from parents due to divorce is very common in Mtwara. Most of the key informants as well as those female teens who had dropped out of school attributed the problem of teenage pregnancy to lack of support and care from their parents. The quotes below assert this:

> "*The reason children are getting pregnant is because of their parents. Some parents leave their children at home alone for a long time without sending the necessary supplies. Therefore, when the little provisions available at home are finished they are forced to enter into sexual relationships just to meet these needs by any means possible, a situation which causes teenage girls to get pregnant*" (KI female aged 30, Mtwara Municipality, October 21, 2014).

> "*These days marriage is not taken seriously. Families break up at any time and parents end up seeing children as a burden and nobody cares for them. They end up begging in the streets. Nobody protects them or provides for them*" (KI male aged 54, Mtwara District, October 24, 2014).

> "*My father used to leave us with our mother and be away for a long time without leaving any money at home. As for me, I had a boyfriend who was selling goods at the market place; he used to give me money. I used to share the money with my mother and my young sister. I got pregnant last year and dropped out of school. I really wanted to study and become a doctor. I am not sure of that dream anymore*" (School dropout aged 17, Mtwara Municipality, October 27, 2014).

As regards to factors contributing to teenage pregnancy, the key informant interviewees who were school drop outs revealed a clear picture of how the situation is for girls in Mtwara who have fallen to teenage pregnancy. Although most of the factors were already mentioned by the respondents, but the KIIs conducted with the drop out girls explained more details about the factors and how they have been affected by teenage pregnancy. The dropouts attributed the issues of lack of support from parents, early marriage, poverty and lack of education on pregnancy prevention as the major reasons that led them to becoming pregnant. All the girls pointed out that it was not their plan to get pregnant, but they wanted to complete school and have a career. See some quotes of what the girls said during the interviews.

> *"When my dad and mom separated, my younger brothers and sisters and I were left with our mother. But she had no good paying job to get money and take care of us. So at the age of 15 I had someone helping me. However, in the process I got impregnated by him"* (School dropout aged 16 years, Mtwara District, October 27, 2014).

> *"I didn't know of when a woman can get pregnant. In addition, I did not know of how to prevent myself from getting pregnant. Moreover, the information I had from*

my friends was not correct. They said that if one takes antibiotics right after sexual intercourse one cannot get pregnant but it was wrong" (School dropout aged 16, Mtwara District, October 27, 2014).

"It was my family who encouraged me to get married because they told me that I was of age to marry and that I would continue with school. I got married and I was still going to school. However, while still in school, I got pregnant. Now I am taking care of my son. I hope to go back to school someday, if possible. School is a good place to be" (School dropout aged 18, Mtwara Municipality, November 1, 2014).

"Poverty is the reason why girls get pregnant. Sometimes when you do not have money to buy food, school uniforms and pay school fees lots of temptation can come your way. Even if you reject at first, due to persistent temptation, later on you will agree. I got this baby from someone I didn't love at first, but because he was helping me and my family I decided to agree. Now we are no longer together, and the child is with me" (School dropout 19 aged, Mtwara Municipality, November 1, 2014).

The quotes from the school dropout indicate that teenage girls in Mtwara are vulnerable to teenage pregnancy, and one can get pregnant at any time and may not be able successfully complete secondary school. If this trend of teenage pregnancy continues, the consequence will be intergenerational cycle of poverty, abuse and oppression of women.

Although there has been a little decline in the number of pregnancies in Mtwara District, the reasons for the observed decline are not yet ascertained. Table 3 shows teenage pregnancy rates in Mtwara District and Mtwara Municipality.

Table 3: Rates of teenage pregnancy in Mtwara District and Mtwara Municipality

Location	Year					
	2010	2011	2012	2013	2014	**Total**
Mtwara Municipality	5	3	11	20	10	49
Mtwara District	28	37	31	8	7	111

Source: Mtwara District and Mtwara Municipality Education offices (2014)

4.3 Respondents Access to Reproductive Health Support and Satisfaction with Services Provided

4.3.1 Access to reproductive health support

The study's second specific objective was to determine teenagers' access to reproductive support in the study area. The objective aimed at assessing how supportive the health facilities were to its teenage clients. For example, after acquiring knowledge on contraceptives from the schools, teenagers would then have applied the knowledge by visiting the available Reproductive Health (RH) services thus, avoiding pregnancy. According to International Planned Parenthood Federation (IPPF), it is unethical to give information and education on SRH without providing access to appropriate services, including contraceptives and counselling (IPPF, 2008). Findings from the respondents about whether they had access to reproductive health support are presented in Table 4. The results (Table 4) show that about two thirds (65%) of the respondents admitted having some kind of access to reproductive health services.

Table 4: Respondents access to reproductive health services (n=104)

Variable		Rural	Urban	Overall
Access to reproductive health services	Yes	28(41)	40(59)	68(65)
	No	24(67)	12(33)	36(35)

NB: Numbers in bracket indicates percent

From the study's observation, sexual reproductive health services were a major challenge in the health facilities in Mtwara Municipality and Mtwara District the study's areas. Generally, there existed no specific Youth Friendly Services (YES). For example at the regional hospital, all reproductive services were shared with adults hence there was no separate place for teenagers to access the services in a more private manner. See quote below:

> *"At the moment there is no specific place to serve only youth clients. However, we are hoping that such services will be offered in the near future because I think it would be a good initiative"*(Female Health practitioner aged 32, Mtwara Municipality, October 25, 2014).

According to WHO (2008), most adolescents often do not seek contraceptive services or neglect it completely because they are afraid of social stigma or being judged by clinic staff. Therefore, many SRH service needs of youth were not met. Moreover, it was discovered that contraception shortage was a common problem. Scarcity of contraception is among the many challenges facing health centres in developing countries including Uganda, Nigeria, Ghana and Morocco among other countries (Outlook, 2006). A study conducted in Ethiopia showed that shortage and inaccessibility of contraceptives influenced people especially young people from visiting reproductive health centres (Gizaw and Regassa, 2011). Therefore, in order for young people to use the health services, its delivery must be made more responsive and friendly to adolescents in order for them to adequately utilize it.

Access to reproductive health (RH) services was found to vary with location. The study found that the majority (59%) of the respondents residing in Mtwara Municipality admitted

having access to RH compared to their rural counterparts in Mtwara District (41%). This observation suggests that students from the rural areas could be more vulnerable and are most likely to fall prey to the incidence of teen pregnancy and other related issues relative to their urban counterparts. According to WHO (2008), adolescent pregnancies are more likely to occur among the poor, less educated and rural populations. Furthermore, the finding of disparity in reproductive health services provision between rural and urban dwellers is not a new scenario. Similar studies conducted by Stewart and Kaye (2013) on a study of '*Teen childbearing in rural America'* found that teens in rural America face greater risk of pregnancy than their urban counterparts. Stewart and Kaye (2013) attributed the incidence partly to lack of access to a range of services such as comprehensive contraceptive services opportunities. The authors further stated that there just aren't as many sexual health resources in rural areas, and that teens may have to travel farther to the nearest health centres to access reproductive health services. A study conducted in Myanmar, Asia found that regardless of the availability of RH services there were disparity in access and utilization of RH services among rural and urban youth, and there were high levels of unmet needs for rural youth (Thin Zaw *et al.,* 2012).

4.3.2 Respondents' satisfaction with reproductive health services

An index score was used to determine the level of satisfaction of respondents' with access to RH support. Six questions were asked to those students who admitted having access to reproductive health services. The minimum and maximum scores of the questions were 6 and 18 respectively. The scores were calculated as follows: (6×1) minimum, (6×2) moderate and (6×3) maximum. Based on the calculated scores, the three categories were (6 to 11), (12), and (13 to 18) which refer to a low extent, to a moderate extent and to a great extent respectively. Descriptive analysis was run, and the mean was 11.38 which was in

the range of the first category indicating that the overall level of satisfaction with RH support was rated low by the respondents.

Table 5: Respondents' level of satisfaction with RH services (n=68)

Respondents level of satisfaction	Great extent	Moderate extent	Low extent
Level of satisfaction with access RH services	22	18	28
Easy access to RH Support	12	17	39
Satisfaction with confidentiality	16	28	24
Satisfaction with educational material at health center	14	14	40
Staff are friendly	43	19	6
Would recommend RH service to friend	17	22	29

Additionally, according to the summary of findings presented in Table 5, confidentiality and staff friendliness were rated at moderate and great extents respectively, which is somehow acceptable because confidentiality and staff friendliness are important issues that young people really care about, especially when it comes to matters of sexuality (WHO, 2008). A study conducted by Erulkar *et al.* (2005) among adolescents in Zimbabwe found that having confidential services, including a nurse that takes her time, short waiting time, 'one-stop shop' approach, and low cost or free services were the most important characteristics youth appreciated. However, a majority (57.3%) of the respondents were not satisfied with the level of support that they were receiving from health centres as well as educational materials that were available at health centres. Below are mixed quotes about the services:

> *"Though we don't have separate place to get reproductive services but the nurses are good and they don't share other people's issues"* (FGD participant aged 18, Mtwara District, October 26, 2014).

"Many of my friends are getting pregnant because first they don't know how to prevent pregnancy. Second, we cannot go to the hospital to ask those questions. If you do so, they will start talking behind your back. I don't feel free going there" (FGD participant aged 17, Mtwara Municipality, October 21, 2014).

"I don't go there for contraception because I am a student. I am supposed to abstain". (FGD participant aged 16, Mtwara District, October 24, 2014).

4.4 Types of Pregnancy Prevention Methods known by the Respondents

The results in Table 6 show that the majority (83.5%) of the respondents were aware of pills as a form of pregnancy prevention method followed by the use of condoms and injection. Other methods, as shown in Table 6 were abstinence, sterilization, loops, calendar and traditional medicine although; these were not as popular as the previous mentioned ones. Moreover, abstinence was to some not an effective way of preventing teen pregnancies.

Table 6: Pregnancy prevention methods known by respondents (n = 104)

Pregnancy prevention methods known	Frequency	Percent
Pills	86	83.5
Condom	83	80.6
Injection	81	78.6
Implant	38	36.9
Loops	22	21.4
Abstinence	16	15.5
Calendar	9	8.7
Sterilization	3	2.9
Traditional Medicine	3	2.9

NB: Due to multiple responses, the responses gathered are more than the sample of 104.

The findings from this current study are comparable to that of a study conduct among Ghanaian adolescents which found that the most common type of contraception known was condom (42.3%) followed by the pill (24.3%). Others were injections (3.3%),

"traditional" 23.3%, withdrawal (4.3%). Other methods such as sterilization (male/female), intrauterine device (IUD), and diaphragm, were least commonly known by most respondents (Hagan and Buxton 2012). The study's finding is also similar to a previous study conducted in Bangladesh among adolescents which found the most common known preventive method to be oral pill (99.3%) and condom (85.3%) followed by injectables (72.7%), tubectomy (37.5%), IUDs (34.3%) and traditional methods which were least known methods compared to modern methods (Rahman and Kabir 2008). See as shown in the quotes from respondents:

> *"It is impossible to keep yourself without doing something once you have done it before"* (R*espondent* aged 15, Mtwara Municipality, October 23, 2014*).*

> *"I do not believe in abstinence now because I already have a lover. I would rather use condoms"* (Respondent aged 18, Mtwara Municipality, October 23, 2014).
>
> *"I think abstinence is the most effective way of contraception because once you stay by yourself you will not get pregnant"* (FGD participant aged 14, Mtwara District, October 27, 2014).

> *"Keeping yourself from having sex is only possible if you do not have a lover"* (FGD participant aged 17, Mtwara District, October 27, 2014).

In Tanzania, contraceptives are supposed to be provided free at government health centres (URT, 2003 and Munir, 2012). However, some respondents pointed out that they had purchased contraceptives from health facilities. When asked why they sold contraceptives at some health facilities, a key informant aged 43 years claimed that, it was a service charge in order to meet up with costs of purchase and restocking due to the constant

shortages of free contraceptives in the region. Another key informant aged 35, said that: "*Sometimes there is a shortage of contraceptives at our facility. So to make sure our clients not go home without getting the same we buy the contraceptives ourselves and sell to them to cover the costs. However, they are normally sold cheap*".

Based on the study's observation it would be better if, contraceptives were provided free of charge and kept in confidentiality for easy accessibility by teenagers. A study conducted in Zimbabwe by Erulkar *et al.* (2005) among adolescents reported similar finding that having confidential services and low cost or free services were the most important characteristics for youth in accessing reproductive health services.

4.5 Content of Sex Education Teaching in the Study Area

Another specific objective of the study was to assess the content of school based sex education aimed at reducing teenage pregnancy. Observations from the study show that the focus of the teachings has been mainly on abstinence only, while little attention has been paid to contraceptive plus teachings. Almost all (92%) of the respondents stated that the information they got was on abstinence. A study on teen pregnancy by Culp- Ressler (2013) attributed the high rate of teen pregnancy in rural America as a result of clinging to abstinence only curricula that does not give teens enough information about pregnancy preventive methods. Generally, it is argued that comprehensive sex education, or abstinence-plus programmes, can achieve positive behavioural changes among young people and reduce STIs compared to abstinence only programmes (Collins *et al.,* 2002).

Abstinence plus programmes do not encourage young people to initiate sexual activity earlier or have more sexual partners as generally perceived by people but, only expand the available options to pregnancy prevention (Collins *et al.,* 2002). Collins *et al.,* argue that

whether or not young people are sexually active, they should be given all the necessary information to enable them protect themselves from unplanned pregnancies and sexually transmitted diseases. Abstinence-only programming runs the serious risk of leaving young people, especially those at an elevated risk, uninformed and alienated.

According to Kirby *et al*. (2005), some sex education programmes make measurable differences in the lives of young people. The negative consequences of teen sexual activity are complex and not easily remedied with a school class or an after school programmes. Kirby *et al*. (2006) further argue that, teen sexuality is influenced by parents, schools, communities, the media, society as whole, available prevention technology, and individual young people themselves. However, for Tanzania, the growing prominence of the abstinence-only approach will likely have serious unintended consequences by denying young people access to the information they need to protect themselves. For example, Tanzania's Education Department prohibits condom promotion and demonstrations in schools and demands a focus on abstinence, a strategy that has been shown to be ineffective (Underhill *et al.,* 2007). The reasons for sticking to abstinence only teachings can be partly attributed to cultural and religious views of what should be discussed with teens.

During the FGDs, participants had different views about the "sex education" they receive in school; they found it to be too biological and without any practical information about how to protect themselves from unintended pregnancies and STI's. During the key informant interviews, almost most of those interviewed supported the teaching of RH education. However, some of them were skeptical about discussing sensitive issues such as sex with teens. See the mixed arguments are shown in the quotes:

*"I would like my child to learn how to take care of herself, but I would not want her to know everything about sex before she begins to try out. You know children are very sensitiv*e" (KI female aged 49, Mtwara Municipality, October 20, 2014).

"For me teaching children adult thing is what is making the world the way it is now. Children know everything about sex so they give no respect to adults because they have learnt about sex in school" (KI male aged 53, Mtwara District, Oct 24, 2014).

"I am not against teaching of reproductive health or in favour of teaching it to the students. However, as long as they learn how to prevent pregnancy and HIV, I think it should be taught to them" (KI female aged 37, Mtwara District October 27, 2014).

"Teaching sex education in school, I think, is a good idea because most parents or guardians do not feel free talking about sex with their children. Therefore, if the teachers do so, then they are helping and I think it will help reduce teenage pregnancy too" (KI male aged 35, Mtwara Municipality, October 21, 2014).

*"Nowadays school is where they learn all their bad behaviours because of the sexual teaching they are getting" Everything is exposed to them***.** (KI mother aged 50 Mtwara District, October 27, 2014)

"For me I do not know what difference teaching reproductive health education will make because these days, the girls go to school to study pregnancy and the result is a child" (KI female age 42, Mtwara Municipality, October 27, 2014).

"It is good for the students to be taught reproductive health education. It is better for them to learn about their bodies" (KI male aged 39 Mtwara District October 27, 2014).

"I wish reproductive health education was introduced in the curriculum when I was in secondary school; I wouldn't have gotten pregnant until I completed. I support RH to be taught to students 100 %" (KI female aged 39, Mtwara Municipality, October 27, 2014).

4.6 Sources of Information on Sexuality Education

In order to know the contribution of school based reproductive health education programmes (SBRHEP), the respondents were asked to identify their major sources of information on Sexual Reproductive Health (SRH) and teenage pregnancy prevention. Table 7 summarizes the findings about the major sources that were pointed out by the respondents. Findings show that peers and friends were the most reliable source of SRH knowledge for adolescents in both Mtwara District and Mtwara Municipality. This was reported by about three quarters (72%) of the respondents. It was reported that this normally happens during evening hours when teenagers meet to discuss issues largely around their romantic and sexual encounters. Through these peer networks, youth come to know about the sexual activities of their peers, contraception information, SRH service accessibility, among other things. See quotes from key informants and teenage FGD participants:

> *"The girls, during evening hours, usually gather in groups and discuss issues pertaining to boyfriends and their friends. That is the business they are good at doing"* (KI Female aged 37, Mtwara Municipality, October 18, 2014).

> *"I feel free discussing with my friends especially my best friends. I can tell them who I am dating, when I am hurt and even when I am sick. My best friend is the first person I can sometimes tell"* (FGD participant aged 16, Mtwara District, October 27, 2014)

According to a survey conducted by Planned Parenthood (2012), it was found that half (50%) of all teens feel uncomfortable talking with their parents about sex. It was further reported that teens feel comfortable discussing issues of sexuality more with their peers than with others who are not in their circles. According to Imron (2014), adolescents are more comfortable and open to discuss matters pertaining to reproductive health with their peers because they considered them to have an emotional closeness, equal knowledge level and being in common culture or social solidarity whereby one's problem is also the others'. Imron (2014) further argues that, based on comfortability of adolescents in discussing SRH issues with peers who are usually not knowledgeable enough on the subject thus often results into getting wrong information. Observation from the study showed that, in Mtwara, peer networks and friends were the biggest source of SRH knowledge among teenagers hence; misconceptions especially about the use of condoms are common in both Mtwara Municipality and Mtwara District. Evidence to this is shown in the quotes below:

> *"The oil that is in the condoms is not good; it smells bad and causes infection"* (FGD participant aged 16, Mtwara District, October 29, 2014).

"Condoms have tiny holes through which sperm passes, so what is the need of using it. I have seen the holes, my friend showed them to me" (FGD participant aged 15, Mtwara Municipality, October 22, 2014).

"Condoms create soul in the vagina during sexual intercourse" (FGD participant aged 18, Mtwara District, October 29, 2014).

Table 7: Major sources of sexuality reproductive health information (n=104)

Sources of SRH	Frequency	Percent
Friends	75	72.1
School	50	48.1
Parents	49	45.2
Radio	37	35.6
Magazine	32	30.8
TV	28	26.9
Newspaper	14	13.5
Health facilities	13	12.5
Home	12	11.5
Street	10	9.6
Religious institutions	7	6.7
Workshop	4	3.8
Books	4	3.8
Village meeting	3	2.9

***NB*:** Due to multiple responses, the responses gathered are than the sample of 104

The results in Table 7 further show that parents were another important source of information as mentioned by about a third (33.7%) of the respondents. However, more direct communication between mothers and daughters was not noted, although for most of the respondents such communication was usually initiated only after the daughter became pregnant or had given birth. In most cases where the parents themselves did not communicate with their children, use of a third person was very common. Aunties were also considered as parents who often spoke to young girls about important SRH topics as shown in the quotes:

"My mother's friend is the person that tells me how to prevent myself from pregnancy, but my mother only gets angry with me every time; she does not tell me anything although she wants me to know things" (FGD participant aged 16, Mtwara Municipality, October 25, 2014).

"I do not discus SRH issues with my mother and she too does not. I don't know why" (Respondent aged 15, Mtwara District, October 28, 2014).

The study's finding is in line with what has been reported by Phetla *et al.* (2008) that, women who were part of a multifaceted intervention were more likely than those who were not to report communication with their children and other members of their household about issues related to sex and condom use, rather than just about the dangers of sex. The results are also comparable with those of Adu-Mireku (2003) who found that school-going youth who reported parent-child communications about HIV/AIDS were more likely to have used condoms at last sex, but communication was not associated with onset of sexual activity. Similar findings were reported by Kawai (2008) who found that 27% of 12–14-year-old virgins in Tanzania, were reported to have talked with their parents about sex and HIV, but these discussions were not associated with the timing of sexual initiation.

Observations from the study (Table 7) also show that in both Mtwara District and Mtwara Municipality, schools are a major source of SRH knowledge which indicates that sexual education at school seems to be influential in the region and in improving sexual reproductive health of the girls. If properly utilized by effective teaching it could be a source of reducing teenage pregnancy. However, as mentioned earlier in section 4.2 on factors contributing to teenage pregnancy, lack of education was a major reason mentioned thus, indicating that either the educational potential of schools in terms of SRH is not

adequate as most of the teachings are basically on biological and not practical pregnancy prevention or sexual relations. Also this can be attributed to the fact that not much priority has been given to the subject because the course is not taught as a stand-alone one in most of the schools. The above is supported by the quotes below:

> *"They usually teach us about our body and the different parts, but they don't tell us anything valuable. Some of the key things we want to know is how do girls get pregnant and how can we prevent it"* (Respondent aged 14, Mtwara District, October 28, 2014).

> *"The lessons we are getting are not enough. The time is short and we do not talk about the real sex issues"* (Respondent aged 15, Mtwara Municipality, October 24, 2014).

> *"The topics on SRH that we are teaching to the students are relevant to them because if one knows how to prevent herself from getting HIV and other STI, then they are able to prevent pregnancy as well. We are teaching them about life skills and refusal too"* (KI Female Teacher, aged 34, Mtwara Municipality, November 1, 2014).

> *"Nowadays, schools are teaching children about their bodies and puberty, but they give this information when the children are not mature enough to understand it, so it doesn't help them"* (KI male aged 45, Mtwara District, 0ctober 27, 2014).

Additionally, adolescents reported learning about SRH from their peers, family, media (such as radio programmes and magazines), and at school. The research findings show that

SRH knowledge is not sought at health facilities very often, which might be due to embarrassment in seeking services among others with conventionally perceived health problems of more gravity. The observation differs from those of a study conducted by Nyakubega (2009) in Tanga, Tanzania, which found that the major sources of reproductive health education (82.6%) were from health centres and parents, with schools and peer groups contributing only 29.1% and 7.2% respectively. The difference in this observation can partly be attributed to the method used whereby both sources were combined in the author's analysis, which is different from this study's reporting of sources which separates all sources.

In addition to the above, various forms of media were reported by more than a quarter of the respondents as their source of SRH information which included the radio followed by magazines and the least was TV. The respondents commended the Fema magazines as being very informative and educative. However, it was observed that most of those magazines seemed to only reach the in-school youth. See Appendix 7 for sample of Fema magazine features. The findings of this study are comparable to those of a BMRB tracking survey which states that young people aged 13–21years reported their main sources of information about sex and relationships as being lessons at school (77%), friends (53%), parents (52%), magazines, books, posters and newspapers (45%), and TV and videos (45%) (BMRB, 2003).

4.7 Contribution of School Based Sex Education Programme

To determine the contribution of school based sex education programme, a set of RH questions were administered to students from intervention and non-intervention schools. The scores from the test result were calculated in percentage. A non-parametric test (Mann Whitney U Test) was used to compare the score between the groups. The U- test was used

because the scores were not normally distributed based on the count of 1 to 13. The results (Table 8) show that the median score for the students from intervention schools was 96 whereas the median score for the students from non-intervention schools was 80. The difference of the two median scores was significant ($P \leq 0.001$) implying that the students from the intervention schools had a relatively higher knowledge of avoiding teenage pregnancy as compared with their non-intervention counterparts.

The same U- Test was also run between urban and rural intervention schools; the result ($P \geq 0.206$) shows there was no significant difference in terms of knowledge between the two groups with their medians being 100 and 92 respectively. However, there was a significant difference between non-intervention urban and rural schools ($P \leq 0.001$) with their medians as 84 and 69 respectively.

Table 8: Comparisons of knowledge test score and Mann Whitney U test results

Groups	Median scores	P values
Intervention schools	96	0.000***
Non -intervention schools	80	
urban intervention schools	100	0.206
Rural intervention schools	92	
Urban non-intervention schools	84	0.000***
Rural non-intervention schools	69	

NB: ***significant at p=0.001 level

The above findings suggest that both intervention and non-intervention schools were somehow knowledgeable on SRH. Nonetheless, students from intervention schools were relatively more knowledgeable compared to those from the non-intervention schools. The results suggest a positive impact of the school based reproductive health education programmes toward improving students' knowledge on avoidance of teenage pregnancy. The finding is comparable to those of a systematic review of school-based sexual health interventions in Sub-Saharan Africa by Paul-Ebhohimhen *et al.* (2008), which found that

school based reproductive health interventions have an impact on improvement of knowledge, attitudes and intentions, but few found evidence of lasting behavioural changes. Similar results were found in a school-based intervention in Thailand where secondary school students who were exposed to a comprehensive sex education programme had greater knowledge than other students, and were more likely to have protected sex and to decrease frequency of sex (Thato *et al.,* 2008). A study in the Dominican Republic showed similar results that adolescents who received sex education had higher rates of condom use and more knowledge of HIV than those who did not.

Observations from the study further showed that the urban non-intervention students were more knowledgeable on the subject matter than their rural non-intervention counterparts. The reason for this difference could partly be attributed to the urban environment; generally people in urban areas have more access to reproductive health services and other sources of information than their rural colleagues. The above is supported by the quotes below:

> *"It is difficult to get treatment early when you visit the hospital because there are lots of people to be served and you have to wait for a long time"* (FGD participant aged 17 Mtwara District, October 29, 2014).

> "*We have many dispensaries in the municipality; sometimes if you don't want to go to the regional hospital you can just quickly visit a dispensary closer to where you live"* (FGD participant aged 15, Mtwara Municipality, November 1, 2014).

Additionally, the issue of accessibility to different sources of information with regards to SRH might be one of the factors lacking in the rural area, making their urban counterparts

better off in terms of knowledge. According to Thin Zaw *et al.* (2012), access to media and other sources of information such as TV, radio, formal and education programmes were found to be helpful in filling in the gap of meeting the unmet needs in SRH that could not be given by schools and other service providers. However, these sources of information are most often found in urban areas as compared to rural areas.

Generally, the overall findings on students' knowledge on SRH were encouraging. Most of the respondents demonstrated adequate knowledge on the impact of teenage pregnancy, safe sex, family planning, and the negative consequences of each when not practiced. The study observed that knowledge on various contraceptive methods was also relatively high, with condoms, pills and injections being very popular. However, though the respondents proved to have knowledge on contraceptives, observation from the study in relation to students from both Mtwara District and the Municipality show that they had different perceptions about usages of condoms. Specifically, the students from Mtwara District perceived the use of condoms as a sign of prostitution while those students from the Municipality asserted that using condoms does not make sex enjoyable. Below are quotes showing the mixed arguments:

> "*Once you tell your lover/partner to a use condom, he assumes that you have started cheating on him*" (FGD participant aged 16 Mtwara District, October 28, 2014).

> "*Using condoms doesn't make sex enjoyable. It is like eating candy with its wrapper on"* (FGD participant aged 15, Mtwara Municipality October 30, 2014).

"To use condom is a sign of prostitution" (Respondent aged 15 Mtwara District Council, October 28, 2014).

Overall, the study did not observe any difference in terms of condom use between Mtwara Municipality and Mtwara District (which is rural) because respondents from both districts had some kind of perceived misconception about the use of condoms. The study's finding of the study is comparable to Fisseha's (2015) study which was conducted in Ethiopia among young women 15 to 24 years, based on the findings it was reported that young women were not using condoms because of misconception of the same not being a prevention method. Additionally, similar findings of misconception of condoms use among adolescents were also reported by Crosby and Yarber (2001) among adolescent in the United States. The misconceptions by adolescents were that "no space at the tip of the condom and that Vaseline can be used with condoms. Therefore, it would be appropriate if more awareness is done to eliminate the misconceptions about condoms because, such misconception could lead to continuous increase in teenage pregnancies as well as being infected with HIV/AIDS and other STIs.

4.8 The Relevance of Social Learning Theory in Mtwara Region

Social Learning Theory guided the study as described in Section 2.11. The theory states that sexual behaviour is influenced by personal knowledge, skills, attitudes, interpersonal relationships, and environmental factors among others. The theory was found to be relevant in Mtwara District and Mtwara Municipality respectively by supporting the study in showing pragmatic evidence on factors influencing teenage pregnancy in the region. Based on the study's findings specific interpersonal factors contributing to teenage pregnancy in the region included weak family connections and poor parental support, peer pressure and culture among others. Furthermore, respondents admitted to have limited

skills and knowledge on how to prevent teenage pregnancy. Based on the study's findings the SLT has been useful in showing the links to the factors influencing teenage pregnancy in Mtwara region.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The general objective of the study was to determine the contribution of school based reproductive health education on teenage pregnancy in Mtwara Region. The specific focus of the study was to determine factors contributing to teenage pregnancy; to determine teenagers' accessibility to reproductive health services; to assess the content of school based reproductive health education and to assess the effectiveness of school based reproductive health education on teenage pregnancy.

Based on the findings of the study it is concluded that teenage girls in Mtwara Region are vulnerable to risk of teenage pregnancy and may fall pregnant at any time without completing secondary school. It is also concluded that factors such as poverty, lack of sexual and reproductive health education, unfavorable cultural practices (*Jando* and *unyango*), poor parental support and peer pressure support are the underlying factors for the persistent high rates of pregnancy in Mtwara.

It is further concluded that teenagers in Mtwara region lack access to reproductive health support. There are no youth friendly health services offered. Additionally, reproductive health support in the region varies between rural and urban settings with the urban residents having more access compared to the rural residents.

It is additionally concluded that the content of reproductive health education programmes are not comprehensively taught in secondary schools in the region. The subject is not

taught as a standalone one. Furthermore, the content of the School based reproductive health education programme is more focused on HIV/AIDS prevention.

Lastly, it can be concluded that although the content of school based reproductive health education programmes are not comprehensive. Nonetheless, the programmes have proven to be effective and contribute to knowledge creation among secondary school students. This was confirmed by the difference in knowledge scores between intervention and non-intervention schools.

5.2 Recommendations

From the findings of the study, the following are recommended in order to ameliorate the issue of teenage pregnancy in Mtwara Region.

i. As reported by the study, poverty is a major factor contributing to teenage pregnancy. It is therefore recommended that, households be empowered to earn sufficient income to provide for their families. This can be made possible because currently the region is expanding in industrial activities which are added advantage in terms of creating new jobs and absorbing surplus workforce.

ii. The establishment or strengthening of youth friendly services in the region is highly recommended. This initiative will improve the situation based on the provision of contraceptives and other essential RH services exclusively for young people where they can freely have access to the services without fear of being seen by an adult they know or their parents.

iii. The government and development partners should increase their efforts in teaching, expanding and sustaining comprehensive sex education programmes in all schools. Emphasis should be placed on comprehensive sexual reproductive health teachings because it will enable the teenagers to have the necessary information needed in making decisions about their reproductive issues.

iv. As it was observed by the study, parents and guardians were not having direct and frequent communication with their children on reproductive health issues. Therefore, it is recommended that parents or guardians have more direct and frequent communication with their teenage girls on reproductive health issues rather than the indirect use of aunties or friends.

Areas for Further Research

a) It is suggested that, a study be conducted to find out the direct link between knowledge acquired from school based reproductive health education programmes in relation to behaviour change. The current study only captured improvement in knowledge among students and therefore didn't cover that aspect.

b) Another area for further study could be similar to the current one but, it should be conducted among teenagers of both sexes (male and females) to determine their levels of understanding with regards to RH issues because the current study only covered female students.

REFERENCES

Adu-Mireku, S. (2003). *Family Communication about HIV/AIDS and Sexual Behaviour Among Senior Secondary School Students.* African Health Sciences, Accra, Ghana. 14pp.

AFY (2007). *The Truth about Abstinence-Only Programs.* Advocate for Youth, Washington DC. 5pp.

Bangser, M. (2010). *Falling Through the Cracks' Adolescent Girls in Tanzania*: Insights from Mtwara, United States Agency for International Development, Washington DC. 21pp.

Baregu, M. and Hoogeveen, J. (2009). *State and Markets in Cashew Marketing: What Works Better For Tanzania Farmers?"* Poverty reduction and management. Africa Region, The World Bank,

Bearman, P. and Brukner, H. (1999). *Peer Effects on Adolescent Sexual Debut and Pregnancy: An Analysis of National Survey of Adolescent Girls.* The National Campaign for Prevention of Teen pregnancy, Columbia University. 4pp.

BMRB (2003). Evaluation of the teenage pregnancy strategy. Tracking Survey. London. [www.teenagepregnancyunit .gov.uk] site visited on 20/7/2014.

Bennett, S. E. and Assefi, N. P. (2005). School-based teenage pregnancy prevention programmes: a systematic review of randomized controlled trials. *Journal of Adolescent Health* 36: 72 – 81.

Boonstra, H. D. (2011). Advancing sexuality education in developing countries: evidence and implications. *Guttmacher Policy Review* 14(3): 3 – 7.

Busch, C., De Maret, P. S., Flynn, T., Kellum, R, Le, S., Meyers, B., Saunders, M., White, R. and Palmquist, M. (2012). Content analysis writing and csu. Colorado State University. [http://writing.colostate.edu/guides.cfm?guideied =61] site visited on20/7/2014.

Cambridge Advanced Learners Dictionary (2008). *Version.* (3rd Edition), Cambridge University Press, London.

Center for Reproductive Rights Tanzania (2013).Forced out- mandatory pregnancy testing and expulsion of pregnant students in Tanzania. [www.reproducti verights.org/en/press-room/new] site visited on 28/4/2014.

Chandra-Mouli, V., Mapella, E., John, T., Gibbs, S., Hanna, C., Kampatibe, N. and Bloem, P. (2013). Standardizing and scaling up quality adolescent friendly health services in Tanzania. *BioMed Central Public Health* 13(579): 1 – 7.

Collins, C., Alagiri, P. and Summers, T. (2002). *Abstinence Only vs. Comprehensive Sex Education: What are the arguments? What is the evidence?* AIDS Research Institute University of California, San Francisco. 32pp.

Coviello, N. E. (2005). Integrating qualitative and quantitative techniques in network analysis qualitative market research. *International Journal* 8(1): 39 – 60.

Crosby R. A. and Yarber W.L. (2001). Perceived versus actual knowledge about correct condom use among U.S. adolescents: results from a national study. US *National Library of Medicine National Institute of Health* 28(5): 415 – 420.

Culp Ressler, T. (2013).*Teen Pregnancy is Most Common in Rural America Where There May Be More Barriers to Birth Control.* New York. 2pp.

Dane, A. V. and Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Journal of Clinic Psychology* 18: 23 – 45.

DeCoster J. (2006). *Testing Group Difference Using T-Test, ANOVA and Nonparametric Measrures.* University of Alabama, United States of America. 73pp.

Dev Raj, A., Rabi, B., Amudha, P., van Edwin, T. and Chapman, R. (2010). Factors associated with teenage pregnancy in South Asia: A systematic review. Forester Hill, University of Aberdeen. *Health Science Journal* 4: 1 – 14.

Erhardt, S., Leichweiß, S. and Temu, A. (2011).*Critical Gender Issues in Mtwara Region Tanzania.* Tanzanian German Programme to Support Health, German. 50pp.

Erulkar, A. S. Onoka, C. J. and Phiri, A. (2005). What is Youth-Friendly? Adolescents' preferences for reproductive health services in Kenya and Zimbabwe. *African Journal of Reproductive Health* 2: 1 – 8.

Ewald, T. A. (2008). Perceptions toward contraception among secondary school adolescent girls in Dar es Salaam, Tanzania Muhimbili University of Health and Allied Sciences. [http://hdl.handle.net/123456789/1092] site visited on11/05/2013.

Femina (2013). *Midyear Report.* Femina HIP Patel Building, Dar es Saalam, Tanzania 18pp.

Fisseha, G. (2015). Knowledge and Misconception of young women toward sexual transmtted infecton and condoms use in Northern Ethiopia: cross sectional Study. College of Health science, School of Public health, Mekelle University, Ethipia. *Journal of public health and Epidemiology* 7(4): 138 – 144.

Gizaw, A. and Regassa, N. (2011). Family planning service utilization in mojo town, Ethiopia: a population based study. *Journal of Geography and Regional Planning* 4(6).

Hagan, J. E. and Buxton, C. (2012). Contraceptive Knowledge, Perceptions and use among Adolescents in selected High Schools in Central Region of Ghana. *Journal of Sociological Research* 3(2): 170 -180.

HBFF (2014). Intervention Programmes. [www.hazelden. org/web/public] site visited on 20/3/2014.

Hussein, A. (2009). The Use of Triangulation in Social Sices Research: Can Qualitative and Quantitative methods be combine? Mzumbe University, Tanzania. *Journal of Comparative Social Work* 1: 1 – 12.

Imron, A. (2014). Peer educator and adolescent reproduction health education. *Research on Humanities and Social Sciences* 4(15): 97 – 105.

International Planned Parenthood Federation (2008). *Provide Strengthening Youth Friendly Services.* Inspire Pack, UK. 120pp.

Kawai, K. (2008). Parents' and teachers' communication about HIV and sex in relation to the timing of sexual initiation among young adolescents in Tanzania. *Scandinavian Journal of Public Health* 36(8): 879 – 888.

Kirby, D. (2007). *Emerging Answers. Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases*. National Campaign to Prevent Teen and Unplanned Pregnancy, Washington DC. 204pp.

Kirby, D. (2011). *Sex Education: Access and Impact on Sexual Behavior of Young People.* United Nations Expert Group Meeting on Adolescent and Youth Development, New York. 17pp.

Kirby, D. and Lepore, G. (2007). *Sexual Risk and Protective factors. Factors Affecting Teen Sexual Behavior, Pregnancy, Childbearing and sexual Transmitted Diseases. Which re important? Which you can change*? The National Campaign to Prevent Teen Unplanned Pregnancy, Washington DC. 106pp.

Kirby, D., Laris, B. A. and Lori, R. (2005). *Impact os Sex and HIV Education Programs on Sexual Behaviours of Youth in Developing Countries*. Youth Research Working Paper No. 2. Family Health International Research Triangle Park, USA. 56pp.

Kirby, D., Obasi, A. and Laris, B. (2006). The effectiveness of sex education and HIV education interventions in schools in developing countries. In: *Preventing HIV/AIDS in Young People: A Systematic Review of the Evidence from Developing Countries*. (Editors by Ross, D., Dick, B. and Ferguson, J.), World Health Organization, Geneva. pp. 20 – 56.

Madeni, F., Shigeko, H. and Iidae M. (2011). *Evaluation of a Reproductive Health Awareness Program for Adolescence in Urban Tanzania-A Quasi-Experimental Pre-test Post-test Research*. BioMed Central Limited, St. Luke's College of Nursing, Tokyo, Japan. 20pp.

Makundi, P. E. (2010). Factors contributing to high rate of teen pregnancy. A study of Mtwara MA. Dissertation for Award of Muhimbili University of Health and Applied Sciences, Dar es Salaam, Tanzania, 51pp.

Markham, C. M., Tortolero, S. R. S., Escobar- Chaves, L., Parcel, G. S., Harrist, R. and Robert, C. A. (2003). Family Connectedness and Sexual Risk-Taking among Urban Youth. *Attending Alternative High Schools* 35(4): 1 – 6.

Mashindano, O., Kayunze, K., da Corta L. and Maro, F. (2011). Agricultural *Growth and Poverty Reduction In Tanzania 2000- 2010: Where Has Agriculture Worked For The Poor And What Can We Learn From This?* Working Paper No. 208. Chronic Poverty Research Centre, UK. 40pp.

Mbeba, R. M., Mkuye, M. S., Magembe, G. E., Yotham, L. W., Mellah, O. A. and Mkuwa, B. S. (2012). Barriers to sexual reproductive health services and rights among young people in Mtwara District, Tanzania: a qualitative study. *Pan African Medicine* 13: 1 – 13.

McCleary-Sills, J., Douglas, Z., Rwehumbiza, A., Hamisi, A. and Mabala, R. (2011). *Vijana Tunaweza Newala: Findings from a Participatory Research and Action Project in Tanzania.* International Center for Research on Women, Washington DC. 135pp.

Miller, B. C., Benson, B. and Galbraith, K. A. (2001). *Family Relationships and Adolescent Pregnancy Risk: A Research Synthesis.* Utah State University and Pennsylvania State University, Altoona. 31pp.

Minaya, J., Owen-Smith, A. and Herold, J. (2008). The impact of sex education on HIV knowledge and condom use among adolescent females in the Dominican Republic. *International Journal of Adolescent Medicine and Health* 20(3): 275–282.

Mkumbo, K. A. (2012). Teachers' attitudes towards and comfort about teaching school-based sexuality education in Urban and Rural Tanzania. *Global Journal of Health Science* 4(4): 149 – 158.

Mkumbo, K. and Tungaraza, F. D. (2007). Parents' views and attitudes toward school based sex and relationship education in rural and Urban Tanzania. *Education and Development* 27: 171–188.

Munir, K. (2012). Temptations, desire and adolescence: a need assessment of sexual and reproductive health and life skills of youth in Mtwara Region, Tanzania. Thesis for Award of Master Degree at University of Segalen, Bordeux, 90pp.

Mushi, D. L., Mpembeni, R. M. and Jahn, A. (2007). Knowledge about safe motherhood and HIV/AIDS among school pupils in a rural area in Tanzania. *BMC Pregnancy and Childbirth* 3: 5 – 7.

Nguma, J. K. and Muhondawa, E. P. (2010). Assessment of HIV Infection Risk Among Adolescent Girls in Tanzania Dar es Salaam. *Healthscope* 5: 25 – 30.

Nwagwu, W. E. (2007). The internet as a source of reproductive health information among adolescent girls in an urban city in Nigeria. *BMC Public Health* 7: 354.

Nyakubega, P. (2009). *Factors Associated with Adolescent Pregnancies Among Secondary School Students.* A Study Official Publication of the Tanzania Medical Students' Association, Tanga, Tanzania. 3pp.

Olsen, C. and St. George, (2004). *Cross-Sectional Study Design and Data Analysis*, *Young Epidemiology Scholars Program.* Robert Wood Johnson Foundation and Administered by the College Board, Walden University. 9pp.

Pathfinder International (2006). *Integrating Youth-Friendly Services In Public Health Facilities: A Success Story and Lessons Learned In Tanzania.* Pathfinder International, USA. 28pp.

Paul-Ebhohimhen, V. A., Poobalan, A. and Van Teijlingen, E. R. (2008). A Systematic reviews of school-based sexual health interventions to prevent STI/HIV in Sub-Saharan Africa. *BMC Public Health* 8: 1 – 4.

Phetla, G., Busza, J., Hargreaves, J. R., Pronyk, P. M., Kim, J. C., Morison C. L., Warts, C. and Porter J. D. H. (2008). They have opened our mouths. Increasing women's skills and motivation for sexual communication with young people in rural South Africa. AIDS. *Education and Prevention* 20(6): 504 – 518.

Plummer L. M., Wight, D., Obasi, A. I. N., Wamoyi, J., Mshana, G., Todd, J., Mazige, B. C., Makokha, M., Hayes, R. J. and Ross, D. A. (2007). A process evaluation of a school-based adolescent sexual health intervention in rural Tanzania: the MEMA kwa Vijana programme. *Health Education Research* 22(4): 500 – 512.

Population Reference Bureau (2013). The World Youth Data Sheet. [http:// www. Prb.org]site visited on 20/11/2013.

Presler-Marshall, E. and Jones, N. (2012). *Charting the Future. Empowering Girls to Prevent Pregnancy.* Overseas Development Institute. London. 60pp.

Puja, G. K. and Kazimoto, T. (2004). Girls in Education and Pregnacy at school. In Chelewachelewa: *The Dilema of Teenage Girls.* (Edited by Masabo, Z. T. and Liljestrom, H.), The Scandinavian Institute of African Studies, Stockholm. pp. 54 – 62.

Rabobank International (2012). *A Hard Nut to Crack. Cashew.* National Micro Finance Bank Head Office, Dar es Salaam Tanzania. 20pp.

Rahaman, M. M. nad Kabir, M. (2006). Knowledge of Adolescents on Contraception and Dynanmics of its use. Journal of Health and Population Perspectives and issues 28(4):164 – 177.

RECAPP (2009). Social learning theory and sexuality education. [http://recapp.etr.or/recapp/index.cfm] site visited on 29/01/2013.

Rweyemamu, D. C. (2002). The contextual analysis of cashew industry in Southern Tanzania after market liberalization. *Africa Journal of Finance and Management* 10(2): 14 – 21.

Siettou, M. and Sarid, M. (2011). Risk factors of teenage pregnancy. *Journal of Vina Tou Asklipiou* 10(1): 38 – 55.

Smith, K. and Coleman, S. (2012). Evaluation of adolescent pregnancy prevention approaches mathematical policy research. [www.hhsgov/ash/oah/oah-initiativsassestppadesign] site visited on 7/1/2014.

Smith, M. and Berge, Z. L. (2009). Social learning theory in second life. *Journal of Online Learning and Teaching* 5(2): 439 – 445.

Stewart, A. and Kaye, K. (2013). *Teen Childbearing in Rural America*. Working Paper No. 47. The National Campaign to Prevent teen and Unplanned Pregnancy, Washington DC. 6pp.

Sunder, S. M. (2007). *Research Methods for Business Students*. (3rd Ed). Pearson Education Pte Ltd., India. 203pp.

Tanzania Commission for AIDS (2008). *Report. Tanzanian Commission for AIDS*. Tanzania Commission for AIDS, Dar es Salaam, Tanzania. 11pp.

Thato, R., Jenkins, R. A. and Dusitsin, N. (2008). Effects of the culturally- sensitive comprehensive sex education programme among Thai secondary school students *Journal of Advanced Nursing* 62(4): 457 – 469.

Thin Zaw P. P., Liabsuetrakul, T., Htay T. T. and McNeil, E. (2012). *Equity of Access to Reproductive Health Services among Youths in Resource Limited Suburban Communities.* BMC Research, Myanmar, Asia. 12pp.

Underhill, K., Operario, D. and Montgomery, P. (2007). *Sexual Abstinence-only Programs for HIV Infection Prevention in High-Income Countries. Systematic Review*. University of Oxford, Oxford, London. 12pp.

UNESCO (2011). *School –Based Sexuality Education Programs in Six Countries*. Nijmegen Medical Center, Radbound, University. 151pp.

UNFPA (2007). *Giving Girls Today and Tomorrow Breaking the Cycle of Adolescent Pregnancy*. UNFPA, New York, USA. 24pp.

UNFPA (2009). *Adolescents Sexual and Reproductive Health Toolkit for Humanitarian Setting. A Companion To the Inter Agency Field Manual on Reproductive Health in Humanitarian Setting.* UNFPA, New York, USA. 92pp.

UNFPA (2013a). Adolescent pregnancy is not just a health issue, it's a development issue. Statement from the Executive Director, World Population Day. [http://www.u nfpa.o rg/public/home/news/pid/14426#sthash.Uh1jcRQ7.dpuf] site visited on 5/2/2014.

UNFPA (2013b). *State of the World Population Report Motherhood in Childhood Facing the Challenge of Adolescent Pregnancy.* UNFPA, New York, USA. 132pp.

UNICEF (2008).*Young People and Family Planning: Teenage Pregnancy*. Fact Sheet Compiled by UNICEF Malaysia Communications, Malaysia. 3pp.

UNICEF (2011). Tanzania Adolescent. [www.unicef.org] site visited on 13/11/2013.

URT (2001). *Adolescent Sexual and Reproductive Health: Report on an Assessment and Review of Training materials*. Reproductive Health Section, Ministry of Health and Social Welfare, Dar es Salaam, Tanzania 61pp.

URT (2002). *Guidelines for Implementing HIV/AIDS and Life-Sills Education Programmes*. Ministry of Education and Culture, Dar es Salaam, Tanzania. 29pp.

URT (2003). *National Health Policy.* Ministry of Health and Social Welfare, Dar es Salaam, Tanzania. 45pp.

URT (2010). *Tanzania Demographic and Health Survey.* National Bureau of Statistics, Dar es Salaam, Tanzania. 69pp.

URT (2012a). *From the PASHA project to the MoEVT's approach to School Counselling Services and Peer Education a Capitalization Report on Germany's Support to the Education Sector of Tanzania.* Swiss Centre for International Health, Germany. 50pp.

URT (2012b). *Population and Housing Census Population Distribution by administrative.* National Bureau of Statics, Dar es Salaam, Tanzania. 87pp.

URT (2014a). *Mtwara District Socio Economic Profile*. Executive Director Office, Mtwara, Tanzania. 34pp.

URT (2014b). *Final Report Environmental Profile for Mtwara –Mikindani.* Municipal council, Mtwara, Tanzania. 145pp.

Warren, C. A. B. (2002). Qualitative Interviewing. In: *Handbook of Interview Research.*(Editors by Gubrium, J. F. and Holstein, J. A.), Context and Method, Thousand Oaks. 20pp.

Whitbeck, L., Conger, R. and Kao, M. (1993). The influence of parental support, depressed affect, and peers on the sexual behaviors of adolescent girls. *Journal of Family Issues* 14(2): 261–278.

WHO (2001). Global consultation of friendly health services a consensus statement. Department of Adolescent and Child Health and Development, Geneva. [http://www.who.int/child-adolescent-health] site visited on 20/4/2014.

WHO (2008). *Adolescent Pregnancy*. World Health Organization, Geneva, Switzerland. 4pp.

WHO (2012). Preventing early Pregnancy and Poor Reproductive Outcomes among Adolescents of Developing Countries. Department of Maternal, Newborn, Child and Adolescent Health. Geneva Switzerland. 8pp.

WHO (2004). *Issues in Adolescent Health and Development.* Department of Child and Adolescent Health and Development, Geneva. 92pp.

World Health Statistics (2013). World health statistics. [viwww.who.int/gho/world_ health_statistics] site visited on 7/2/2014.

Youri, P. (1993). *Female Adolescent Health and Sexuality Study in Kenyan Secondary Schools Nairobi:* African Medical and Research Foundation. Nairobi, Kenya. 22pp.

Zheng, A. X. and Anderson, F. W. J. (2009). Obstetric fistula in low-income countries. *International Journal of Gynecology and Obstetrics* 104(2): 85 – 89.

APPENDICES

Appendix 1: Questionnaire

My name is Hawa Dunor a student studying Master of Arts in Rural Development (MARD) at Sokoine University of Agriculture. I am conducting a study on the "***Contribution of School Based Reproductive Health Education programmes on Teenage Pregnancy"***. This research is being conducted in partial fulfillment of my degree in MARD. I kindly request you to answer the questions listed below. All information provided will be kept confidential and will only be used for the purpose of this research. In addition, no names will be presented in the document without the respondent's consent. Furthermore, participation in this research is voluntary and you can drop out at any time of the process of the interview. Thank you for responding.

SECTION A: BACKGROUND CHARACTERISTICS

Age of respondent: ---------- school/ Location: ----------

Marital status of your parent/ guardian----------Who do you live with? ----------

No.	Name of Hh Member	sex	age	Relationship to respondent	Education	Work
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Section B: Access and focus of Current Sex education programme

1. Have you attended any sex education programme? 1. Yes 2. No

   If yes, where did you take the class ----------? If your answer is no, then go to question **5.**

2. What was the focus of the sex education programme you attended? 1. Abstinence only 2. Contraceptive and other information.

3.How was the education offered? 1. Standalone subject 2. Taught in other subjects 3. School Club 4. Others specify ----------

4. Do you feel that the sex education you received at school is/was sufficient? Yes/ No if no, why?----------

   ----

   5.What is your major source of sexuality information? ----------

   ----

   6.Among the sources you have listed which one do you use most? ----------

   ----

7. Have you ever discussed sex-related matters with your parents? Yes/ No, If NO why? -

---

Section C. Factors Responsible for Teenage Pregnancy in the Study Area

8. What are factors contributing to teenage pregnancy in this area?----------

---

9.Based on the factors you have listed which factor is the most responsible factor?

---

10. Do you think culture in this area is responsible for teenage pregnancies Yes /No?

If yes, how----------

Section D: Teenager's Accessibility to Reproductive Health Support

i. **Do you have access to reproductive health services in your area? Yes/ No if yes, where do you access these services?**

UMATI ☐

Local Dispensary ☐

Local Hospital ☐

Other specify----------

ii. **If yes to question(i) what is the level of satisfaction with accessibility of support**

Great extent ☐

Moderate extent ☐

low extent ☐

iii. **Availability of Reproductive Health Services**

Select all that apply

Counseling ☐

Contraceptives ☐

Sexuality information ☐

Pregnancy test ☐

HIV Testing ☐

iv. **Levels of satisfaction with respect to confidentiality**

Got attention from service providers while avoiding drawing attention to me when the service is shared with adults

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

v. **It is easy to access reproductive health services**

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

vi. **Availability of option to choose**

I can choose to be attended to by a male or female or choose the person to be seen by every time I pay a return visit

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

vii. **Satisfaction with the availability of educational items at the facilities**

I have Information available to me at all time

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

viii. **The staff at health center are friendly**

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

ix. **I would recommend the reproductive health service to a friend**

To a great extent ☐

To a moderate extent ☐

To a low extent ☐

Section D: General Knowledge on Teenage Pregnancy

Kindly select the best answer.

11. Teenage pregnancy has an impact on the teenager 1. (True), 2. (false)
12. A teenage mother is 1. Any female, 2. A female not passed 20 at the end of the pregnancy, 3. All pregnant females.
13. What are the pregnancy prevention methods that you know? ----------

---

14. Condoms are only for men. 1. True 2. False 3. I don't know
15. A boy who is 17 years cannot impregnate a woman 1. True, 2. False, 3. I don't know
16. Uncircumcised man cannot impregnate a woman 1. True, 2. False 3. I don't know
17. The use of condom is a sign of prostitution. 1. True 2. False
18. Abstaining is not a preventive method of teenage pregnancy. 1. True 2. False, if true why?

---

19. A woman can get pregnant on the very first time that she has sexual intercourse. 1. True 2. False 3. I don't know.
20. A woman stops growing after she has had sexual intercourse for the first time. 1. True 2. False 3. I don't know.
21. Jumping and washing prevents pregnancy.1. True 2. False
22. Girls at puberty, ovulates every month. 1. True 2. False
23. Monthly vaginal blood is normal for puberty girls.1. True 2. False

24. Sexually Transmitted Infections (STI) cannot be avoided. 1. False 2. True, if false how can they be avoided ----------

---

25. What are your suggestions for reducing teenage pregnancy in the region? ----------

---

Thanks for your cooperation

Appendix 2: Guide for Focus Group Discussion

1. Have any of you ever been taught pregnancy and sexual matters at school? Yes /No. If no, why?
2. What was the focus of the teaching?
3. What are those things that influence teenagers to have sex in this area? At what age should teens be having sex?
4. What are some of the factors that cause teenage pregnancy in this area?
5. Do you know the whereabouts of your local family planning clinic? If not why do you thinks others might not?
6. Do you know of anywhere in your local area where free condoms are available to young people? Name these areas
7. Do you think teens are educated enough at school to know about teenage pregnancy and the risks associated with unprotected sex?
8. Are there others places where teenagers can get knowledge on pregnancy prevention related issues?
9. Do you discuss sex related issues with your parents?
10. What are your suggestions for reducing teenage pregnancy?

Thanks for your cooperation

Appendix 3: Guide for Key Informant Interviews

1. What do you think are the causes of teen pregnancies in this region?
2. How does the rate of teen pregnancy in this region compare to that in other regions?
3. Is there any change in the prevalence of teenage pregnancy since the introduction of sex education in the schools?
4. What are the consequences of having so many teen pregnancies in this region?
5. Are there any other mechanisms in place to support teenage girls in terms of educational and career development?
6. What are the prospects for a teen mother in getting financial security?
7. Does your organization advocate abstinence or birth control?
8. What is your opinion about sex education being taught to teens?
9. Is there any other thing on teen age pregnancy that you would like to share?

Thanks for your cooperation

Appendix 4: Descriptive table showing statistical analysis of scores between Intervention and Non-intervention schools

Descriptive					
	Intervention or non-intervention school			Statistic	Std. Error
Score	Intervention	Mean		93.1933	1.24369
		95% Confidence Interval for Mean	Lower Bound	90.6964	
			Upper Bound	95.6901	
		5% Trimmed Mean		94.2124	
		Median		96.1550	
		Variance		80.432	
		Std. Deviation		8.96838	
		Minimum		61.54	
		Maximum		100.00	
		Range		38.46	
		Interquartile Range		7.75	
		Skewness		-1.545	.330
		Kurtosis		2.400	.650
	Non intervention	Mean		78.2520	1.96772
		95% Confidence Interval for Mean	Lower Bound	74.3017	
			Upper Bound	82.2024	
		5% Trimmed Mean		78.8934	
		Median		80.7665	
		Variance		201.339	
		Std. Deviation		14.18941	
		Minimum		38.46	
		Maximum		100.00	
		Range		61.54	
		Interquartile Range		23.08	
		Skewness		-.577	.330
		Kurtosis		.068	.650

Appendix 5: Descriptive table showing statistical analysis of knowledge test scores between rural and urban schools

Location of school			Statistic	Std. Error
Rural	Mean		82.0983	1.94486
	95% Confidence Interval for Mean	Lower Bound	78.1938	
		Upper Bound	86.0027	
	5% Trimmed Mean		82.8386	
	Median		84.6177	
	Variance		196.689	
	Std. Deviation		14.02459	
	Minimum		46.15	
	Maximum		100.00	
	Range		53.85	
	Interquartile Range		23.08	
	Skewness		-.462	.330
	Kurtosis		-.486	.650
Urban	Mean		89.3470	1.81925
	95% Confidence Interval for Mean	Lower Bound	85.6947	
		Upper Bound	92.9993	
	5% Trimmed Mean		90.7940	
	Median		92.3100	
	Variance		172.104	
	Std. Deviation		13.11883	
	Minimum		38.46	
	Maximum		100.00	
	Range		61.54	
	Interquartile Range		15.38	
	Skewness		-1.784	.330
	Kurtosis		3.710	.650

Appendix 6: Showing knowledge test Scores between Schools

Name of school	Location	Type of school	Mean	Std. Deviation	Median
Ziwani	Rural	Non-Intervention	72.4812	11.34599	69.2308
Chuno	Urban	Non intervention	84.0228	14.58534	84.6200
Mtwara Girls	Urban	Intervention	94.6712	8.91055	100.0000
Namyamba	Rural	Intervention	91.7153	8.95208	92.3100

Appendix 7: Sample of Fema magazine feature

Source: Fema magazine issues (www.feminahip.or.tz)