

Adolescent pregnancy in
Mozambique: determinants,
interventions and future directions
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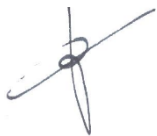
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Dedication

To my dear Sidiki and Fatou
You have been so patient!

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Executive summary

Background With the highest rates of adolescent pregnancy in the region (167 live births per 1000 15-19 year old females) and a fast growing number of adolescents, Mozambique faces a far-reaching public health problem, which sets it off target attaining the Millennium Development Goals. In addition, despite the country's successful sexual and reproductive health programme for young people, 'Projeto Geração Biz', fertility rates among 10-19 year old girls have not shown considerable decline in the past 15 years. Numerous context-specific factors determine girls' pregnancy risks and strategies at mitigating such risks are only effective if they take such factors into account. However, no comprehensive studies of such factors or determinants have yet been carried out in Mozambique.

Methodology Aided by Blum's ecological social determinants model of pregnancy risk, this study has made a wide-ranging analysis of determinants of Mozambique's adolescent pregnancy, drawing data from a comprehensive literature review of material published between 2009 and 2014, including English and Portuguese articles, policy papers and reports.

Results and Discussion Adolescent pregnancy in Mozambique is perpetuated by such factors as gender inequalities, poverty, lack of adequate schooling, child marriage, cross-generational and transactional sexual relationships, low levels of female-controlled contraception, inadequate parent-child communication on sexuality and absence of safe spaces for girls, in addition to technical and managerial complexities involved in delivering adequate measures and programmes. Because adolescent pregnancy in Mozambique seems to be a symptom of such underlying determinants, multilevel interventionist measures focusing on girls' empowerment, poverty reduction and adequate schooling are probably more effective than interventions solely aimed at lowering adolescent fertility rates per se.

Conclusion and Recommendations

Due to the complexity of the determinants, budgetary constraints, the vastness of the country and the interplay of numerous other sexual and reproductive health programmes, there is no one-size-fits-all solution to adolescent pregnancy in Mozambique. However, there is an urgent need to include 10-14 year olds in the demographic health survey and other sexual and reproductive health studies. In addition, it is recommended that:

- strategies to tackle chronic supply constraints in public schools, gender inequalities and adolescent unemployment encompass current national programmes;
- the point of focus of sexuality education shift towards a more positive approach towards adolescent sexuality;
- female-controlled contraceptives be made easily available for all sexually active girls;

- compulsory registration of all marriages be implemented and a strong enforcement of the Family Law Act be aspired to;
- married girls be paid special attention in terms of sexuality education and birth spacing; and
- cherishing neighbourhoods be fostered and safe girls' spaces created.

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ABR	Adolescent Birth Rate
AMODEFA	Associação Moçambicana para Desenvolvimento da Família (Mozambican Association for Family Development)
ART	Anti-retroviral Treatment
ASRH	Adolescent Sexual and Reproductive Health
CCT	Conditional Cash Transfer
CSE	Comprehensive Sexuality Education
DHS	Demographic Health Survey
EC	Emergency Contraception
EOC	Emergency Obstetric Care
FDC	Fundação para o Desenvolvimento da Comunidade (Foundation for Community Development)
FP	Family Planning
GBV	Gender-based Violence
HIV	Human Immunodeficiency Virus
HRH	Human Resources for Health
ICPD	International Conference on Population and Development

INSIDA	Informação sobre o HIV e SIDA em Moçambique (National Survey on Behavioural Risks and Information about HIV and AIDS)
IPPF	International Planned Parenthood Federation
IUD	Intra-uterine Device
KAP	Knowledge Attitude Practice
LMICs	Low- and Middle-income Countries
MDG	Millennium Development Goal
MINED	Ministério da Educação (Ministry of Education)
MICS	Multiple Indicators Cluster Survey
MinJus	Ministério da Justiça (Ministry of Justice)
MINT	Ministério do Interior (Ministry of Interior)
MISAU	Ministério de Saúde (Ministry of Health)
MJD	Ministério da Juventude e Desportos (Ministry of Youth and Sports)
MMAS	Ministério da Mulher e da Acção Social (Ministry of Women and Social Action)
MMR	Maternal Mortality Ratio
MCPs	Multiple Concurrent Partnerships
NGO	Non-governmental Organisation
PE	Peer Educator
PGB	Projeto Geração Biz
PSI	Population Services International
SMS	Short Message Service
SSA	Sub-Saharan Africa
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
UNAIDS	United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund

UNICEF	United Nations Children’s Fund
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
YC	Youth Centre
YFHS	Youth-friendly Health Services

Glossary

Adolescence	The transition from childhood into adulthood, marked by intense physical, psychological, emotional and economic changes (1-4).
Adolescent birth rate	The number of live births per 1000 15-19 year old females (5).
Adolescent pregnancy	Pregnancy in 10-19 year old girls. Also called 'early pregnancy' (5).
Lobolo	Price (in cash or in kind) paid by the groom's family to the family of the bride (6).
Tchuna Baby trousers	Low-rise trousers showing waist and belly button (7).
Unintended pregnancy	Pregnancy that is untimely, unplanned or unwanted at the time of conception (46).

Introduction

Adolescent childbearing can derail the lives of millions of mothers, their children, partners and families and can negatively impact communities and national health and socio-economic indicators (5, 8-10). In sub-Saharan African Mozambique, high adolescent fertility rates are a significant public health problem, even more so because the number of adolescents (10-19 year olds) is growing rapidly (11-14). Fifteen years after implementation of the government's country-wide programme on young people's sexual and reproductive health, fertility rates among adolescents have not notably lowered (14, 15).

This thesis explores the underlying factors leading to early childbearing in Mozambique, as understanding determinants of adolescent pregnancy in all their complexity – and in their local context – could lead to more effective strategies aiming at reducing adolescent fertility rates, in turn improving outcomes for mother and child health, girls' educational outcomes, human rights and economic productivity.

The idea for the subject stems from impressions I had while living in Mozambique. I noticed how motherhood among Mozambican girls was no exception to the rule, as it would have been in my own country, the Netherlands. When I returned to Mozambique to work in the capital's main hospital as a medical student, I witnessed a 14-year old girl being prepared for a caesarean section. Although she was openly ridiculed and blamed by the ward nurses for her "irresponsible behaviour", she was probably one of the lucky few who had been able to access specialised medical care.

Chapter 1 of the thesis provides relevant background information on the country, its health system and main health problems; Chapter 2 presents the problem statement and justification, the search strategy, the conceptual model and the explanation of key concepts and terms; Chapter 3 outlines Mozambique's current situation regarding adolescent pregnancy; Chapter 4 describes determinants leading to adolescent pregnancy in Mozambique; Chapter 5 identifies local interventions aimed at reducing adolescent fertility rates, as well as good practice examples from other sub-Saharan African countries and Chapters 6 and 7 present the discussion, conclusion and recommendations, respectively.

Chapter 1. Background

1.0 Introduction

This chapter provides an overview of Mozambique's geographic, socio-economic and demographic situation. Subsequently, it describes the Mozambican health system and sexual and reproductive health (SRH) services, as well as major national health problems and important health issues related to adolescents.

1.1 Mozambique: country background

Geographic, socio-economic and demographic overview

Situated along the Indian Ocean, Mozambique is a vast South-Eastern African country, bordered by Tanzania to the north, Malawi and Zambia to the north-west, Zimbabwe to the west and South Africa and Swaziland to the south-west (figure 1.1.). Following independence in 1975 after nearly five centuries of Portuguese rule, the country went through 16 years of civil war, causing more than 1 million deaths and 5 million displaced persons. Apart from this legacy, economic dependency on South Africa, large-scale emigration, the HIV/AIDS pandemic and severe droughts hampered Mozambique's development (16, 17). However, since the peace accord, Mozambique has been a relatively stable democracy and, within two decades, a series of macro-economic reforms, combined with massive donor-assistance, sparked a rapid economic growth (7% in 2013) (17). Nevertheless, more than half of the 23.9 million Mozambicans still live below the national poverty line (15). And although Mozambique's enormous education deficit after the war has been largely eliminated (18), secondary school completion rates among 10-24 year olds are among the lowest in sub-Saharan Africa (SSA) (2% for females and 5% for males) (1, 18). In 2013, the country ranked among the lowest on the Human Development Index¹: 185 of 187 (20).

Mozambique's annual population growth rate is 2.4%. The population is very young, with a median age of 16.8 years. Nearly 50% of Mozambicans are younger than 15 and one fifth is aged between 15-24 years (15, 16).

Currently, the number of urbanites (one third of the population) is rising by 3,1% per year (16). Mozambique's largest urban areas are the national capital Maputo and Matola to the south, followed by Beira in the central region and Nampula to the north (15, 16). A wide variety of ethnic

1. The Human Development Index is a measure of human development with health, education and income as key domains (19).

groups constitute the population: Makonde and Makua are dominant in the north, Sena and Shona are more predominant in the central Zambezi valley and the Shangaan form the largest group in the southern provinces. A small minority of the population is Euro-African, European or Asian (16). Mozambique counts 42 languages, but the only official language is Portuguese, spoken by about half of the population. Languages most frequently used in daily communication are Portuguese (13%), Emakhuwa (25%) and Xichangana (10%) (15, 16, 21). With respect to religion, roughly a third of the population is Roman Catholic (predominantly in the south); one fifth, mainly in the north, is Muslim and another third holds other religious positions. The remaining part of the population is non-religious (15, 16).

The health system and sexual and reproductive health services

Of the total national government expenditure, 9.1% is spent on health, just above the median of African countries (22). Mozambique's greatest impediment in attaining the health-related Millennium Development Goals (MDGs) is the lack of human resources for health (HRH) (23): the country has one of the lowest health worker densities in SSA (0.03 doctors and 0.21 nurses per 1000 inhabitants) (23, 24). With 1277 health facilities, organised in four levels, the public sector is the main provider of health services. Private for-profit services are expanding, especially in urban areas. The private non-profit sector contains a vast and increasing number of non-governmental organisations (NGOs) and faith-based entities. Traditional medicine and lay care are not formally incorporated in the health system, but are widely used (23).

The national family planning (FP) programme has been in operation for almost 35 years and most SRH/FP services are provided by public maternal and child health clinics, offering oral and intravenous contraceptives, intra-uterine devices (IUDs) and male condoms for free, as well as female condoms and sterilisation (25). HIV prevention and treatment services are relatively new in Mozambique and are being integrated into traditional SRH units, albeit with considerable constraints, arising from overwork among staff and a diminished quality of care (26). National SRH, HIV Voluntary Counselling and Testing (VCT) and – since 2001 – anti-retroviral treatment (ART) services for young people have been substantially improved since the introduction in 1999 of the multi-component, cross-sector 'Projeto Geração Biz' (PGB), named after Mozambique's 'Busy Generation' (11, 12, 27).

General health problems and adolescent specific health issues

For Mozambicans, life expectancy at birth is 52.3 years (females: 53.1 years; males: 51.5 years) (15, 16, 28). Malaria, AIDS, tuberculosis, diarrhoea and respiratory illnesses are common causes of mortality and morbidity. Non-communicable diseases are on the rise as so are (reported) acts of violence and injury (23). Violence against women and children is widespread (16, 19, 21, 29).

With a prevalence of 11.5% among 15-49 year olds, Mozambique ranks among the top ten countries with the highest HIV incidence and prevalence worldwide (19, 30). Gender² is an important factor in Mozambique's AIDS epidemic, as from age 12, females are disproportionately affected (19, 30, 31).

Infant mortality rates greatly improved over the past two decades, although 95 per 1000 children still die before their first birthday (23, 32).

The maternal mortality ratio (MMR) dropped by two-thirds from 1500 per 100 000 live births at baseline (1990), despite a persistent low rate of skilled birth attendance and lack of emergency obstetric care (EOC) (23).

As one of a few countries where HIV prevalence among adolescents did *not* decline between 2000 and 2008 (33), Mozambican adolescents face major HIV and pregnancy-related health threats (23), as shown by the fact that in 2009 an estimated 9.3% of adolescent girls was living with HIV/AIDS, a rate three times higher than that of boys this age (31).

The proportion of adolescent pregnancies and mothers (38%) is among the world's highest (see Chapter 2) (1, 2, 5, 14).

2. Gender is the socially ascribed role for females and males in a particular society (3).

Chapter 2. Methodology

2.0 Introduction

This chapter presents the problem statement and the justification for the thesis' focus, as well as the general and specific objectives. It also presents the research strategy and the conceptual framework. Finally, the chapter explains key concepts and terms used throughout the thesis.

2.1 Problem statement

Despite declining global fertility rates, 18 million adolescent girls give birth each year, with low- and middle-income countries (LMICs) contributing a large majority. Of these pregnancies, 90% occur among married girls who are less likely to use contraceptives than unmarried girls and up to 75% is intended and planned (10). Health and socio-economic consequences of adolescent pregnancy are profound and not limited to young mothers (5, 34-36). They often directly impinge on human rights and trigger a vicious cycle of poverty and social exclusion (5, 14, 37).

Compared to the rest of the world, SSA stands out in terms of birth rates, the highest among adolescents, with an average of 120 live births per 1000 15-19 year old girls (1, 2, 5). In some SSA countries, 30% or more adolescent girls have started procreating (5, 14).

In Mozambique, 38% of adolescent girls have already given birth or are pregnant for the first time (14, 15). Moreover, 10-19 year olds account for 24% of the population and their number (5.7 million) will have grown to 8.8 million by 2030 (14, 38, 39). Considering Mozambique's continual high rates of adolescent fertility, by that time there will be 730 000 mothers younger than 18 (14). Despite the active role the Mozambican government has taken in responding to the country's poor adolescent sexual and reproductive health (ASRH) outcomes, high adolescent fertility rates persist (14).

2.2 Justification

Myriad micro and macro level forces determine adolescent pregnancy (5, 8, 40). Understanding such forces is vital to developing more effective strategies or to upscale present ones. However, despite the urgency of lowering birth rates among Mozambican girls, no comprehensive studies on determinants of adolescent pregnancy in Mozambique have yet been carried out. The thesis aims to bridge this gap.

Lower adolescent fertility rates facilitate attainment of the MDGs by breaking the intergenerational poverty cycle (MDG 1), expanding girls' educational opportunities (MDG 2), contributing to gender equality and women's economic empowerment (MDG 3), lowering MMRs (MDG 4), increasing universal access to SRH/FP services (MDG 5) and diminishing the risk of acquiring sexually transmitted infections (STIs), including HIV (MDG 5) (11). Summarised, later pregnancies improve maternal and child health, prolong girls' education, help to safeguard human rights and boost economic productivity (5, 41).

2.3 Objectives

General objective

The main objective of the thesis is to describe factors that influence adolescent pregnancy in Mozambique to inform policymakers and health planners.

Specific objectives

1. To define the current scope of adolescent pregnancy in Mozambique.
2. To describe individual, family, community, school/peers and national factors influencing adolescent pregnancy in Mozambique.
3. To outline current interventions targeting adolescent pregnancy in Mozambique.
4. To identify good practice examples from other sub-Saharan African countries and apply them to Mozambique.
5. To inform policymakers and health-planners to develop more effective strategies to lower adolescent fertility rates.

2.4 Research strategy

To analyse the adolescent pregnancy situation in Mozambique, a literature review was conducted through databases and search engines, including Google, Google Scholar, PubMed and Science Direct. Published journal articles, policy papers and reports were obtained through the Ministry of Health (MISAU) websites, the National Institute of Statistics, NGOs working on ASRH (such as the International Planned Parenthood Federation (IPPF), Pathfinder International and the United Nations Children's Fund (UNICEF)), and donor agencies (such as the United Nations Population Fund (UNFPA) and the World Health Organization (WHO)). The research was restricted to items written in English or Portuguese, published between 2009 and 2014.

In a number of cases, 'snowballing' was used to pursue items through references of references, as well as to include more keywords while deepening the search.

Principal keywords used in English included: 'Adolescent', 'Adolescent pregnancy', 'Best practice', 'Care system', 'Contributing factor', 'Determinant', 'Early pregnancy', 'Ecological', 'Effectiveness', 'Factor', 'Framework', 'Good practice', 'Intervention', 'Lessons learnt', 'Model', 'Mozambique', 'Policy', 'Pregnancy', 'Prevention', 'Programme', 'Sexual and Reproductive Health', 'Socio-ecological', 'Sub-Saharan Africa' and 'Young people'.

Principal keywords used in Portuguese were: 'Adolescente', 'Fecundidade', 'Fecundidade das adolescentes', 'Gravidez', 'Gravidez das adolescentes', 'Intervenção', 'Moçambique', 'Prevenção', 'Programa' and 'Saúde Sexual e Reprodutiva'.

2.5 Conceptual framework

During the 1994 International Conference on Population and Development (ICPD), 179 governments joined forces to address a broad range of ASRH issues, including adolescent pregnancies, unsafe abortions and STIs such as HIV (5, 42). However, most interventions to reduce adolescent fertility rates have proved disappointing, because they primarily focused on changing girls' behaviours, rather than addressing the underlying determinants perpetuating adolescent pregnancy. Moreover, they ignored the role of boys and men in driving and preventing early pregnancy (5). Blum, on the other hand, places adolescent pregnancy risk within a whole set of contexts, represented in his ecological social determinants model³ of pregnancy risk (5, 44). Considering the complexity and intermix of underlying factors, Blum's model was chosen as a tool (conceptual framework) to streamline the description of determinants. According to Blum, it is not a requirement that policies target every level to achieve lower adolescent fertility rates; however, understanding how the various contexts drive and impact adolescent pregnancy and its outcomes *is* (44).

It is important to note that most determinants in this model operate at multiple levels simultaneously (5). Contrary to UNFPA's presentation of Blum's model (figure 2.1.), determinants were chosen to be described in neutral terms, to be as non-judgemental as possible. For example, 'little value on education' was described simply as 'education'.

Where appropriate, reference was made to 'adolescents' and 'girls and boys', instead of solely 'adolescent girls' or 'girls'. Doing so emphasises the causal role boys and men play. Although Blum's hierarchical classification of determinants served as a guide, it was not taken as a definitive measure, since some of the determinant levels overlapped in a versatile and fluid context such as Mozambique.

3. An ecological model acknowledges that the functioning of each individual takes place within a complex web of individual, family, school and community settings that influence his capacity to avoid risk and to maintain health (43).

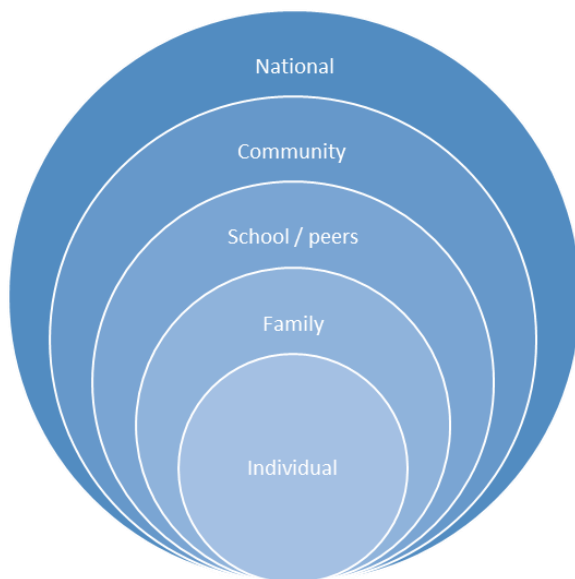
Determinants of adolescent pregnancy according to Blum

Determinants of adolescent pregnancy are broadly categorised in five levels:

- *Individual* (age of puberty and sexual initiation; girls' social perception of motherhood; internalised gender values; resilience)
- *Family* (expectations of daughters; value on education; attitudes towards child marriage)
- *School/peers* (girls' access to education; support and expectations; comprehensive sexuality education; safety; peer network; sexual partner(s))
- *Community* (wealth; attitudes towards girls' autonomy; adolescent sexuality; access to contraceptives; social cohesion; safety)
- *National* (wealth; health priorities; laws; political and environmental climate)

Due to thesis scope, other potential determinants that may fall within the above levels, such as globalisation and social media, religion, ethnicity and local languages, will not be addressed here, since they were considered less relevant to the thesis.

Figure 2. 1. Blum's ecological model: determinants of adolescent pregnancy



Source: United Nations Population Fund 2013 (5)

2.6 Explanation of key concepts and terms

Adolescence and related definitions

'Adolescence' is the transition from childhood into adulthood, marked by intense physical, psychological, emotional and economic changes (1-4). In many cultures, however this transitional phase does not exist or is relatively short, especially when initiation rites mark different and distinct life stages (14).

'Adolescents' are categorised by specific age ranges: 'very young adolescents' are those aged between 10 and 14 years, whereas 'older adolescents' refer to 15-19 year olds.

The term 'young people' is also commonly used in literature and refers to people aged between 10 and 24. People of 15-24 years old are called 'youth' and 'children' are generally persons younger than 18 years, depending on a country's legal threshold of adulthood (1, 2, 45).

The thesis uses the term 'adolescents' for 15-19 year olds, unless specified otherwise, because data on very young adolescents is scarce. For ethical and cultural reasons, the latter age group is often excluded from surveys, including the demographic and health survey (DHS) (1, 2).

Adolescent pregnancy, adolescent birth rate, adolescent pregnancy rate

Exact data on adolescent pregnancy – pregnancy in girls of 19 years and below – is limited, because they are generally not registered. Hence, in most countries, the adolescent birth (fertility) rate (ABR) – defined as the number of live births per 1000 15-19 year old females – is a good indicator of the rate of adolescent (or early) pregnancy. However, ABRs are consistently lower than adolescent pregnancy rates, as the latter also includes rates of spontaneous and induced abortions and stillbirths (5).

Unintended pregnancy

'Unintended pregnancy' is a pregnancy that is untimely, unplanned or unwanted at the time of conception (46). However, as various terms such as 'undesired', 'unwanted', 'out-of-wedlock' and – related to adolescents – 'adolescent', 'early' or 'teenage' pregnancy are used by different individuals, groups, communities, policies and NGOs, the term 'unintended pregnancy' remains somewhat ambiguous (47).

Chapter 3. Adolescent pregnancy in Mozambique

3.0 Introduction

This chapter outlines the current scope of adolescent pregnancy in Mozambique.

3.1 Adolescent fertility in Mozambique and in-country variations

With 167 live births per 1000 15-19 year old females, Mozambique has the highest adolescent fertility rate of all countries in the Southern African Development Community (10, 14, 15). By comparison, East and Southern Africa's mean ABR is 112 (5), while that of the Netherlands is 5 (48). It is also one of the six countries worldwide where more than one girl in ten (11%) has a child before age 15 (5, 15). Of 15-19 year old girls, 38% are already mothers or pregnant for the first time, versus 71% of girls aged 19 (15).

Figure 3.1. shows that despite a rapid decline of the ABR in rural areas between 2003 and 2011, the total ABR has hardly changed with reference to 1997 and 2003 (figure 3.1.)(14, 15). Here, 42% of adolescent girls have started childbearing, versus 31% of urban adolescent girls (15). Countrywide, Niassa and Cabo Delgado provinces (239 and 224 live births per 1000 adolescent females, respectively) stand out in terms of highest ABRs. In contrast, the ABR in Maputo City (73 live births per 1000 15-19 year old females) is far below the national average (14). Non-educated adolescent girls are nearly twice as likely to have begun procreation compared to adolescent girls who reached secondary school levels or higher (14, 15). And fertility rates of adolescent girls from the lowest socio-economic statuses (SES) are twice as high as those of their counterparts from the highest SESs (15). Figures 3.2. and 3.3. display different ABRs by province, residential area, educational levels and wealth quintiles (figure 3.2., 3.3.).

3.2 Consequences for maternal and child health

Morbidity related to pregnancy and delivery

An array of adverse health consequences accrues to adolescent girls who are pregnant or give birth, including anaemia, malaria, HIV and other STIs⁴, post-partum haemorrhage and fistula (5, 14, 36, 49, 50). The younger the girl, the higher the chance of prolonged and obstructed labour (5, 14, 34, 35). This can, among other complications, lead to obstetric fistula, a severe and disabling complication of childbirth (5, 14).

In Mozambique, the proportion of caesarean sections indicates access to EOC. In rural areas, they cover 2.1% of births, compared to 8.8% in urban areas. The wealthiest women are eight times more likely to have a caesarean section than the poorest women, suggesting that poor adolescent girls are particularly at risk of obstetric fistula (14).

Pregnant girls and young mothers also risk mood-disorders, which may be triggered by (self) stigma and an unsupportive environment, which may even lead to suicide (5, 14, 36, 49).

Furthermore, (unborn) children are prone to stillbirth and death in the first month, pre-term birth, low birth weight and asphyxia (5, 14, 36). Later in life, these children are considered 'high-risk' in terms of socio-cognitive development and educational performance (35).

Complications arising from unsafe abortion

Abortion-related complications include haemorrhage, sepsis, infertility, tetanus, internal organ damage and death (5, 14). Half of all abortions worldwide are unsafe⁵ and almost all (98%) of unsafe abortions are performed in LMICs with restrictive abortion laws, where social stigma and fear of legal repercussions may hinder registration of abortion-related deaths (5, 50). Compared to adult women undergoing abortions, adolescent girls have worse health outcomes, possibly due to their relative delay in seeking and having an abortion (5, 14). Similarly, adolescents often postpone seeking medical care when complications arise, due to shame, fear and powerlessness (5, 49).

Technically, abortion is illegal in Mozambique, although presently, surgical abortions are allowed in cases of endangered physical and mental health of the mother or contraceptive failure (51). Abortion is also permitted in cases of rape or incest (14, 29, 52). Nevertheless, many women are not adequately informed about such possibilities or do not have the means

4. STIs are not a result of adolescent pregnancy, but they are a result of unprotected sex – without condoms or without correct use of condoms – which may lead to pregnancy (5).

5. Unsafe abortion is the “procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or both” (53).

to travel to urban hospitals offering low-threshold abortion services (51). As of 2013, in 50% of Mozambican women of reproductive age who had died before their 28th week of pregnancy, the cause of death was abortion-related haemorrhage or sepsis (14). Due to the restricted availability of legal abortions, official data is lacking and abortion prevalence among adolescents is difficult to gauge (14).

Maternal mortality

Death due to unsafe abortions and limited access to health care facilities are common consequences of adolescent childbearing in developing countries (5, 8, 36). WHO and UNFPA state that in LMICs, 15-19 year olds are twice as likely to die during delivery as adult women and this ratio is even higher amongst girls younger than 15 (5, 8). Nove *et al* expand on these numbers by suggesting that worldwide, adolescent girls generally face higher risks of dying than women in their 20s. They confirm that very young adolescents have higher mortality risks than older adolescents (34). Of total adolescent maternal deaths, 82% occurred in 20 countries, including Mozambique (34). Barely changed since 2003, Mozambique's MMR remains high; 408 maternal deaths per 100 000 live births (14, 15). An estimated 20% of total maternal deaths in Mozambique occurs among females below age 20 and nearly a quarter of deaths among adolescent girls is related to maternal causes, a substantially higher proportion than that of females aged 25-29 years (16%) and 45-49 years (8%) (14). But according to Nove *et al*, MMRs in Mozambican adolescents were still lower than MMRs in other age groups and it was unclear whether underreported deaths partly accounted for this fact (34).

3.3 Impact on education, social life and the economy

Education

Correlations between adolescent pregnancy and education has been extensively studied, but causality between the two remains debatable: although education has been identified as a key protective factor against adolescent pregnancy, often pregnancy in itself leads to dropping out of school (5, 14, 54).

Nine in ten Mozambican girls attend primary school, but only 1.5 in ten go through secondary education (14). Marriage- and pregnancy-related factors substantially account for this fact (18, 55). Before 2003, Mozambican schools adhered to strict expulsion policies towards pregnant girls. In line with the latest policy, aiming to target potential dropouts due to pregnancy, pregnant girls are refused access to regular schools, but they may attend evening schools (14, 18, 54, 56).

Social life and the economy

Adolescent pregnancy and subsequent dropping out of school and social isolation can give rise to feelings of shame and guilt, loss of self-esteem and future prospects (35, 36). Additionally, women's economic disempowerment can create a vicious cycle of gender inequality and poverty (5, 35, 57). Adolescent pregnancy also impacts family members, who may be (financially) supportive or – if lineage can be traced – arrange a marriage (5, 14, 49). Paternity can also extremely affect adolescent fathers, who generally need to deal with negative perceptions by their families and communities (35, 44). At a national level, the lifetime opportunity cost – the measure of 'what could have been' if adolescent pregnancy had not occurred – varies from 1% of the annual gross domestic product (GDP) in China to 30% of the annual GDP in Uganda (5, 14). For Mozambique, lifetime opportunity costs related to adolescent pregnancy have not yet been measured (14).

3.4 Adolescent pregnancy and opportunities

Despite the plethora of adverse health and socio-economic effects, adolescent pregnancy may also have positive consequences (5). In a study about the nature of unintended pregnancy among young Mozambican women, some girls perceived pregnancy as an occasion to oblige openness in families and communities about ASRH or to enhance relationships between mothers and daughters. Pregnancy was also seen as a time for women to defend their (educational) rights and as a life experience to learn from (47).

The next chapter will take a closer look at fertility among Mozambican 15-19 year old girls by describing determinants of adolescent pregnancy.

Chapter 4. Determinants of adolescent pregnancy in Mozambique

4.0 Introduction

This chapter describes determinants of adolescent pregnancy. In line with Blum's model, five levels of determinants are discussed.

4.1 An intermix of forces at different levels

A girl's likelihood of becoming pregnant is proportional to the extent of her social exclusion and marginalisation, poverty and gender inequalities (44). Such circumstances limit her decision-making power about her body, sexual behaviour, relationships, marriage and motherhood (5, 14). Although determinants differ between and within countries, between socio-economic groups and even between different age groups, risks are generally higher among girls from rural areas and poorer backgrounds and among girls with less education. In Mozambique, residential areas and socio-economic characteristics strongly determine ABRs. However, geographical environment, educational level and wealth also reflect more complex underlying forces, such as an inequitable access to education and SRH/FP services and contraceptives, the prevalence of child marriage, various cultural factors as well as differences in correct law implementation (14, 15).

4.2 Individual level determinants

Determinants at the individual level described in this section include age at puberty and sexual initiation; identity and the desire to be pregnant; myths, misinformation and risk perception.

Age at puberty and sexual initiation

In girls, puberty – when sexual and physical characteristics mature (58) – occurs earlier than in boys and generally precedes completion of intellectual and decision-making abilities (5). A young age at puberty is associated with an early onset of sexual intercourse (4), high-risk sexual behaviour (43, 59), adolescent pregnancy and STIs (4). Factors influencing menarche age include genetic predisposition, birth weight and order, family size, environment and nutritional status (5, 58). In 2003, the mean age at menarche of Mozambican girls in slums

and in rural areas was 14.5 years, which was lower than in comparable SSA settings (58). Nevertheless, recent, disaggregated data on menarche age in Mozambique is lacking. Individual factors that may lead to an early sexual initiation – in turn associated with adolescent pregnancy, coerced sex with older partners and STIs (5, 15, 44, 60, 61) – are an overestimation of the sexual activity of peers, a low self-esteem and the belief that sex may lead to loving relationships (62). According to the 2009 National Survey on Prevalence, Behavioural Risks and Information about HIV and AIDS (INSIDA), 23% of Mozambican adolescent females had started sexual intercourse before age 15, versus 27% of adolescent males (55). These proportions were similar to those in the 2003 DHS (31). In the 2011 DHS, the median age of first-time sex was 16.1 years for females (25-49 years) and 17.1 years for males in this age group (15). Girls' main motives to delay their first sexual contact were a young age (68%) and a lack of interest (13%); preventing pregnancy (3%) was only mentioned after cultural and religious motives (7%) (55).

Identity and the desire to be pregnant

In adolescence, individuals acquire health behaviours that may last throughout their lives (1-5, 63). Developing one's own identity and dealing with one's sexuality are some of the challenges at this stage in life, during which boundaries are explored, often accompanied by risk-taking behaviours such as unsafe sex and substance abuse. The pace of this emotional and intellectual process is unique for each individual (5).

In LMICs, a large proportion of adolescent pregnancies are *intended*, whether through a girl's personal desire, societal, family or partner's values (5, 10). Some girls may want children for mutual love or they may want to prove that they are mature enough to be a mother. Some may perceive childbearing as their only option in life or as a way to forge ties with their partners (5). Adolescent pregnancy in SSA was portrayed as socially accepted, a foundation for identity, a source of status and the acknowledgement of entry into adulthood (10). Girls in SSA urban settings also reported to becoming pregnant to "cement the bond" between them and their boyfriends (64).

Of *married* adolescent girls in SSA, 67% were pregnant or wished to become pregnant (5). Planned pregnancy is strongly associated with high rates of child marriage (10, 47) and – due to societal expectations around childbearing for married females – less likely to be regarded as unintended (47). An estimated one third of adolescent pregnancies in SSA is unintended, ranging from 10% in Niger to 80% in South Africa (10).

In Mozambique, unintended pregnancy describes a "socially constructed and well-known (yet rarely well-defined) event when young women become pregnant", unplanned, out-of-wedlock and commonly without the family's knowledge. Pregnancy and childbearing are generally perceived as parts of the marital process, whereby two families are united and out-of-wedlock pregnancy – causing a family's reputation to be at stake – is often considered a

taboo (47). The 2011 DHS shows that among Mozambican women (15-49 years), the desired number of children generally matched the actual number of children (15). However, as noted previously, data on (illegal) abortions is scarce and hence, much about the scope of unintended pregnancies remains unknown.

Myths, misinformation and risk perception

Many adolescents in SSA seem to have little understanding of how their bodies work, how to get pregnant (or how to cause pregnancy) and how to prevent it. Besides, many rely on hearsay or myths (10, 65). Research in Ghana reported that less than half of interviewed boys knew about a girl's fertile phases (10). In SSA, many adolescents believed that a girl could not get pregnant the first time she had sex or if she had sex in upright position (65), while contraceptives were commonly thought of as causes of permanent infertility, cancer or even death (10).

In her study about the nature of unintended pregnancy among young Mozambican women, Taplin mentions a "disconnection between sexual relation and pregnancy", illustrated by expressions such as "the pregnancy just came suddenly" or "it was a coincidence" (47).

4.3 Family level determinants

Family level determinants include family structure; family violence; communication and expectations; child marriage.

Family structure

In LMICs, living with both parents proved a key protective factor against adolescent pregnancy. Moreover, female adolescents who had lost their mothers were at much greater risk than those whose mothers were still alive (43), while studies on the association between deceased fathers and pregnancy risk were not found. Another study based on DHSs from ten SSA countries found no convincing evidence that female adolescent orphans were at higher risk of early pregnancy than those whose parents were still alive, although in four countries, including Mozambique, there was a significant association between the absence of one or both parents and early sexual initiation (66).

Due to HIV/AIDS, 12-16% of Mozambican children are orphaned and many of them have ended up in abusive situations (18, 30). Thus, whether directly or indirectly, having lost one or both parents accounts for a rise in pregnancy risk among Mozambican girls.

Family violence, communication and expectations

Children who had experienced violence in their families had higher chances to accept violence as normal – or even glorify it – later in life (67), which in turn may lead to gender-based violence (GBV) and sexual coercion (5); while an attempt to escape from abusive parents or other family members also acted as a motivator for early pregnancy (10).

Studies in SSA suggested that communication about sexuality between adolescents and caregivers could lead to enhanced knowledge and interpersonal communication skills, greater self-confidence, a later sexual debut and safer sexual practices; but that shame, time constraints and limited knowledge or fear that openness about sexuality might result in promiscuity, could threaten such communication (68, 69). Research in Botswana, Malawi and Mozambique revealed that girls from households with little or no parental supervision or with tenuous relationships with caregivers had higher rates of unprotected sex than girls who lived with supportive, caring parents or guardians (7, 68). Studies also showed that in SSA, including Mozambique, traditional norms, religious motives and the reliance on school textbooks or teachers could hinder communication around sexuality (54, 69).

As role models, parents inevitably determine their offspring's futures: low parental educational levels and having had a mother who experienced an adolescent pregnancy herself (5, 44) increase the risk of adolescent pregnancy. Parents can also socialise their daughters that marriage and motherhood are their calling in life and withhold them vital information about sexuality. On the other hand, parents may contribute to gender equality by granting daughters equitable educational opportunities and by imparting information on pregnancy prevention (5). In Mozambique, like in the rest of SSA, childlessness is highly stigmatised and many parents expect their daughters to become mothers at an early age (14, 60).

Child marriage

Child (early) marriage is defined as any marriage, whether under civil, customary or religious law, registered or unregistered, in which at least one partner is under 18 (70). It is significantly associated with low levels of contraceptive use prior to the first childbearing, multiple unintended pregnancies and narrow birth spacing (41), besides high risks of social isolation, curtailed education and poor vocational training (5, 70).

Although largely determined by national and societal forces – such as national legislation and law enforcement, customary law and educational opportunities for girls (5, 70, 71) – decisions for child marriage are made at the family level (5). Household poverty and deprivation may leave parents with fewer options, apart from marrying off their daughters (5, 14, 44); child marriage may be spurred by parents wanting to protect their daughters from premarital pregnancy (70, 72); and families may pressure pregnant girls to marry (70).

Mozambique is among the ten countries worldwide with the highest rates of child marriage, especially between girls and adult men (14, 19, 70, 73). According to the 2008 Multiple Indicators Cluster Survey (MICS), 52% of Mozambican females (15-49 years) married before age 18, while 18% married before age 15. Child marriage mostly affected rural, uneducated girls from the poorest households in the northern and central provinces. In Cabo Delgado, 70% of women married as children, compared to 25% in Maputo City (32). According to the Mozambique 2012 Human Rights Report, rates of child marriage were also higher in Muslim communities (74). The 2011 DHS states that 37% of 15-19 year old girls were married or in unions, but does not include data on (customary) marriages or unions among girls younger than 15 (15).

In the 2011 DHS, fertility rates among married Mozambican girls were six times higher than those among their single counterparts, although geographically, ratios varied widely. In Niassa and Cabo Delgado, ABRs were very high among both married and unmarried girls. However, throughout Mozambique, more married than unmarried girls had already given birth (14, 15). In Mozambique, initiation rites, inter-family exchange of goods and services (*lobolo*) and lack of alternatives were identified as main motives for child marriage. In some cases, girls were already promised to grooms' families before they were born (6). Bearing in mind the taboo surrounding out-of-wedlock pregnancy, forcing pregnant girls into marriage is not exceptional in Mozambique (14, 47).

4.4 School/peers level determinants

At the level of school and peers, the following determinants are described: girls' access to education; quality and safety of schools; comprehensive sexuality education; peers and partners.

Girls' access to education

Out-of-school girls are more likely to become pregnant than those remaining in school (3, 5, 14, 44, 54): education offers an opportunity to interact with peers, to expand future perspectives, to transcend traditional gender norms and to obtain knowledge about safe sex (5). Staying in school and being connected to at least one adult (teacher) strongly determines contraceptive use (increase), access to health information (increase), substance abuse (decrease) and mood-disorders (decrease), factors that are all interrelated with the risk of pregnancy and STIs (44). Other protective factors are high levels of expectations coupled with high levels of teacher support and good academic performances (5, 44).

As reported by the MICS, 13% of 15-19 year old Mozambican girls and 6% of their male counterparts had never attended school. The average number of completed school years for adolescent girls was 5.1, versus 5.5 for boys. Gender disparities in terms of enrolment were

only significant in northern and central Mozambique (32). The lowest rates of female enrolment – especially at the upper primary level (12-19 years) – were in rural areas, among girls from poor households, among girls whose parents had no education and among orphans (18). As mentioned previously, marriage and pregnancy were the two main motives for girls to drop out of school (18, 55). Despite the removal of primary education and textbook fees, financial reasons (a third motive) also hampered continuation to secondary school (18, 55). Pilot studies in SSA concluded that conditional cash transfers (CCTs) and unconditional cash or asset transfer programmes boosted girls’ enrolment (75-77). However, results of such programmes depend on schools’ absorption capacity and supply constraints are a continual problem of Mozambican public schools, counteracting the effect of CCTs (18).

Schools’ quality and safety

Although education in itself remains highly protective against adolescent pregnancy, schools (and travelling to and from schools) can be high-risk environments in terms of sexual abuse (19, 44, 59); school safety and quality also strongly determine girls’ enrolment (5, 78). Many Mozambican public schools lack basic facilities (classrooms, furniture and sanitary blocks) and classes can be overcrowded and headed by under-paid and unmotivated teachers (18). Sexual violence and sexual extortion by peers and male teachers is commonplace (7, 18, 19, 54, 55). In a study by the Ministry of Education (MINED), 70% of 14-16 year old students reported that sexual relationships between male teachers and students determined a passing grade and that no action was taken although the abuse often took place with public knowledge (18). Girls who did not report sexual abuse put forward arguments related to shame, fear of repercussions (low grades) and disbelief or trivialisation of complaints by caregivers, while ignorance of reporting procedures or mistrust of local authorities also played a role (19, 54). Despite the aforementioned national policy targeting pregnancy-related school dropouts, official measures against perpetrators remain weak, partly because of the overall lack of teachers (19, 54, 56).

Comprehensive sexuality education

ICDP’s Programme of Action acknowledged the need for comprehensive sexuality education⁶ (CSE) as a basis for early pregnancy prevention and adolescents’ informed decision-making (5). As opposed to “abstinence-only until marriage” programmes, comprehensive approaches acknowledge that young people *do* have sex and – depending on the cultural context – promote a more positive, pragmatic attitude towards sexuality (65). CSE is generally well-

6. Comprehensive sexuality education is an “age-appropriate and culturally relevant approach to teaching about sexuality and relationships by providing scientifically accurate, realistic and non-judgemental information” (5).

received by adolescents (10) and its effectiveness is enhanced through life skills⁷ development, recognition of contextual factors, attention to emerging feelings and experiences inherent to adolescence and through linkage to SRH services (40, 65). The Mozambican PGB offers school-based CSE, community-based outreach and SRH/FP services tailored to young people (see Chapter 5) (11).

Peers and partners

Peers can affect how adolescents perceive pregnancy and can influence their behaviours towards pregnancy prevention, staying enrolled or dropping out of school. On one hand, peers may criticise early sexual initiation and marriage and encourage girls to stay enrolled; on the other hand, peer pressure can contribute to early, unprotected sex and pregnancy (5, 40, 43).

In Mozambique, peer educators (PEs) are an important element of community and school-based CSE (11-13). Contrarily, in studies about sexual (risk) behaviour in Mozambique, peer pressure among girls proved an important element to engage in unprotected transactional sex (7), where sex is exchanged for money or goods (80).

Sexual partners determine pregnancy in terms of their views on sexuality and related issues, such as gender norms and fertility (5, 44). In addition, sexual partners who use alcohol or drugs are more likely to have unsafe sex or use sexual violence or coercion (5, 7, 21) (while substance use among girls in LMICs proved another important risk factor of adolescent pregnancy (43)).

INSIDA reported that 50% of Mozambican males (15-49 years) consumed alcohol, versus 26% of their female counterparts and that alcohol consumption was highest among urbanites with high educational levels and a high SES (55). The prevalence of illicit drug use among adolescents is unknown, but as the use of heroin, methamphetamine and cocaine is rising in neighbouring countries, this may also be the case for Mozambique (21).

4.5 Community level determinants

Determinants at the community level include gender norms and polygyny; transactional sex and spousal age differences; attitudes towards adolescent sexuality; availability, accessibility, affordability and acceptability of SRH/FP services and maternal care; contraceptive use; safety and sexual violence.

7. Life skills enable individuals to adapt to and to deal with the demands and challenges of life: making decisions, solving problems, analysing values, communicating, coping with emotions and stress, feeling empathy and being self-aware (79).

Gender norms and polygyny

Communal norms determine both girls' and boys' roles and behaviours and affect their sexual risk-taking (5, 44). Societal pressure may push girls into marriage and motherhood, while boys may be expected to prove their manhood and fertility through unprotected sex and multiple, concurrent partnerships (MCPs) (5, 81). Moreover, in many countries, traditional values of masculinity encourage boys and men to take the lead in sexual relationships, to assume that sexual enjoyment is their right and to assert their virility through sexual coercion (5, 21).

This is generally true for Mozambique, where many boys are given free rein to experiment sexually, while at the same time, motherhood is highly valued (14, 19, 21).

Internalised gender norms also perpetuate adolescent pregnancy (5, 44). For instance, internalisation of negative attitudes towards contraception created by societal or partner values can cause the same opposing viewpoints in girls (5). Studies on socio-cultural aspects of HIV in Mozambique showed standards of male domination regarding sexuality and fertility and a widespread acceptance of GBV (19, 21, 82). The latter included considerable numbers of highly educated urban females (32), while, on the other hand, young, well-off urban females were found to challenge such traditional mores (82).

Related to gender norms and adolescent pregnancy is polygyny, a relationship in which a man has two or more wives. It is a determinant of adolescent pregnancy because often, men are valued for their number of wives and children. Subsequent wives are usually young and powerless in terms of negotiating contraceptive use and furthermore, a girl's status within such a polygamous relationship could be enhanced by giving birth to a son, once again encouraging early pregnancy (10).

In Mozambique, polygyny is common and practically independent of educational level, ethnicity, religion or SES. Of married women of reproductive age, 75% had a monogamous relationship and 20% was in a marriage with one or more co-wives. The remaining part did not know if there were any co-wives. Although less prevalent among adolescents, 9% of 15-19 year old married girls were in a union with one or more co-wives, while 5% did not know whether the relationship was polygamous (15). According to INSIDA, condom⁸ use among women (15-49 years) in polygamous relationships was 2.3 times lower than those in monogamous relationships (55).

Transactional sex and spousal age differences

Girls engaged in transactional sex and cross-generational relationships – sexual partnerships between individuals 10 or more years apart in age (80) – are at high risk of unintended

8. With 'condoms', male condoms are meant.

pregnancy, STIs and sexual coercion. A prime reason is that in such relationships, power-imbances render girls unable to negotiate condom use or other forms of contraception (5). Transactional and cross-generational sexual partnerships have a firm socio-economic and cultural base throughout Mozambique and are key drivers of adolescent pregnancy and HIV (7, 21, 30).

In SSA, transactional sex is largely driven by the inability to meet basic needs (food and school fees) (7, 11, 21, 68, 83). Moreover, studies in Botswana, Malawi and Mozambique disclosed that some parents or caretakers implicitly or – to a lesser extent – explicitly exploited girls for economic gain (7, 19, 68). In some Mozambican villages, community members did not consider transactional sex with minors a violation of children’s rights and there was a tendency to hold girls responsible for such practices (19). For example, in Mozambican rural communities, *tchuna baby* trousers (low-rise trousers showing waist and belly bottom) had become the symbol for girls’ desired social identity and were perceived by male community members as invitations to lure men into sex (7). Apart from poverty as such, a culture of consumerism – caused by normative societal changes and peer pressure – also seemed to drive transactional sex between girls and older men in Mozambique and surrounding countries (7, 81).

As stated in INSIDA, 22% of Mozambican adolescent girls had a husband or partner of at least ten years older. Although spousal age differences were the highest among uneducated, poor girls and in provinces Niassa and Sofala, cross-generational relationships were prevalent in all categories (30, 32).

Attitudes towards adolescent sexuality

Rigid communal standards lead to the belief that unmarried adolescents *should not* be sexually active and that they should therefore be denied access to SRH/FP services, contraception and sexuality education (1, 2, 4, 5, 14, 69). Partially due to disapproving communal attitudes, adolescents may not feel free to access SRH/FP services (5, 44). Having a voice in the community and safe, private spaces like youth centres (YC) can strengthen adolescents’ autonomy, which may diminish the risk of early pregnancy (5, 44). In Mozambique and many other settings in SSA, openly discussing sexuality and sexual health within the community is frowned upon (11, 54, 69). On the other hand, from the early nineties, SRH education went hand in hand with HIV prevention, bringing along a gradual sensitisation at every level of society (11, 12, 74). Although in their systematic review, Zuurmond *et al* question the importance of youth spaces in SSA in improving ASRH outcomes (84), Parkes *et al* found that girls’ clubs in Ghana, Kenya and Mozambique positively affected knowledge, attitudes and practices (KAP) in managing GBV. They also suggested that such clubs could help altering taboos around sexuality and sexual violence and that boys’ clubs might have the same positive effects (54).

Availability, accessibility, affordability and acceptability of SRH/FP services and maternal care

A well-functioning health system and age-appropriate SRH/FP services can lower the risk of adolescent (repeat) pregnancy (5, 44). However, SRH/FP clinics may not be easily reached or understaffed. Contraceptives – if available – may have exceeded expiry dates and quality contraceptives may be costly. In addition, staff may not be willing to provide for adolescents or single girls (10). Youth-friendly health services (YFHS) offer privacy and confidentiality, discretionary staff, convenient opening hours and a – preferably integrated – range of SRH services, including contraceptive counselling and provision, VCT, ART and maternal health care (85). Maternal care for pregnant girls and adolescent mothers helps prevent complications during pregnancy and delivery and presents an opportunity to offer information and contraception, aiming to prevent or postpone repeat pregnancies (5, 44). In Mozambique, accessible SRH/FP services for young people are one of the constituents of PGB (11-13, 27), described in more detail in Chapter 5.

The 2011 DHS reported that the proportion of Mozambican 15-19 year old pregnant girls who received modern antenatal care at least once, was slightly above the average for all age groups: 92% versus 90%. Almost no adolescent girls used the traditional sector. Of adolescent girls, 61% gave birth in a public health facility, 36% delivered at home and assisted delivery rates were higher than for other age groups (15). Compared to older women, girls experienced slightly less obstacles accessing maternal health facilities (14, 15) and they identified the most prominent barriers as long distance (49%), lack of money (35%), objections to go alone (18%) and difficulties in getting parental or spousal permission (10%) (15). Overall, urban women (15-49 years) with high educational levels and a high SES were the most likely to receive antenatal care (15).

Contraceptive use

Adolescent contraceptive use can be affected by the individual (ignorance and fear of side-effects; risk-taking behaviour; internalised gender norms), the family (gender norms; openness about sexuality; parental consent; religion; wealth), school, peers and partners (CSE; peer pressure; gender norms; spousal consent), the community (gender norms; adolescent autonomy; availability, accessibility, affordability and affordability of safe spaces such as YC and YFHS) and national factors (education; priorities for ASRH; laws; wealth) (5, 10, 81).

In many LMICs, single girls may be particularly challenged to access SRH/FP services and obtain contraceptives: despite a worldwide steady trend towards increased sexual activity among unmarried girls, local norms do not necessarily catch up with changing societal values. On the other hand, married girls or those in unions generally have low levels of contraceptive use, but high levels of unmet need and may risk (sexual) violence, divorce or other

punishments if they do not live up to societal expectations of motherhood or if they are caught using contraceptives (5).

In the 2011 DHS, just over 8% of Mozambican adolescent females used a modern method of contraception at the time of inquiry (5.2% male condoms, 1.8% the pill, 1.0% injectables, 0.2% female condoms). Modern contraceptive use among sexually active single girls was higher than among girls who were married or in unions (27% versus 6%) and so was the number of methods. The DHS does not provide any data on the use of emergency contraception (EC) (15). According to INSIDA, adolescents had higher levels of condom use during their last sexual intercourse than other age groups, except from 12-14 year olds, who reported unavailability as the main obstacle, besides the belief that condoms were not necessary. Girls (12-14 years) also reported disapproval by their partners, whereas inconvenience was a third motive among boys this age. Overall, condom use among adolescents had substantially increased: in 2009, 23% of 15-19 year old girls (15% in 2003) and 23% of boys of this age (8% in 2003) reported using condoms during their first sexual intercourse (55).

Safety and sexual violence

A neighbourhood that cherishes and empowers adolescents and, moreover, has clear rules and consequences, can protect them from engaging in sexual high-risk behaviour (44, 68). Conversely, a climate of sexual violence and coercion is a key contributing factor (5, 44, 54, 86): girls in LMICs who had ever experienced sexual coercion or whose first sexual intercourse had been forced, had a significantly higher chance of pregnancy (43).

Research showed that compared to their rural counterparts, poor, urban adolescents in SSA had riskier sexual behaviour in terms of an earlier sexual debut, lower condom use and more MCPs, which was partly explained by a lack of social solidarity and fewer positive adult role models (86). In a study about girls' vulnerability to HIV in Botswana, Malawi and Mozambique, girls identified the most unsafe communal spaces as those where alcohol was sold without age-regulation, such as discos and bars (7).

Violence against minors, including corporal punishment, trafficking and child marriage, is widespread across Mozambique (19, 23, 74). An estimated 1000 Mozambican females are trafficked to South Africa each year for sexual exploitation (19). In Mozambique itself, large numbers of commercial sex workers, some as young as ten years, operate in areas with high rates of male migrant workers and along major trade routes (19, 30). Unaccompanied minors illegally crossing borders are particularly vulnerable to sexual violence (19). Another driver of sexual violence against girls is the view that having sex with a virgin can cure AIDS (82).

4.6 National level determinants

At the national level, contributing factors include policies and strategies in favour of ASRH; economic and political climate; natural environment; child- and gender-related laws.

Policies and strategies in favour of ASRH, economic and political climate and natural environment

A key protective force against early pregnancy is the national investment in adolescent – particularly girls’ – human capital (5, 44). Empowering adolescents by assuring education, job opportunities and age-appropriate SRH/FP care strengthens their ability to be in charge of their own lives (1, 2, 5, 14, 44). Conversely, political turmoil and natural disasters can distort social equilibria, health, educational and economic systems: increased risks of sexual exploitation and limited access to SRH/FP services makes adolescent pregnancy more likely (5, 14, 44, 71).

Despite Mozambique’s rapid economic growth, jobs for adolescents remain elusive, although compared to the rest of SSA, Mozambican women aged 15+ are active participants on the labour market (87). By ratifying the Convention on the Rights of the Child (88), the government agreed to acknowledge adolescents’ resilience. In other words, it regards adolescents sufficiently mature to make independent decisions on vital issues, including SRH/FP (5, 14). And since the creation of the Ministry of Youth and Sports (MJD) in 1992, the government prioritised young people’s health, including the formation of a School and Adolescent Health unit in the MISAU (11-14). Under the umbrella of PGB, YFHS were established and scaled-up throughout the country, along with community- and school-based interventions (11-14, 27, 89, 90).

As mentioned, Mozambique has been politically stable for over two decades (16, 17, 21). But in terms of natural environment, the country is highly vulnerable to climate change, resulting in ravaging floods and cyclones (91). For example, after heavy rainfall in Gaza province in 2013, girls became increasingly engaged in transactional sex (5, 14): alongside the disrupted local health system, risks of pregnancy and STIs substantially increased (14).

Child- and gender-related laws

Ratification of international legal human rights instruments and congruous laws and policies can protect girls against marriage and sexual abuse, guarantee them education and facilitate access to age-appropriate SRH/FP services (5, 44).

In Mozambique, discrimination based on race, gender, disability, language or SES is prohibited, although females are often disadvantaged (29, 74, 92). The government approved international legal instruments to safeguard children’s rights, although enforcement of the law on child protection is weak (22, 74, 88). Rape is prohibited by law and punished with two to twelve years imprisonment (29, 74). The 2009 domestic violence law forbids violence

against women, spousal rape and sexual harassment (29, 74, 76), although (spousal) rape and intra-family rape (incest) often go unpunished or are settled through financial measures, if reported at all (29, 74).

The Family Law Act (2004) states that the minimum age at marriage is 18 years for both sexes. Exceptionally and with parental or a legal guardian's consent, children may marry at age 16 (14, 29, 32, 73, 74, 88). But due to weak law enforcement and dual legal systems (national and customary laws), child marriages continue to be contracted (14, 19, 70, 73, 74).

Mozambique has no restrictive laws regarding minimum age of contraception use – including EC – which is available with or without prescription (52, 93). As pointed out, abortion is allowed in certain circumstances (14, 51, 52).

As noted before, in reality, all described determinants act at different levels simultaneously. Chapter 5 will give an overview of interventions in Mozambique and identify good practice examples elsewhere in SSA, which could be applied to the Mozambican context.

Chapter 5. Interventions aiming to reduce adolescent pregnancy rates in Mozambique and good practice examples

5.0 Introduction

This chapter describes Mozambique's national SRH/FP programme for young people, 'Projeto Geração Biz', as well as other, local interventions aiming to enhance ASRH outcomes. It also gives an overview of good practice examples elsewhere in SSA.

5.1 'Projeto Geração Biz'

'Projeto Geração Biz' (1999) aims to improve young people's SRH outcomes. The MISAU, MINED and MJD collaborate with community-based organisations (including youth organisations) and 10-24 year olds to deliver three interlinked complementary interventions: school-based CSE, community-based outreach and YFHS (11-13). Instrumental to the programme is the involvement of girls and boys as voluntary PEs, supported by willing parents, teachers and media professionals. Young people are also actively involved in coordination committees at national, provincial and district levels (11).

The MISAU included PGB as part of its School and Adolescent Health programme, trained nearly 2,500 nurses as YFHS providers and expanded and improved existing YFHS (11). For its part, the MINED developed a teachers' training curriculum (11) and integrated CSE as cross-curricular themes in primary and secondary schools. Topics like sexual and reproductive rights, initiation rites and factors influencing decision-making processes (community, church, school, family, taboos) are progressively incorporated and specific SRH topics are taught, including contraceptive methods, child marriage, consequences and prevention of adolescent pregnancy and sexual harassment. Through role-plays, adolescents are encouraged to practice saying no to sex or to seek advice (94). The MJD sensitised parents and community leaders and fostered youth organisations and other organisations, which in turn contributed with PEs. Over the years, PGB has widened its range of themes to include gender inequality, GBV, transactional and cross-generational sex. As mentioned, through decentralisation – a shift from central and provincial to district management – communities nowadays increasingly own the programme, although this has been beset by technical and managerial hurdles (11, 90).

Results

According to an external evaluation (2012), PGB reached over 4 million young people through an interwoven system of YFHS, school-based education and community-based outreach and covered 220 of the country's 408 administrative posts (12). Positive changes among adolescents' knowledge, attitudes and care seeking-practices were achieved, as well as some improvements in their sexual behaviour and health outcomes (12). Raw data from the PGB Central Database and provincial reports (2005-2010) showed that while school coverage grew at a rate of 25% annually, the average number of pregnancies per school decreased at an annual rate of 26% (11). Through PGB, more than 1.5 million young people consulted YFHS and 17 million condoms were distributed during the period 1999-2010 (11). As mentioned, condom use among female and male youth notably increased between 2003 and 2009 (31, 55). Furthermore, PEs signalled changes in local values, reflecting a weakened grip of sexuality taboos on communities (11). However, a KAP survey concluded that school-based CSE lacked effectiveness due to a complex interaction of teachers acting immorally, girls seducing teachers and defeatist HIV positive youth. Moreover, the MISAU halted expansion of YFHS in favour of service integration (95).

5.3 Other programmes on adolescent pregnancy and on cross-cutting themes

Other agencies active in adolescent pregnancy, child marriage, GBV and education are the Ministry of Interior (MINT), the Ministry of Justice (MinJus) and the Ministry of Women and Social Action (MMAS) (19). Important local NGOs include Associação Moçambicana para Desenvolvimento da Família (AMODEFA) (11, 14), the women platform Forum Mulher (92) and N'weti (95). International players include Pathfinder International, Plan International, Population Services International (PSI), the Joint United Nations Programme on HIV/AIDS (UNAIDS), UNFPA and UNICEF (11, 18, 19, 31, 70).

Plan International's 18+ Programme addresses child marriages in Malawi, Mozambique, Zambia and Zimbabwe (70). Forum Mulher, Pathfinder International and PSI Mozambique are currently implementing The Female Condom Programme (2011), aiming to reducing HIV infections and unintended pregnancies (96). Other examples include a joint programme on children's rights by UNICEF, Radio Mozambique, the Institute of Social Communication, the National Television of Mozambique and the Forum of Community Radios; community programmes of mobile multimedia units and theatre activities (31) and Pathfinder International's 'mCenas!', an on-going programme aiming to identify and tackle misconceptions and myths about SRH/FP among youth by developing positive stories and providing informational short message service (SMS) alerts (97).

5.4 Good practice examples

The table below illustrates good practice examples from several SSA countries – broadly categorised according to Blum’s five levels of determinants⁹ – which could be applied to Mozambique (table 5.1.).

Table 5. 1. Good practice examples elsewhere in sub-Saharan Africa

Level	Good practice examples
1. Individual	The ‘Mères-Educatrices Project’ in Burkina Faso delivers door-to-door information on SRH/FP to married adolescent girls, as well as support during their first pregnancies. ‘Mères-Educatrices’ are young mothers themselves and target girls who are at risk of early marriage, as well as community and religious leaders to inform them on human rights and about the dangers of child marriage and early pregnancy (10).
2. Familial	A CCT programme in the Malawian Zomba district – with high school dropout rates and the country’s highest HIV prevalence among 15-49 year old women – proved highly effective in reducing the incidence of child marriage and adolescent pregnancy. Participating households received a \$10 monthly transfer and the programme paid the secondary school fees if a girl attended class for at least 75% of the school days in the previous month. Unconditional cash transfers (no conditions, only cash) produced even better results (5, 10, 41, 62, 76).
3. School/peers	In a study in Kenya, Duflo <i>et al</i> concluded that providing free school uniforms to girls lead to an increased enrolment, 18% lower drop-out rates and a 17% decrease in ABRs. However, out-of-wedlock ABRs remained unchanged, indicating that lowering educational barriers helped to reduce child marriage rates, which subsequently resulted in lower ABRs (5, 41, 98). The ‘Tuseme’ (‘Let us speak out’) empowerment programme (launched in 1996 by the Forum of African Women Educationalists) teaches girls negotiation, decision-making and leadership skills through drama, songs and

9. The above mentioned multilevel interventions act at different levels simultaneously and for this reason, categorisation into one of Blum’s levels of determinants is somewhat arbitrary. The discussion section will subsequently link the examples – if appropriate – to the Mozambican context.

creative arts. The model has been introduced in 15 sub-Saharan African countries and reached 80,000 girls since its implementation and lead to girls' increased self-esteem, leadership, social and life skills, more positive attitudes among teachers towards girls and a decrease in sexual harassment (10, 99).

The World Bank's most recent pilot project to improve girls' educational opportunities is the 'Adolescent Girls Initiative' (founded in 2008), which promotes adolescent girls' transitions from school to rewarding employment in eight low-income and post-conflict countries (10, 100).

4. Community

Ethiopia's 'Berhane Hewan' ('Light for Eve') – a pilot programme addressing child marriage – provided school supplies and assets (a goat or a chicken) to girls, assigned female mentors to girls' groups and stimulated community members to identify problems and to devise their own solutions to it. Marriage rates among 10-14 year old girls decreased ten-fold, school enrolment increased three-fold and married girls were three times more likely to use FP methods (10, 72, 77).

'Sonke Gender Justice' (founded in 2006) is a South African-based NGO that promotes gender equality, GBV prevention and the reduction of the spread and impact of HIV/AIDS in several sub-Saharan African countries, targeting boys and men. The programme lead to significant positive changes in masculine ideologies, health beliefs and behaviours (101).

Through 'The Regai Dzive Shiri Project' (founded in 2003), trained PEs taught young people from 30 communities in south-eastern Zimbabwe about sexuality, related themes and life-skills. Simultaneous community-based programmes targeted parents and other stakeholders, aiming to increase knowledge about SRH, communication between parents and children and community support for ASRH. Nurses and other staff in rural clinics were also trained to deliver more accessible services to adolescents. Although the programme was designed to prevent HIV infection among young people, it resulted in fewer adolescent pregnancies (5, 102).

Since 2004, the worldwide organisation Dance4life aims to reduce the spread of HIV/AIDS and to address SRH issues including pregnancy, taboos around HIV/AIDS and sexuality and access to YFHS. By using music and dance and through active involvement of young people, Dance4life obtained significant cognitive and behavioural changes among young people. In SSA, Dance4life is active in Ghana, Kenya, South Africa, Tanzania, Uganda and Zambia (103).

In consultation with local chiefs and religious leaders, the Ministry of Health of Mali is advocating contraceptive use and birth spacing, encouraging couples to discuss FP and to use SRH/FP services (10).

5. National

Worldwide, laws have been passed to raise the legal age at marriage to a minimum of 18 for both boys and girls. Nevertheless, many low-income countries still allow child marriage through customary laws or because of weak law enforcement (10, 70).

6. Discussion

Adolescent pregnancy is not always necessarily seen as misfortune. Some girls freely decide to have children at a young age and cope well with motherhood. On the other hand, for the majority of girls in LMICs, childbearing is something beyond their personal control (10). In light of the overall negative health and socio-economic consequences of early pregnancy in Mozambique, where fertility rates among girls are the highest of the region, this thesis – first of its kind – presented a comprehensive study of determinants of pregnancy among Mozambican adolescent girls. Understanding these intertwined and context-specific determinants can contribute to the development of more effective strategies to reduce adolescent fertility rates in Mozambique.

Adolescent pregnancy involves both genders (35). In fact, **gender** and derived gender norms are one of the most powerful determinants of adolescent pregnancy in Mozambique, where deeply ingrained values stereotyping femininity and masculinity can lead to high levels of sexual violence against girls and women and encourage sexual risk-taking behaviour among both sexes. Moreover, internalised norms blur the meaning of ‘intended’ and ‘unintended’ pregnancy and hence perpetuate the acceptability of early marriage and childbearing. Gender equality lies at the heart of a girl’s capacity to control her fertility and on this point, targeting boys and men is essential. An approach similar to the ‘Sonke’s Gender Justice’ programme (101) would therefore be recommended in Mozambique, whether or not in addition to PGB. Males responsible for girls’ pregnancies should actually share responsibility, for example, by being reprimanded at school or in the community.

Another key determinant is **poverty**. Although economically, Mozambique is in the overtaking lane, over half of the country’s population lives below the national poverty level. Like gender norms, poverty acts at all levels, from a girl’s choice to engage in transactional sex to meet basic ends, from parents deciding to keep their daughter home for domestic chores or to marry her off, from public schools lacking the most basic facilities, from the scarcity of HRH to the governmental decision to halt the expansion of YFHS. Facilitating the adolescents’ transition of from school to lucrative employment (see The World Bank’s ‘Adolescent Girls Initiative’ (100)) and offering out-of-school adolescents vocational training is vital to attain lower adolescent fertility rates. CCT or unconditional cash or asset transfers (75, 77, 98) and (transport) vouchers for YFHS or regular SRH/FP services for girls from the poorest households are other potential strategies.

Education is a third critical determinant of early pregnancy and offers the most tangible, short term solution of all other determinants. In Mozambique, pregnancy is a major reason for girls to drop out of school, while staying enrolled is a protective factor, especially in schools where CSE is taught (11, 94). Although the government backs a pragmatic approach towards

adolescent sexuality, behaviour and outcomes remain CSE's primary point of focus. Shifting these towards reflection and choice – in line with the rights-based programmes of some countries with very low ABRs (the Netherlands, Sweden) – would cultivate a more positive attitude towards adolescent sexuality (65).

Mozambican public schools also face enormous challenges in terms of supply, counteracting the effect of CCTs (18) and possibly comparable programmes. Sexual harassment of female students by male peers and teachers is commonplace – aggravated by a presumed lack of female teachers in secondary schools. Since 2003, pregnant girls may (only) attend evening education. However, this policy – aiming to “de-normalise in-school pregnancy” – could backfire: night schools are often more distant and unsafe to reach and as a consequence, pregnant girls may drop out after all. This can further marginalise them and widen the gender gap in terms of enrolment (56). In this regard, South Africa pursues a more progressive policy prohibiting schools to dismiss pregnant girls (41), while re-entry policies of countries like Kenya and Zambia facilitate the later return of young mothers (104). Taking the ‘Tuseme’ empowerment programme (99) as an example, girls should be made aware of their rights and teachers should be rebuked in case of sexual extortion. Alleviating supply constraints in schools should be prioritised and evening education for pregnant girls reconsidered.

Gender inequality, poverty and the lack of quality education merge in another especially relevant determinant, **child marriage**. Marriage marks a turning point for girls, who are no longer considered children and usually expected to become mothers (5, 41, 65, 70). Despite the reported decline in acceptance of early marriage in Mozambique – apparently the result of the 2004 Family Law Act – customary weddings, including polygamous marriages, between girls and older men continue to be conducted. The effect of this law may thus be nullified by the informal nature and the corollary lack of registration of child marriages (70). Alongside government's efforts to end child marriage (for example, through CCT schemes, where families receive a monthly remittance if they postpone their daughters' marriage and keep them enrolled, as was done in ‘Berhane Hewan’ (77)), obligatory registration of all forms of marriages and alignment of the two legal systems should be aspired, as well as enforcement of current laws.

Many *unmarried* Mozambican girls also engage in sexual relationships with (much) older partners. These **cross-generational sexual partnerships** are often based on **transactional sex**. Both determinants substantially increase early pregnancy risk, because in such relationships, girls usually lack power and skills to negotiate contraceptive use and extreme power differentials make sexual coercion more likely. Messages about the dangers of cross-generational and transactional sex should become better integrated in existing programmes such as PGB and should also be spread in communities and YFHS through SMS alerts, brochures, posters and other kinds of media.

Low levels of **contraception** and more importantly, the minimal use of other-than-male-condoms forms of contraception among Mozambican adolescents is another matter of

concern. Female condoms, the pill, IUDs and EC can empower girls by giving them a sense of control about their fertility and their health. In this respect, the female condom is particularly relevant, as it is the only female-controlled contraceptive preventing both pregnancy and STIs (105, 106). Female-controlled forms of contraception should be promoted and be easily available for sexually active (married) girls.

'**Projeto Geração Biz**' is a blueprint of the government's efforts to enhance ASRH outcomes and internationally regarded as a good practice example (5), although decentralisation may cause technical and managerial difficulties (11). In terms of scope, PGB exceeds 'The Regai Dzive Shiri Project' (102), which is therefore not applicable to Mozambique.

A study in rural Mozambique demonstrated generally unsatisfactory **adult-child communication**, especially on sexuality (68), implying that societal norms are difficult to change. In addition, enormous numbers of **vulnerable adolescents**, such as (AIDS) orphans, highlight the need for extra-familial (and extra-curricular) channels of communication about ASRH, such as music and dance (Dance4life) (103). In this respect, **safe and cherishing neighbourhoods** are critically important, even more so in light of Mozambique's rapid urbanisation. This calls for the creation of safe spaces and girls' groups lead by female mentors such as Ethiopia's 'Berhane Hewan' programme (77).

Despite PGB's positive impact on ASRH, girls who are *already married* may fall between the cracks: the 2011 DHS shows a substantial decline in contraceptive use among Mozambican married women of reproductive age compared to 2003 (15). This trend, which could be attributed to the introduction of ART, signals that pregnancy risks among married girls may very well have increased. These girls should be actively approached through, for example, door-to-door campaigns as in the Burkina Faso 'Mères-Educatrices' project and through collaboration between the MISAU and community leaders to advocate birth spacing among married couples as was done in Mali (10).

As for Mozambique, the strongest determinants of adolescent pregnancy – gender inequality, poverty and poor education – seem to generate many other risk factors, leading to the view that adolescent pregnancy is a symptom of underlying inequities. Therefore, interventions solely aimed at lowering ABRs are not necessarily the most effective approach (41). Instead, holistic approaches in the form of multilevel interventions which aim to empower girls – vulnerable girls in particular – without ignoring the role of males, have had a documentable effect on preventing adolescent pregnancies (5).

This study has several limitations. Due to time constraints imposed on research and documentation, the literature survey was restricted to the period 2009-2014. Additionally, various NGO programmes pursuing similar goals (improving ASRH outcomes) in Mozambique made it difficult to disentangle the most effective strategies in regards to lowering ABRs, since programmes overlapped and results remained unclear. As described, the DHS does not include respondents below age 15 and hence, the knowledge gap about SRH and marital status of Mozambican 10-14 year olds is wide. This is a crucial shortcoming, because very

young adolescents may be the most promising target group regarding early pregnancy prevention. Although the MICS and INSIDA bridge this gap to some degree, comparative data remained patchy, which could hamper its interpretation.

Conclusion and recommendations

Early childbearing negatively affects maternal and child health, girls' education, human rights and economic productivity. With 167 live births per 1000 15-19 year old females, adolescent fertility rates in Mozambique are the region's highest and they are perpetuated by gender inequalities, poverty and a lack of adequate schooling, alongside other culturally and socio-economically deep-rooted determinants like child marriage, transactional and cross-generational sexual relationships. A low use of (female-controlled) contraceptives, particularly in married girls, an inadequate parental-child communication about sexuality and a lack of safe spaces for girls also notably increase adolescent pregnancy risks.

Fifteen years after implementation of the internationally renowned 'Projeto Geração Biz', adolescent fertility rates did not notably lower.

Due to the complexity of the determinants, budgetary constraints, the vastness of the country and the numerous other ASRH programmes which may or may not help lowering ABRs, there is no one-size-fits-all solution. However, as underlying inequities perpetuate adolescent pregnancy, programmes aiming to improve ASRH outcomes, such as PGB, should be embedded in strategies tackling gender inequalities, adolescent unemployment and the low quality of public schools and low girls' enrolment rate. Therefore, the thesis recommends the following measures:

1. At a research level, include very young adolescents in the DHS. More data on sexual and reproductive health of 10-14 year olds is urgently needed.
2. The Ministry of Education to address chronic supply constraints in schools and enhance the balance in numbers of female and male teachers to create a more supportive school environment for girls and to reduce sexual harassment of girls by male teachers. Given the possibility of a reverse effect of the 2003 policy that aims to target pregnancy-related dropouts, more progressive policies towards pregnant girls and young mothers would need to be considered. Furthermore, adequate sanctions to be imposed on teachers and peers for sexual violence and extortion of female students.
3. The ministries of Education and Health to adapt the current comprehensive sexuality education programme by shifting its focus from behaviour and outcomes towards reflection and choice, to foster a more positive attitude towards adolescent sexuality.

4. A substantial increase in the involvement of males in comprehensive sexuality education programmes. In a broader sense, it is recommended that males be made aware of their own views on masculinity and of females' rights to refuse sex and to determine their fertility in and out of marriage; in addition to an increase in awareness among males of the negative consequences of transactional and cross-generational sex.
5. The Ministry of Education, in collaboration with industry bodies, to create adequate and relevant educational and training outcomes for adolescents. Special attention would be paid to vulnerable adolescent girls, such as girls from the poorer households, orphans and sex workers. In addition, CCT, unconditional or asset transfer programmes and voucher schemes for these groups would have to be considered to improve girls' educational participation.
6. Health planners to promote and enhance access to female-controlled contraception – the female condom in particular – for all sexually active adolescent girls.
7. Local authorities to aim to officially register all marriages and align civil and customary legal systems. In addition, policymakers in collaboration with community leaders could take a clear stand in discouraging and preventing child marriage through media campaigns, law enforcement measures and rewards in the form of CCT or assets.
8. Local authorities to encourage collaboration with community leaders to encourage birth spacing among married couples. In addition, parenting and non-parenting married girls would need to be actively approached by, for example, door-to-door visits by PEs.
9. At the community level, cherishing neighbourhoods would need to be fostered and rewarded. Safe spaces for girls should be created or expanded, for example in the form of girls' clubs with female mentors.

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Annex I

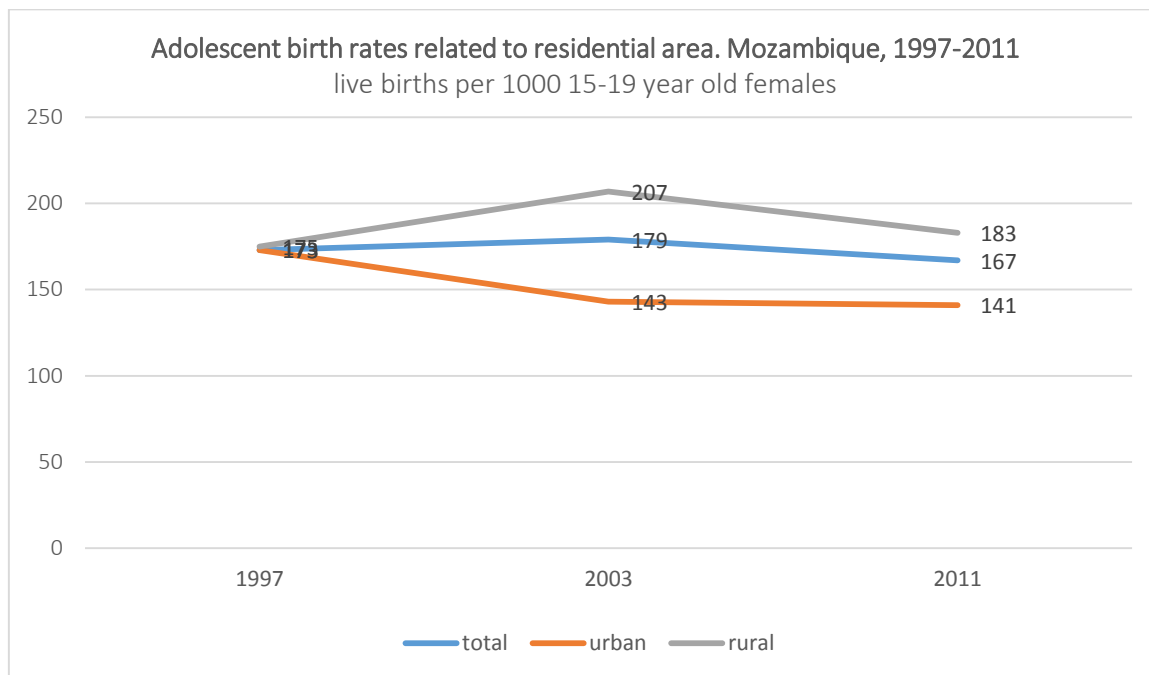
Figure 1. 1. Map of Mozambique



Source: <http://www.emapsworld.com/mozambique-provinces-map.html>

Annex II

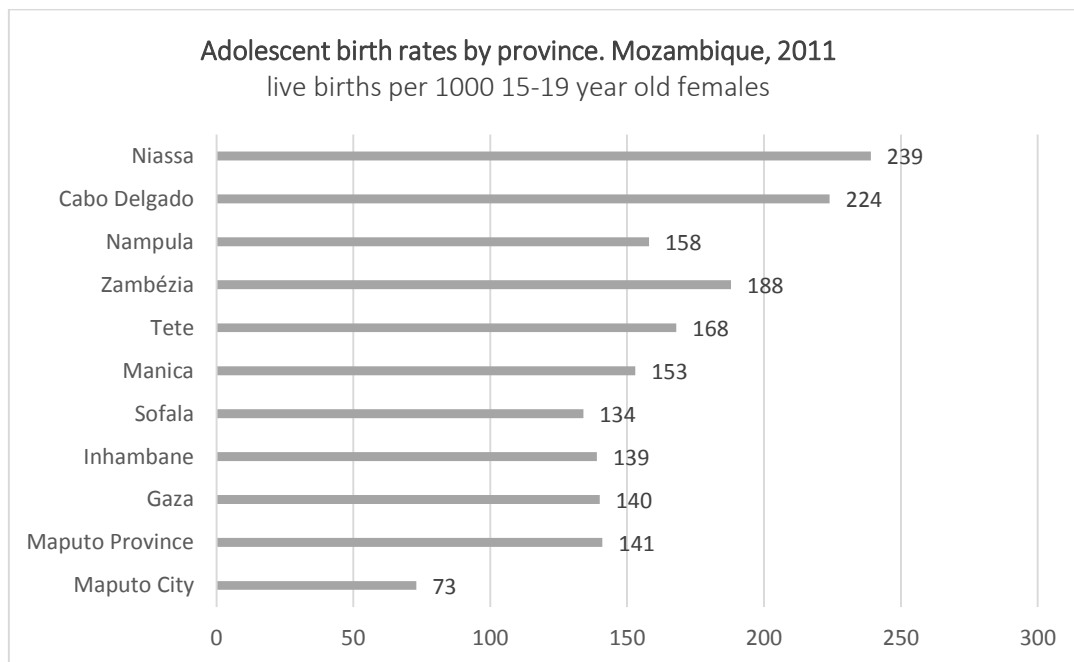
Figure 3. 1. Adolescent birth rates related to residential area. Mozambique, 1997-2011



Source: Norte 2013 (14)

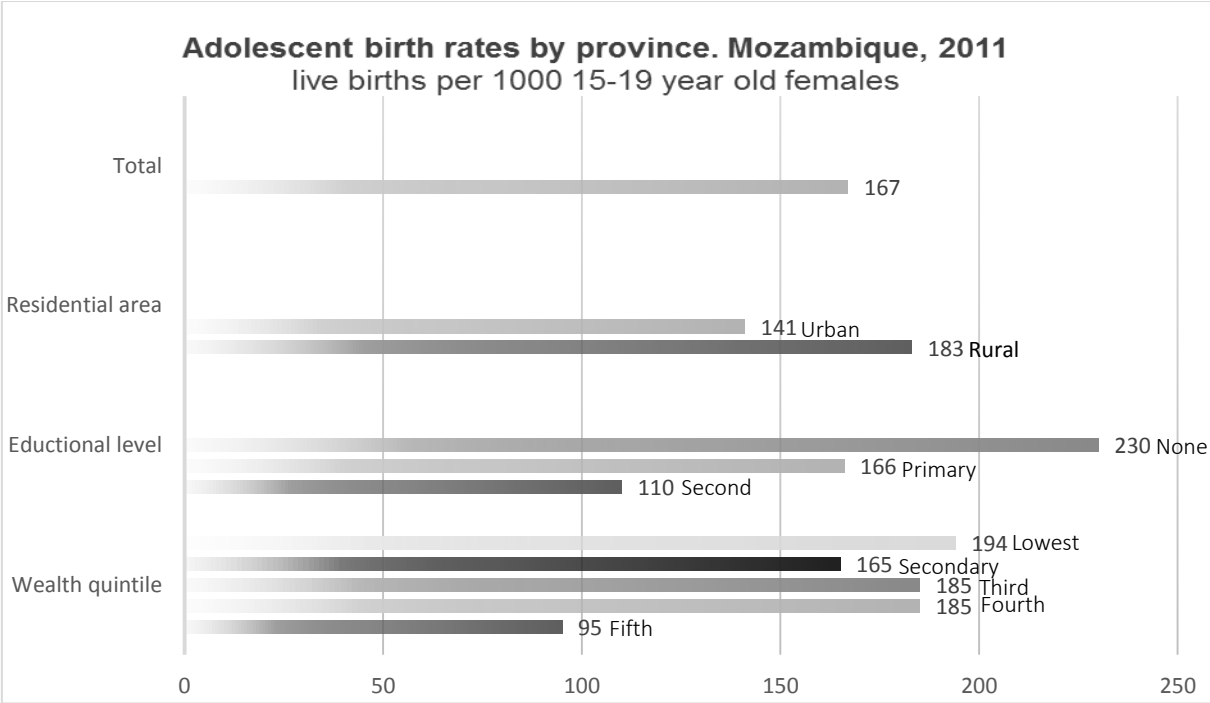
Annex III

Figure 3. 2. Adolescent birth rates by province. Mozambique, 2011



Source: Norte 2013 (14)

Figure 3. 3. Adolescent birth rates by background characteristics. Mozambique, 2011



Source: Norte 2013 (14)

