INVESTMENT CASES THE FOR TRANSFORMATIVE RESULTS IN KENYA

2022

ACKNOWLEDGEMENTS

Table of Contents

List of Tables

List of Figures

EXECUTIVE SUMMARY

The Kenya Health Policy Framework 2014 – 2030 is anchored within the Constitution of Kenya (2010) that proposes a human rights approach to health services delivery in which every person has a right to the highest attainable standard of health including reproductive health rights. The constitution places responsibility on the Government to ensure significant improvement in the overall health status of its citizens in line with the country's long term development agenda, vison 2030 and global commitments. The investment case proposed here emanates from commitments made by Kenya at the International Conference for Population and Development (ICPD25) as well as its commitment to the attainment of the Sustainable Development Goals (SDGs) by year 2030. While Kenya made several commitments at the ICPD25 conference, the investment case presented here focuses on the three transformative results set forth by the United Nation Population Fund, (UNFPA) namely, zero unmet need for family planning, zero preventable maternal deaths and zero gender-based violence and all other harmful practices including Female Genital Mutilation (FGM) and early or child marriage. The investment cases are premised on the logic that the costs of achieving the three zeros in the transformative results are quantifiable and that over time the benefits will exceed the costs incurred. The investment case offers an opportunity for Kenya to prioritize high impact and cost effective interventions that are required to accelerate progress towards achievement of the transformative results committed to by the UNFPA and partners. The investment cases are expected to also inform partnership efforts and mobilization of additional domestic and international financing required to achieve the transformative results at the country level.

The modelling and impact is based on the Impact40 (impact40.org), a platform developed by UNFPA. The UNFPA Tool to Estimate Transformative Results Impact and Cost is an evidence-based approach to guide strategic planning for ending preventable maternal deaths, ending unmet need for family planning, and ending harmful practices which include female genital mutilation, child marriage, and gender-based violence. The modular platform allows users to enter various inputs to estimate gains for informed prioritization. The UNFPA Tool was developed in partnership with Avenir Health and Johns Hopkins University in collaboration with Victoria University. For this investment case, three scenarios were developed and compared where coverage was at modest scale up, planned scale up and the ideal scale up (generally at 100%).

The following presents a summary of the impact and cost of scaling up effective coverage of interventions required to achieve the three transformative results.

Ending Preventable Maternal Deaths

- The results indicate that if current coverages are scaled-up to the modest scenario, the estimated deaths averted will increase from 151 in 2021 to 1,510 in 2030 and if based on the planned scenario, the deaths averted would increase from 270 in 2021 to 2289 in 2030. Scaling up the interventions to ideal (full) coverage, the deaths averted would increase from 331 in 2021 to 2583 in 2030.
- The total cost for the modest scenario will increase from KES 21.58 billion in 2021 to KES 36.50 billion in 2030. Based on the planned and ideal scenario, the total cost will increase to KES 47.90 billion and KES 53.92 billion in 2030 respectively.
- Scaling up interventions will result in rising incremental costs and investing in maternal interventions will confer benefits to the country in terms of averted maternal and also child mortality. It is also seen that in all the scenarios, investing "one" shilling in the maternal interventions brings more than "six" shillings, which is over 600 percent return on investment in the 5-year time frame.

Ending Unmet Needs for Family Planning

- In the analysis, four scenarios were considered; baseline scenario with mCPR of 58, mCPR of 60 at 2030 for modest scenario, mCPR of 64 for planned scenario and mCPR of 66 for ideal scenario. The corresponding CPR used in the analysis were 62, 64, 67.3 and 69 for baseline, modest, planned and ideal scenario respectively.
- By 2030, close to 500 lives are saved by investing at the medium level. Increasing the investment to the planned level (mCPR of 64 per cent by 2030 will drive down TFR to reach 2.92 by 2030), then then close to 1000 lives are saved. If the investment level gets to the rapid level, the nearly 1500 lives are saved by 2030.
- Based on the return of investment, for the planned scenario, every "one" shilling invested in scale up FP services would give back "twenty-two" shillings in productivity returns in the 5-time frame and "thirty-two" shillings in the longer term.

Ending Gender Based violence

- The elimination of GBV is based on IPV as a marker/tracer and the interventions used are: community mobilisation, outreach to male youth, economic empowerment, outreach to female workers, mass media and treatment and counselling.
- By 2030, the model is estimated at eliminating 35% and 45% of all cases of GBV based on the planned and ideal scenarios respectively. The total estimated cumulative cost was KES 72.9 billion for the planned scenario and KES 78.5 billion for the ideal scenario.
- Interventions thus present a cost effective mechanism in tackling cases of GBV and the benefits far outweigh the costs.

Ending Child Marriage

- Making more investments towards implementation of interventions with the highest child marriages averted such as life skills, conditional economic incentives, rural school supply and community interventions will reduce child marriage significantly for greater impact.
- However, if there is no further increase investments on interventions implemented, cases of Child Marriage would actually increase from 129,000 in 2020 to 131,000 in 2030 as the situation analysis reveals that there are increasing aspects that are increasing vulnerabilities to Child Marriage.
- With the increase in investments however, the annual number of Child Marriage will decrease from 109,000 in 2020 to 15,000 in 2030.

Ending Female Genital Mutilation

- While the expected FGM cases are about 100,000 per year, the results of using the selected indicators for interventions on Impact 40 model indicate that few cases of FGM would be reduced at about 4500 cases at most even with 100% implementation of interventions proposed.
- Based on the different scenarios, the modest scenario at 70% coverage would cost KES 106.00 million, whereas the planned coverage at 90% and ideal coverage at 100% would cost KES 171.00 million and KES 197.00 million respectively.
- The model however provides a clear guidance on the level of investments and interventions that have greater impact to end FGM in Kenya.

CHAPTER ONE:
BACKGROUND OF THE STUDY

1.1 Introduction

The International Conference on Population and Development (ICPD25) summit held in Nairobi in 2019 presented an opportunity for world leaders to renew their commitment to pursue the goals of the ICPD Programme of Action (PoA) over the decade leading to 2030. During this conference, governments, United Nations agencies, international organisations, civil society organisations and private sector institutions all joined hands in affirming the relevance of the Programme of Action and the need to commit more resources and continue with the implementation of the plan. While many PoA were set forth and commitments made by all countries, consensus converged around three transformative results set forth by the United Nation Population Fund (UNFPA) namely, zero preventable maternal deaths, zero unmet need for family planning, and zero gender-based violence and all other harmful practices including female genital mutilation (FGM) and early or child marriage. The three transformative results selected align with the SDGs that Kenya has committed to achieving by 2030. The SDG 3 aims at ensuring healthy lives and promote wellbeing for all at all ages with targets for maternal mortality (reducing maternal mortality ratio to less than 70 per 100,000 live births) and ensuring universal access to sexual and reproductive health services including family planning. Elimination of gender-based violence and all other harmful practices are captured in SDG 5. The importance of access to quality services is recognized and entrenched in the SDG 3.8 target of achieving "universal health coverage (UHC), including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all". For transformative results, it is critical to achieve UHC in the relevant services. Although Kenya presented 17 commitments to guide the implementation of the ICPD PoA in the country from 2020 – 2030, this study focuses on the three transformative results spearheaded by the UNFPA. The investment case presented here proceeds on the logic that the costs of achieving the three zeros in the transformative results are quantifiable and that over time the benefits will exceed the costs incurred by far. The UNFPA has at the global level developed models to calculate the costs and benefits of attaining the three zeros of the transformative results. The models created identify specific interventions needed to achieve the three transformative results, thereby setting the stage for the development of country investment cases. The investment case developed for Kenya thus

employs ground breaking tools developed by the UNFPA at global level to develop country level models that place a price tag to the achievement of the transformative results.

1.2 The business case for investing in transformative results in Kenya

UNFPA together with its partners across the globe, plans to attain the three transformative results by 2030 through three consecutive strategic planning cycles (1). These transformative result areas include; ending preventable maternal mortality; ending the unmet need for family planning; and ending gender-based violence (GBV) and harmful practices including female genital mutilation (FGM) and child, early and forced marriage in Kenya.

Globally it is estimated that about 200 million girls and women have undergone some form of FGM and a further 68 million are at risk of being cut by 2030 as a result of increasing population growth rates in many settings which means that the absolute numbers of girls who will be cut will continue to grow if the practice continues at current levels. In Kenya, the most recent Kenya Demographic and Health Survey (2014), estimates the national prevalence of FGM at 21%, compared to 27% in 2008/2009 and 32% in 2003 showing a slow but steady decline. This decline can be attributed to multifaceted approaches mounted by the Government of Kenya, UN agencies, NGOs and CBOs (2, 3). Despite the steady decline nationally, the prevalence of FGM remains relatively high in some communities, such as among the Somali (94%), Samburu (86%), Kisii (84%) and Masaai populations (78%) (4).

In 2014 research by UNICEF showed that more than 700 million women alive worldwide were married before their 18th birthday while more than one in three (about 250 million) entered into union before the age of 15. Other estimated projections showed that if there is no reduction in the practice of child marriage, up to 280 million girls alive are at risk of becoming brides by the time they turn 18 and due to population growth, this number will approach 320 million by 2050[3]. In Kenya, the KDHS data shows that prevalence rate of child marriage in Kenya is approximately 23% (4) with marriage occurring relatively early among women aged 25–49, 29% were married by age 18 and 9% % were married by the age of 15 while among women aged 20–49, 7% were married by the age of 15, while 27% were married by the age of 18. Of the girls and women aged 15–19, approximately 2% were married by the age of 15 (4).

With regards to the unmet need for family planning in Kenya, 43 percent of pregnancies are unplanned. Unmet need for family planning is highest among adolescents (15-19) and 20-to-29- year-olds at about 30 percent, compared to 22 percent of 30-to-34-year-olds, and one-

quarter of women ages 35 to 44 (5). Maternal mortality remains a major public health concern globally with more than 289,000 maternal deaths occurring each year (6). In Kenya the current Maternal Mortality Ratio (MMR) of 362 maternal deaths per 100,000 live births which translates to about 5,700 deaths per year (4). There is thus great need to support investments that accelerate the achievement of ending maternal mortality and unmet need for family planning in Kenya.

Gender Based Violence (GBV) remains the most pervasive yet less visible human rights violation in the world (UNICEF 2021). According to the World Health Organization (2021) report, the least developed countries had the highest prevalence of women aged 15 to 49 subjected to physical and/or sexual intimate partner violence in their life-time at 37 percent. The report further indicated that in 2018, one in five women were sexually abused in their childhood as compared to 2013 when, one in every three women had been beaten, coerced into sex, or abused in some other way. The incidence of GBV appear to be increasing in Kenya despite the recorded global decline. According to the Kenya Demographic and Health Survey (KDHS) 2014, 47% of women aged 15-49 years reported having experienced either sexual or physical violence, intimate partner violence (IPV), at some point in their lives, with 25.5% in the last 12 months. This contrasts to the findings of the KDHS 2008/2009 report in which 39% of women aged 15-49 years reported having experienced either sexual or physical violence IPV at some point in their lives. In this analysis IPV is used as a tracer (marker) for GBV since it is the data collected in the KDHS and its increase or decrease contributes significantly to the overall incidence of GBV.

1.3 Achieving transformative results in Kenya – Situation analysis

The Government of Kenya has prioritised health and particularly reproductive health as captured by the various legislative and policy documents which align to global strategies. The constitution of Kenya provides for the right to the highest attainable standard of health, which includes reproductive health for every Kenyan. It further states that a person shall not be denied emergency medical treatment and that the State shall provide appropriate social security to persons who are unable to support themselves and their dependents. One of the priority policy strategies of the Kenya Health Policy (KHP) 2014–2030 outline is to ensure access to comprehensive maternal, neonatal, and reproductive health services. The realisation of the priority strategies is dependent on appropriate level of funding. According to the KHP, the responsibility of providing the financing required to meet the right to health lies with the

national and county governments. The policy's commitment is to progressively facilitate access to services by all by ensuring social and financial risk protection through adequate mobilisation, allocation, and efficient utilisation of financial resources for health service delivery, in line with the UHC initiative. There is need for ensuring equity, efficiency, transparency, and accountability in resource mobilisation, allocation, and use for the realisation of the right to the highest attainable standard of reproductive health care which includes right to being prevented from preventable maternal deaths as well as right to having met need for family planning.

The UHC initiative is building on the existing frameworks: National Hospital Insurance Fund (NHIF) and Linda Mama Programme (Free Maternity Services) to expand coverage of essential health services. A rapid assessment of the Kenya UHC policies and roadmaps by UNFPA showed that many elements of a comprehensive package of essential SRHR services are included in the draft UHC Harmonized Benefit Package. Management of GBV including sexual assault is included. However only four out of the nine SRHR bundles are addressed comprehensively. Examples of gaps include in areas such as comprehensive sexuality education and comprehensive abortion services. The fact that UHC implementation is phased and the government intends to expand the package of benefits is an opportunity to have more comprehensive SRHR services.

1.3.1 Current state of Maternal health

Ending preventable maternal deaths is a world-changing transformative result and a recognised global priority as expressed in the Sustainable Development Goal (SDG) 3 (United Nations, 2020). The SDG 3 targets is to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births (LB), with a supplementary national target that no country should have an MMR greater than 140 per 100,000 live births by 2030 (United Nations, 2020. A maternal death is the death of a woman from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy (WHO 2021).

Though globally maternal mortality has dropped significantly, preventable deaths continue to be unacceptably high in low resource settings particularly in the Sub Saharan Africa (WHO

2019). To be on track to meet the SDG 3.1 target, acceleration of the right strategies is paramount.

Kenya has made progress in reducing maternal mortality ratio (MMR) from 488 per 100,000 live births in 1998 to 362 per/100,000 live births LB (KDHS 2014; KNBS 2015; RH strategy 2016). However, the reduction in MMR is less than global progress and does not match that of some countries that are less economically endowed (7). The Government of Kenya has set a target of reducing MMR from 362 per 100,000 live births (2015) to 113 per 100,000 live births by 2030, in line with the SDG 3 global target (MOH, 2016, Investment Case). According to the UN estimates MMR was modelled at 342 per 100,000 live births by 2017, which indicates slower progress than needed to achieve the SDG 3 target (WHO 2019). It is important to note that though there has been a national average improvement over the years in maternal health indicators, some counties have much higher MMR compared to others, with only 15 counties out of the 47 accounting for more than 50% of the national burden of maternal deaths (MOH 2016). There are clear disparities in maternal health indicators across the different counties, some population groups such as adolescents and across the socioeconomic stratum with inadequate coverage of services across the population. It is also notable that though most maternal deaths occur during the postpartum period, there is low demand for services including postpartum care and FP during this period.

Kenya has made several national policies and commitments to improve maternal health outcomes. This includes Vision 2030, the 2010 Constitution, Kenya Health Policy Framework (2014 - 2030) and the Health Act 2017. Plans and frameworks to implement these policies include; the Health Sector Strategic and Investment Plan 2014, UHC agenda, Linda Mama Initiative and Reproductive Maternal, Newborn, Child and Adolescent Health (RMNCAH) investment framework (2016). Other initiatives include the Free Maternity Services at the point of use, introduced through a presidential directive on June 1, 2013 and the First Lady's 'Beyond Zero' campaign which has been operationalised through the Strategic Framework for the Engagement of the First Lady in the Promotion of Healthy Lives and Well-Being of Women, Children and Adolescents 2018-2022. Devolution of the health as provided for by the constitution 2012, provides an opportunity for counties to identify and address their health challenges in a more contextualized way (MOH 2016).

Different supply and demand side challenges continue to hamper the government's efforts to end preventable maternal deaths. On the supply side, all the health system blocks (human

resources, supply chain, financing, Information, service delivery and leadership/governance) face various challenges. Evidence suggests that even where care is received, the quality is inadequate leading to poor outcomes (8). Lack of reliable quality data to support evidence-based decision due to the incomplete and poor quality of data from routine health information system and inefficient use of resources further compounds the challenges (9). Demand side challenges include long distances to health facilities with poor transport that is scarce and expensive, costs, sociocultural beliefs and practices and low status of women (MOH 2016).

High impact evidence-based interventions or services for maternal health include; antenatal care, skilled birth attendance with comprehensive obstetric care, postpartum care and family planning (Partnership for Maternal, Newborn and Child Health [PMNCH], 2010). Within these services contact points specific interventions for the leading causes of maternal mortality are delivered. During antenatal care high impact interventions such as ferrous sulphate and folate supplementation are done.

Data on the national prevalence of various obstetric conditions and complications such as pre-eclampsia/eclampsia, diabetes in pregnancy, postdate pregnancies, ectopic pregnancies among others is not available (MOH 2020). The Kenya Harmonized Health Facility Assessment (2018/2019) captured the availability of the basic emergency obstetric and newborn care (BEmONC) signal functions in the 2927 facilities offering delivery services, however there is no data on the number of clients receiving the specific BEmONC signal functions services such as the number of transfusions following obstetric complications, number of retained placentas removed, number of assisted vaginal deliveries and those receiving parenteral antibiotics and uterotonics making it difficult to get the national figures. There is also no data on the number of complications that are addressed by these signal functions such as the number of retained placenta making it difficult to quantify the need. Indicators for services contacts with clients are readily available, however those to capture the quality of care provided are not commonly tracked (9). Most data in the Kenya Health Information System (KHIS) is quantitative focusing on the numbers of those who receive services with little indication on the quality of the interventions. Quality of care is critical to make access to services count in reducing maternal mortality. It will therefore be important to ensure that more data on quality is available for tracking as well as supporting evidence based decision making.

The ending preventable maternal death interventions are informed by data from the KHIS and the Kenya Malaria Indicator survey. Where data was not available in the KHIS, the estimates

in UNFPA Impact 40 Model were used; the full list of the indicators and the source of data is outlined in chapter two.

1.3.2 Family Planning

Family planning (FP) refers to the preparation, knowledge, and methods that assist individuals and couples to plan and attain their desired family size and determine the spacing of pregnancy (WHO 2020). FP is one of the proven cost-effective public health strategies capable of improving lives of girls and women, promoting economic growth and improving maternal and child health (10). FP is effective in preventing unintended pregnancies, which are associated with increased risks of poor pregnancy outcomes as well as enhancing the overall quality of life for women and girls (11-13).

Unmet need for modern contraceptives refers to the proportion of sexually active, women of reproductive age who are capable of becoming pregnant but want to limit or to space their children; however, they are not using modern FP methods (WHO 2021; Demographic and Health Surveys (DHS) Program, n.d). Pregnant or postpartum amenorrhoeic women whose pregnancy/last births were wanted later or not at all are considered to have an unmet need (FP, 2015-2016, 2020 Report). The total demand is constructed based on the percentage of women of reproductive age using modern methods and the percentage estimated to have an unmet need for modern methods (FP 2020 Report).

Despite the challenges associated with FP uptake, the uptake of modern contraceptives has improved globally among married women of reproductive age, but the increase is slower than needed to meet the SDG target (FP 2020 Report). An increase of 2.1% has been achieved between 2000 and 2019 with 75.7% of women of reproductive age globally having had the FP need met by 2019 (14). However less than half of family planning needs were met in sub-Saharan Africa (SSA) and 270 million women globally have unmet need for FP by 2020 (14). In SSA, high percentage of women of reproductive age want to avoid pregnancy but are not using any method of family planning.

Kenya has made significant progress in improving the FP uptake and is among the eleven countries that achieved the MCP goals they established in their FP2020 commitments (FP 2020 report). The Ministry of Health Kenya aimed to increase modern contraceptive prevalence rate to 58% by 2020, and 70% by 2030.

The demand for family planning met/satisfied with modern contraceptive methods (mDFPS) is one of the indicators being used to track progress in FP programs for Sustainable Development Goals. Analysis of the Performance, Monitoring and Accountability 2020 (PMA 2020) survey data from 2014–2018 showed an increase in the mDFPS from 69.7–79.4% while the modern contraceptive prevalence rate (mCPR) increased from 54.6% to 60.8%. There was a decrease in the unmet need for FP from 23.0–13.8% over the 5-years. However, there was high unmet need among the married adolescent 15–19, and among women from rural areas, the poor, uneducated and those not exposed to mass media (15).

Though impressive progress has been made in improving FP uptake, various challenges persist. Reported barriers to uptake of modern family planning methods in Kenya include perceived side effects, high costs of financial access to family planning, failure of some family planning methods, peer influence, gender-based violence as a result of conflicts in families over use of FP, health system challenges, and preference for traditional family planning methods (16, 17). The challenge in access involves both physical and financial. Though FP services are available at a minimal cost, for some women the physical distance particularly in rural areas remains a challenge. Transport is not readily available in some areas and the cost of getting to the facility is a barrier for some. Supply side challenges such as limited supply of different methods continue to be experienced. According to the Kenya health facility Survey, 2018, stock outs of different methods persist in various facilities with only 57% of the facilities having all the five tracer items (Kenya 2020 core indicator handout). The tracer items considered were condoms, injectable contraceptives, the combined oral pills, progestin only pills, and blood pressure apparatus.

Multipronged interventions such as improving the health service delivery through training of health service providers and supporting commodities availability, school-based and out of-school based sexuality education; and advocacy and stakeholder engagements at the community, county and national levels have been shown to bear success in increasing FP uptake (18). Other interventions include; task-shifting, public messaging campaigns that target rumours and misinformation, adequate training, and quality counselling from providers (19), whole site FP training including FP commodity management, information and outreaches by community health workers and use of informational/educational materials at the facilities and ensuring availability of FP commodities (20), social franchising which has provided more access for FP services with more women taking up the more cost-effective, longer acting, and

permanent methods (21, 22), use of tailored messages together with improved access to a wide range of methods (21, 23), use of technology to remind clients on FP (24) and integrating FP services into other maternal health services (25, 26).

This investment case focuses on the following methods of modern contraception whose scale up is considered effective in reducing the gap in the unmet need for FP: Progesterone only pills; Combined oral contraceptive Pills; Emergency Contraceptive pills; FP Injections (DMPA); Intra Uterine Contraceptive Device insertion; Implants insertion; Bilateral Tubal Ligation; Male Voluntary Surgical Contraception; and male and female condoms.

1.3.3 Gender Based Violence

Gender Based violence is a serious historical and global problem with lasting impacts on survivors, their families and communities. Defined as any act that results in or is likely to result in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liberty whether occurring in public or private (DEVAW 1993), GBV remains the most pervasive yet less visible human rights violation in the world (UNICEF 2021).

As a member of the international community, the Kenya government has always been committed to the elimination of all forms of gender-based violence and to the effective provision of quality and accessible services to all survivors. These commitments were renewed at the International Conference on Population and Development (ICPD25) in 2019 held in Nairobi where Kenya committed to eliminate by 2030, all forms of gender-based violence – including child and forced marriages, by addressing social and cultural norms that propagate the vice while providing support to women and girls who have been affected. In line with the polices and strategies developed by the government to meet this objective, the investment case on GBV proposed here is developed as an accountability framework for implementation of ICPD25 commitments and present an opportunity to focus on the achievement of this objective. It will define the scale and scope of investments needed to prioritize proven, high impact and cost-effective interventions that are required to accelerate progress towards achievement of the transformative results committed to by government and partners.

Prevalence of GBV at global and National level

According to the World Health Organization (2021) report, the least developed countries had the highest prevalence of women aged 15 to 49 subjected to physical and/or sexual intimate partner violence in their lifetime at 37 per cent. The report further indicated that in 2018, one in five women were sexually abused in their childhood as compared to 2013 when, one in every three women had been beaten, coerced into sex, or abused in some other way

The incidence of GBV appears to be increasing in Kenya despite the recorded global decline. According to KDHS 2014, 47% of women aged 15-49 years reported having experienced either sexual or physical violence IPV at some point in their lives, with 25.5% in the last 12 months (4). This contrasts to the findings of the KDHS 2008/2009 report in which 39% of women aged 15-49 years reported having experienced either sexual or physical violence IPV at some point in their lives. The national crime research centre data on SGBV indicates that the centre had by 2014 supported over 21,341 survivors of SGBV of whom 56% were women, 36% girls, 3% men and 5% boys (27). This increasing trend of GBV calls for concerted individual, community, regional and governments efforts to stem the rise in cases of GBV.

The global COVID-19 pandemic has exacerbated the likelihood of SGBV. Kenya has seen a spike in cases of Gender based violence, specifically domestic violence and sexual offences. A survey on the prevalence of GBV during the COVID-19 pandemic undertaken by the National Crime Research Centre showed that the number of GBV cases recorded between January and June 2020 had shot up by 92.2% compared with those in the same period the previous year. Containment measures to mitigate the impact of COVID-10 such as national curfews, lockdowns and school closures exposed girls to FGM and discriminatory and harmful practices including early and forced marriages.

Economic burden of GBV in Kenya

The Kenya National Gender and equality commission (NGEC) conducted a study to determine the direct monetary costs (medical, transportation, arbitration and litigation) to the survivors, perpetrators and family members and to estimate the time cost (opportunity cost) in terms of loss of income and productivity among the survivors, perpetrators and their families (28). The results were computed at individual family level and at national level. The weighted cost of GBV incident per survivor and family was estimated at KES 24,797 annually. At the national level, annual out of pocket medical related expenses were estimated at KES 10 billion. The

productivity losses from serious injuries were estimated at about KES 25 billion and from minor injuries at KES 8 billion. The total loss amounts to KES 46 billion which translates to about 1.1% of Kenya's Gross Domestic Product (GDP). Table 1 below summarizes the estimated annual economic burden to the country due to GBV.

Table 1: Annual Estimated Economic Burden of GBV to Kenya

Item	Estimated Cost (KES)
Medical related expenses	9,995,808,399
Reporting to community	1,215,704,361
Reporting to Police	1,949,495,701
Productivity loss (serious injury)	14,768,266,880
Productivity loss (minor injury)	8,137,616,444
Productivity loss (mortality – 30 years lost< present value	10,466,469,393
Total	46,533,361,178

Source: National Gender and Equality Commission report (2016) Gender based Violence in Kenya: The Economic burden on survivors.

Global and National instruments supporting elimination of GBV

Globally there are several instruments outlining internationally agreed norms and standards aimed at addressing GBV. This include: the Declaration on the Elimination of violence Against Women (DEVAW) of 1993; the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW); the Universal Declaration on Human Rights (UDHR) and the Beijing Platform for Action (BPFA), the United Nations Convention on the Rights of the Child (CRC 1989); the UN protocol to Prevent Suppress and Punish Trafficking in Persons especially Women and Children (2000); and the ILO Convention 182 on the Worst forms of Child Labour. At the regional level, the normative framework includes instruments such as; the Protocol to the Africa Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol 2003); The Solemn Declaration on Gender Equality in Africa (2004), the International conference of the great lakes Region protocol and the African Charter on the Rights and Welfare of the Child.

At the national level, Article 2 (5) of the constitution of Kenya provides that the general rules of international law shall form part of the laws of Kenya and further that any treaty or convention ratified by Kenya shall form part of the law of Kenya under this constitution. This resolve is strengthened by Article 21 (4) which imposes on the State the obligation to enact and

implement legislation to fulfil its international obligations in respect of human rights and fundamental freedoms.

The legal framework addressing the GBV problem is subsumed within the Bill of Rights in the Constitution of Kenya 2010 under Chapter 4 which gives guarantees for a wide range of rights and fundamental freedoms. The Constitution recognizes a number of important general principles that are of importance to gender equality and that have a general bearing on gender-based violence in the Country. Article 10 (2) (b) sets out the national values and principles of governance to include, among others, human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination and protection of the marginalized.

In article 29, the Constitution further provides for the security of the person and protection against all forms of violence. This Article provides that every person has right to freedom and security of their person which includes the right not to be subjected to any form of violence from either public or private sources, any form of torture whether physical or psychological or cruel, inhuman or degrading treatment. The right to security means that the Constitutions safeguards women's right against GBV and any other related form of gender-based violence.

Kenya has enacted several legislations geared towards gender equality and protection. These include: The Sexual Offences Act, 2006; The Children Act, 2001; Counter-Trafficking in Person's Act, 2010; The Penal Code, Cap 63; and The Prohibition of FGM Act, 2011. In addition to the legislations, Kenya has enacted several policies in the last 10 years to safeguard the rights of women and protect them from GBV. These include, the National Policy for the Eradication of Female Genital Mutilation (2019), National Policy on Gender and Development (2019), National Policy for Prevention and Response to Gender Based violence (2014), the National Monitoring and Evaluation Framework towards the Prevention of and Response to Sexual and Gender-Based Violence (2014) and multisectoral Standard Operating Procedures (SOPs) for sexual violence prevention and Response (2013).

Apart from the policy and legislative framework enumerated, Kenya's leadership issued a presidential Directive in 2019 that all efforts should be made to eradicate FGM in Kenya by 2022. Since the enactment of the Prohibition Act in 2011, the Anti FGM board was constituted in 2013 to support and coordinate the activities towards ending FGM in Kenya in collaboration with the UN bodies, government ministries and other stakeholders including community members.

Interventions to prevent and respond to Gender Based Violence

Morrison et al (2007) classified interventions to prevent and respond to gender-based in to 3 broad categories: Increasing access to justice for survivors of gender-based violence, providing support to women who have been affected by gender-based violence, and preventing gender-based violence.

Increasing access to justice involves offering protection to women from current and potential aggressors by improving laws and policies, mobilizing communities in defence of women's rights to a life free of violence and increasing knowledge of women's rights; strengthening institutional responses to gender-based violence; and raising the costs to men of engaging in gender-based violence by establishing or increasing criminal sanctions.

Support for survivors of violence as an intervention has mainly been in the form of policies and programmes addressing needs of survivors of violence as well as specific legislation and policies spelling out the obligation of the health sector in addressing violence against women. This intervention equally provides for the expansion, improvement and integration of services such as telephone hotlines, emergency shelters, legal assistance, counselling services, psychological care, support groups, income generation programs and child welfare services. Support for survivors also involves upgrading the infrastructure of facilities to ensure privacy and adequate supplies, training all staff, including managers to respond appropriately to gender-based violence, building referral networks, and ensuring that staff are trained to ask women about violence, providing emotional support and emergency medical treatment, assess a woman's level of danger, provide crisis interventions, document cases and make referrals.

Prevention of gender-based violence requires communitywide interventions involving the use of mass media campaigns and community-based education to change community norms and attitudes related to gender-based violence. Typically, these aim to promote nonviolent behaviour, challenge the underlying beliefs that justify women's subordination and the use of violence to settle conflicts and encourage women to be more supportive of friends and family members who experience violence. Equally programs need to focus on changing the attitudes and behaviours of young men.

The investment case presented here employs a set of seven measurable indicators to be used and monitored progress towards the elimination of GBV using IPV as a marker/tracer by year

2030. These are: community mobilisation, outreach to male youth, economic empowerment, outreach to female workers, mass media and treatment and counselling.

1.3.4 Child Marriage

Child marriage is an issue of concern as it is a violation of children rights, health and wellbeing. In 2014 research by UNICEF showed that more than 700 million women alive worldwide were married before their 18th birthday while more than one in three (about 250 million) entered into union before the age of 15 years. Child Marriage is a prevalent practice in SSA and is considered a violation of human rights of the children involved. In Africa, while the age at marriage has been rising, over a third of women are married before their 18th birthday (UNICEF 2014). Violence against children can take many forms, including physical, emotional and sexual abuse or exploitation. The National Prevention and Response Plan on Violence Against Children in Kenya 2019-2023, reports that acts of violence against children can change children's lives as they can be injured, left with health issues, permanent disabilities and emotional scars. These effects will also have an impact on economic costs, including health care costs and loss of productivity.

Prevalence of Child Marriage in Kenya

The Kenya constitution is clear with regards to the age at which it constitutes a child marriage. Article 53 of Kenya's constitution considers child marriage as a marriage involving children under the age of 18 years which is a proscribed practice. KDHS 2014 data shows that the prevalence of child marriage in Kenya is approximately 23%. The report continues to report that marriage occurs relatively early as reported by women aged 25–49, of whom 29% married by age 18 and 9% married by the age of 15. Of the girls and women aged 15–19, approximately 2% were married by the age of 15. Also 29% of child marriage is reported in the rural areas compared to 17% in urban areas (Figure 1). Although child marriages may affect both boys and girls, the practice disproportionately endangers the lives of young girls more.

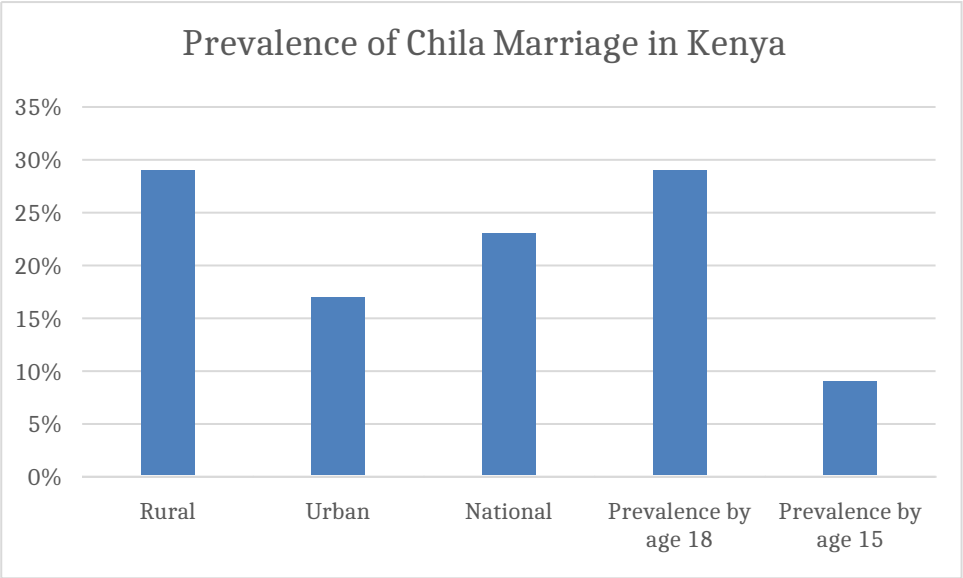


Figure 1: Prevalence of Child Marriage in Kenya

The prevalence of child marriage by counties in Kenya reveals that the counties with the highest prevalence of child marriage are Tana River, Turkana, Samburu, Wajir, Isiolo, Samburu, and Migori where the prevalence is over 50%. Tana River county has the highest prevalence at 60% followed by Turkana and Wajir counties at 57 and 53 percent respectively. Nineteen counties have prevalence rates of less than 20 percent. These include Nairobi (15%) Mombasa (14%) Makueni (10%) and Elgeyo Marakwet (7%) (Status of Kenya's Population 2020).

Table 2: The prevalence of CM in the counties of Kenya (form the State of Kenya's Population Report 2020)

	County	Prevalence			County	Prevalence
1	Tana River	59.5%		25	Vihiga	24.0%
2	Turkana	57.4%		26	Bungoma	23.3%
3	Wajir	53.1%		27	Kericho	22.2%
4	Isiolo	52.9%		28	Murang'a	20.7%
5	Samburu	50.0%		29	Nyandarua	20.3%
6	Migori	50.0%		30	Baringo	20.0%
7	Narok	42.4%		31	Kisii	19.5%
8	Homa Bay	40.7%		32	Nyeri	19.1%
9	Mandera	40.0%		33	Kajiado	18.8%
10	Garissa	33.3%		34	Kitui	16.7%
11	Busia	33.0%		35	Embu	16.4%
12	Trans-Nzoia	32.3%		36	Tharaka-Nithi	16.2%
13	Marsabit	31.8%		37	Nandi	16.1%
14	Laikipia	31.4%		38	Uasin Gishu	16.0%
15	Kakamega	30.9%		39	Nakuru	15.3%
16	West Pokot	30.4%		40	Nairobi	15.0%
17	Kisumu	28.8%		41	Mombasa	13.8%
18	Siaya	28.7%		42	Machakos	12.6%
19	Lamu	28.6%		43	Kiambu	11.8%
20	Bomet	28.6%		44	Taita Taveta	11.1%
21	Nyamira	27.5%		45	Kirinyaga	10.7%
22	Kilifi	27.3%		46	Makueni	10.3%
23	Kwale	27.2%		47	Elgeyo Marakwet	7.1%
24	Meru	24.6%				

Source: Kenya Demographic and Health Survey, 2014

Impacts of Child Marriage on health of adolescent girls and young women

The consequences of child marriage are grave. Some of the consequences of Child Marriage include health impacts such as early and frequent pregnancies which are linked to high maternal and infant morbidity and mortality rates. Other complications include increased risks and experience obstetric fistula; post-partum haemorrhage and higher death rates among new-born babies due to low birth weight and asphyxia. Mental health outcomes are also experienced by these girls whose socio-educational lives have been negatively impacted by child marriage. Other effects of child marriage include greater risk of acquiring sexually transmitted infections and fewer educational and long-term economic opportunities (29, 30). The Kenya Population 2020 report indicates that 14 % of women who got married when they were still children, had no education and 68% only managed primary school level education. Economic impacts of Child Marriage were also

documented in the Kenya population report and include a drift into poverty where over half (54%) were poor as compared to those who got married for the first time when they were already adults and those who have never married, about 30 and 20 percent are poor respectively. Child marriage is found to have an association with lower educational attainment and lower lifetime economic productivity as evidence by the National Prevention and Response Plan on Violence Against Children in Kenya 2019-2023.

Drivers of Child Marriage

One of the key drivers of Child Marriage in Kenya is Poverty. Families facing the crisis of not having enough food to feed themselves or take their children to school often resort to marrying their daughters off at an early age. Preserving family honour in the event of a pregnancy has also been cited as a driver of Child Marriage (31). Retrogressive social norms such as consolidation of family interests of maintaining honour, enhancing fidelity within marriage and preserving virginity before marriage, the social integration of the girl and family, and financial security in situations of poverty are also considered a driver of Child Marriage (32). In many communities in Kenya, child marriage is rooted in inequitable gender norms that prioritize women's roles as wives, mothers, and household caretakers, resulting in inadequate investments by families in girls' education. When interlinked with poverty and a lack of employment opportunities for girls and young women, Child Marriage becomes a viable alternative for girls (33). Desire for bride wealth associated with poverty and valued virginity have also been found to perpetuate Child Marriage

The COVID-19 pandemic exacerbated gender inequalities and thereby increased the risks of girls to Child Marriage. Girls spent more time at home due to temporary school closures which resulted in exposing them to a higher risk of forced marriage or pregnancy (34). A report by Population Council (2021) showed that 2-4% of girls aged 14-19 were subjected to Child Marriage with almost 3 out of 10 girls (29%) reported that they got married after the COVID-19 pandemic broke out.

Laws and policy provisions on elimination of CM

Several United Nations (UN) conventions state the need to eliminate child marriage and FGM including the Convention for the Elimination of All Forms of Discrimination Against Women (CEDAW), the Convention on the Rights of the Child, and the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. In addition, the UN’s 1994

International Conference on Population and Development (ICPD) Programme of Action urges governments to prohibit FGM and protect women and girls from such dangerous practices.

Kenya is party to and has adopted various international conventions and instruments for the protection of women and girls from discrimination and violence and to uphold their health, well-being and their security. Kenya also has its own legal and policy instruments that protect children from child marriage. These include the Marriage Act 2014 which prohibits marriage of persons under the age of 18; and the Marriage Act 2014, which consolidates all the marriage laws in Kenya to remove any discriminatory provisions with respect to boys and girls (e.g. different ages for marriage); Constitution of Kenya 2010; Children's Act 2001, Kenya Citizens and Foreign Nationals Management Service Act 2011; and Counter Trafficking in Persons Act 2010 which also offers protection to children from sexual exploitation and trafficking.

Interventions to end Child Marriage

A number of studies have identified interventions aiming to end child marriage, to prevent or delay early marriage. These include education and maintenance of girls in school, economic incentives for parents to ensure children remain in school, school scholarships to girls, inclusion of the issues of harmful practices in the school curricula, and creation of awareness to school going children to understand the need for education and dangers of harmful practices, community engagement for men and boys, women and girls, cultural and religious leaders for buy-in and support to end Child Marriage (31, 35-39).

1.3.5 Female genital mutilation

Female Genital Mutilation (FGM) is a prevalent harmful practice in many communities living in Sub-Saharan Africa (SSA). The vice continues to be practised by countries in the global North through the migration of people originating from practising communities. Globally it is estimated that about 200 million girls and women have undergone some form of FGM and a further 68 million are at risk of being cut by 2030 as a result of increasing population growth rates in many settings which means that the absolute numbers of girls who will be cut will continue to grow if the practice continues at current levels. There is thus the urgent need to initiate and support programs through targeted investments to accelerate abandonment of FGM.

In Kenya, the last Kenya Demographic and Health Survey (2014), estimates the national prevalence of FGM at 21%, compared to 27% in 2008/2009 and 32% in 2003 showing a slow but

steady decline. This decline can be attributed to multifaceted approaches mounted by the Government of Kenya, UN agencies, NGOs and CBOs and other stakeholders.

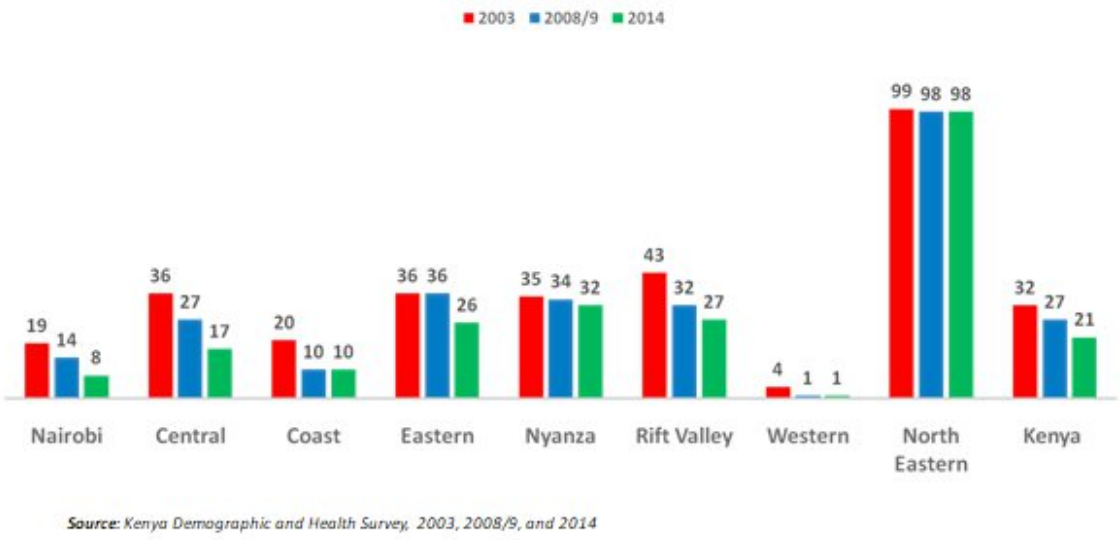
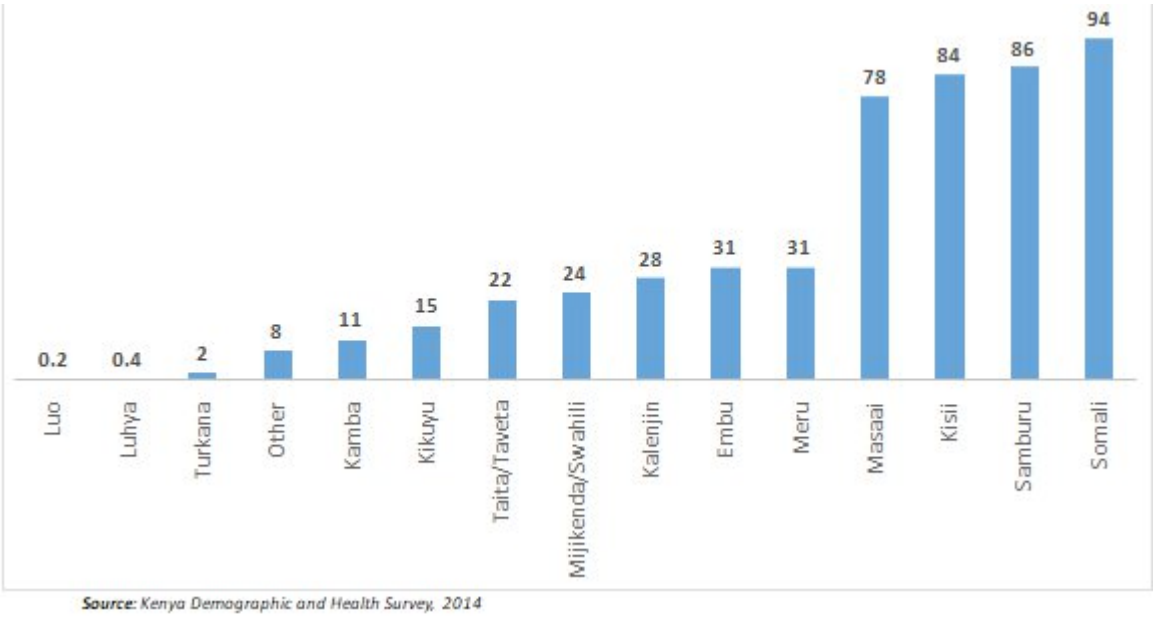


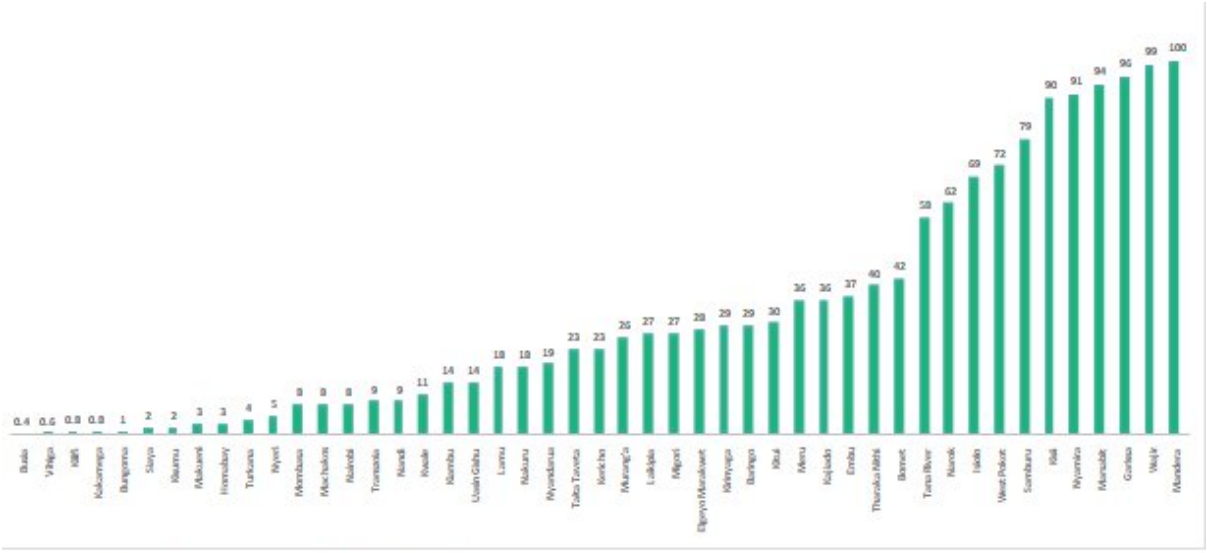
Figure 2: Prevalence of Female Genital Mutilation in Kenya

Despite the steady decline nationally, the prevalence of FGM remains relatively high in some communities, such as among the Somali (94%), Samburu (86%), Kisii (84%) and Masaai populations (78%) (4). The Covid-19 pandemic has also exacerbated risks and exposure to SGBV and harmful practices to young women and girls. FGM cases reduced at a lower rate during the Pandemic (55%) when compared to 63% prior to the pandemic in Kajiado, Samburu and Marsabit counties.



Source: *Kenya Demographic and Health Survey, 2014*

Figure 3: Prevalence of Female Genital Mutilation variation among ethnic groups of Kenya



Source: *Kenya Demographic and Health Survey, 2014*

Figure 4: Prevalence of Female Genital Mutilation based on counties of Kenya

In regard to counties in the North Eastern region of Kenya have high prevalence of FGM, with Mandera county for instance recording 100 % of FGM where the practice is universal while counties largely in Western and Luo Nyanza have low prevalence of less than 1% (State of Kenya's Population 2020). To note are other counties within the Central region of Kenya, where

FGM is relatively high, these are Kirinyaga and Murang'a Counties at 29 and 26 percent respectively as evidenced in the Figure 4 above.

Over the last decades, there have been new trends associated with the FGM practice in Kenya. Due to the enactment of the law prohibiting FGM in 2011, there has been a trend of cutting younger girls, medicalisation of the practice and cross-border FGM (40). During the 2007/8 post-election violence, there was a shift in trends towards cutting of mature women who had escaped FGM during their teenage years (41). Mature women have also undergone FGM due to religious beliefs associated with sects such as the Mungiki (42).

Global and national legal and policy frameworks to end FGM

Several United Nations (UN) conventions state the need to eliminate child marriage and FGM including the Convention for the Elimination of All Forms of Discrimination Against Women (CEDAW), the Convention on the Rights of the Child and the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. Conventions at the regional level include, the African Charter on Human and Peoples' Rights (Banjul Charter), African Charter on the Rights and Welfare of the Child (ACRWC) and the Cairo Declaration for the Elimination of FGM/C 2003. Kenya is party to and has adopted these international conventions and instruments for the protection of women and girls from discrimination and violence and to uphold their health, well-being and their security.

At the national level Kenya has passed several legislations and laws prohibiting the practice of FGM. These include the Constitution of Kenya 2010, which provides the general framework prohibiting all retrogressive cultural practices; Prohibition of Female Genital Mutilation Act 2011, which criminalizes all forms of FGM/C; The Children's Act, 2001, which criminalizes the subjection of a child to harmful cultural practices; The Penal Code (Cap 63) which outlines offences under which circumcisers can be charged; and The Protection against Domestic Violence Act, 2015, that classifies FGM as violence, and provides for protective measures for survivors and victims of domestic violence, including FGM.

Interventions to end FGM

Kenya has adopted several interventions to accelerate cessation of FGM activities. These include activities and programs to empower girls and young women such promote girl child education, scholarships and life skills training, Mentorship and creation of safe spaces that allow girls to

connect and socialize outside the home, economic incentives, Cross-border Action plans and interventions, Legislation and policy development and enforcement, enhancing clinical-legal care services, and enhancing the use of evidence to inform policy and programmes as well as advocacy among other efforts.

Economic costs and impacts of ending FGM

Katz et al (2021) conducted a study on the cost and impact of scaling up female genital mutilation prevention and care programs (43). The study estimated the cost of scaling up prevention, protection, and care and treatment programs in 31 low- and middle-income countries with high rates of FGM. Their findings are summarized in the table below.

Level of coverage of interventions	**Cost in Billions**	**FGM averted projections**
High coverage in 31 FGM countries	3.3 billion	24 million
Moderate coverage in 31 FGM countries	1.6 billion	12 million

While these figures are useful as a benchmark, they conceal substantial variation based on country dynamics. The most cost-effective investment would be in countries with limited historic change in FGM incidence, with the average cost per case averted ranging between US$ 3 and US$ 90.

The proposed investment case for FGM has identified the following interventions to scale up the elimination of FGM: community programmes, using social and mass media for prevention, provider training for prevention, provider training for treatment, increasing mobile courts coverage, development of legislation, capacity building for legal personnel and psychosocial support. The State of Population in Kenya report concludes by adding that to reduce FGM in Kenya and achieve the SDG target and 'Zero FGM by 2030', a huge decline in the practice is required in North Eastern region and parts of Rift Valley and Nyanza regions.

1.4 Developing the Investment Case (IC)

This situation analysis and costed investment case presented in the next chapters' builds data on investment cases for transformative results defining the scale and scope of investments needed to prioritize proven, high-impact and cost-effective interventions that are required to accelerate progress towards achievement of the five transformative results committed to by the government and other partners working in conjunction with the government. The investment case will provide the required evidence with regards to the full range of costs involved and the benefits that follow from implementing the strategic interventions (1). This evidence will be utilized to influence decisions and catalyzing transformative change within the target populations and communities.

CHAPTER TWO:
ENDING PREVENTABLE MATERNAL DEATHS

2.1 Introduction

This chapter presents the estimates of the resources needed for different scenarios generated from the model. The general approach to the development of the investment case is explained including the interventions considered and how they were selected. These are the high impact evidence based interventions recognised internationally. When scaled up they prevent maternal and new-born deaths significantly. The country has prioritised the interventions considered and are outlined in various documents such as the Kenya Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Investment Framework (Ministry of Health 2016) and national guidelines on quality obstetrics and perinatal care (Ministry of Health, 2020),

Saving mothers lives translates into health and economic benefits through productivity and other benefits such as human rights. The calculations for the health and productivity benefits have been made and explanations given. The implementation of these interventions is associated with various costs and both direct and indirect costs of the interventions has been calculated. The impact of investing in these interventions on ending preventable maternal deaths is demonstrated according to the different levels of investment (different scenarios) and the return on investment calculated with reference to the averted maternal.

2.2 Methods and Scenarios

2.2.1 General Approach to Investment Case Development

The first stage in the analysis of the investment case for ending maternal mortality was the selection of high impact interventions. The high impact interventions were already available in the LiST Impact Tool in the Spectrum. The interventions which are implemented in Kenya were considered as shown:

Periconceptual	Folic acid fortification
Antenatal Care	Iron fortification
	TT – Tetanus toxoid vaccination
	Prevention of malaria in pregnancy

	Syphilis detection and treatment
	Hypertensive disorder case management
	Diabetes case management
	Malaria case management
	MgSO4 management of pre-eclampsia
Child Birth	Clean birth environment
	Antibiotics for preterm or prolonged PROM
	MgSO4 for eclampsia
	Uterotonics for postpartum haemorrhage
	Parenteral administration of antibiotics
	Assisted vaginal delivery
	Manual removal of placenta
	Removal of retained products of conception
	Caesarean delivery
	Blood transfusion
	Induction of labour for pregnancies lasting 41+ weeks
Postnatal	Maternal sepsis case management

2.2.2 Calculating the Health Benefits and Productivity Benefits

The benefits of implementing prevention and clinical interventions were estimated using the Spectrum nested in the UNFPA Impact 40 website. The tool required specifying the baseline coverage targets for as well coverage targets of the interventions for the rest of the years until the end line. In this analysis, the baseline was the year 2020 and the end line was 2030. The tool then was run to generate health impact in terms of maternal deaths averted. The data used to compute the targets were obtained from several sources including Kenya Health Information System (KHIS), Kenya Malaria Indicator Survey 2021 and also default data from the UNFPA Impact 40 website. Four scenarios were considered consisting of (i) baseline coverage (ii) modest coverage, (iii) planned coverage and (iv) ideal coverage scenario. The coverage for the three scenarios (ii – iv) were arrived at consensus by the research team and the Ministry of Health officials. Table A1 presents the coverage targets used in the impact analysis.

2.2.3 Calculation of the Direct and Indirect Costs of Maternal Interventions

Direct costs represent expenses incurred on the provision of the services under each of the interventions given above. Direct cost includes: 1) medicines, reagents, medical supplies; 2) compensation for human resources for health; 3) overhead costs of outpatient visits, and inpatient stays (e.g., utility costs, travel, transport). Indirect costs included programmatic management and administrative costs.

Direct costs were estimated for each of the four scenarios using the LiST costing module. The tool estimates the costs of providing each intervention to a person/patient, using an 'ingredients' approach based on which all inputs to provide the service are identified and quantified. The cost of these items is then multiplied by the quantity used to treat a given population. Total direct costs were calculated by multiplying the number of persons/ or units covered in each year for a given intervention by the unit cost of the intervention. Table A2 summarizes the data sources for direct costing.

2.2.4 Calculating the Productivity Benefits of Interventions

Within the investment case, indirect costs reflect the monetary value of lost productivity of people who exit the labour market early due to premature death. However, saved lives would mean productivity benefits and while other benefits from interventions exists, only productivity benefits were considered as lower bound of total benefits, which was considered adequate to demonstrate the worth of the investment.

The productivity benefits were estimated using the Human Capital Method (HCM) approach. Each year of productive life saved is valued as the potential output a worker would have produced (proxied as GDP per worker) had (s)he continued working under complete health. The productivity loss is computed as follows:

Productivity Benefit **=** *Number of deaths averted x GDP per worker* ***x*** *labour force participation rate* ***x*** *employment rate x the expected number of years of working life lost x discount factor*

Table A3 entails the summary of data sources for productivity benefits

2.2.5 Return on Investment

The return on investment (ROI) is a measure of the economic value of an investment. An investment is considered efficient if the financial gain from the investment exceeds its cost. This approach is essentially a cost-benefit analysis. The ROI is defined as the ratio between the monetized benefits and the costs, both expressed in discounted present values (PV). A return on investment greater than 1 indicates that the PV of the project's benefits outweighs the PV of its costs. The ROI also assesses the economic return generated for each Kenya shilling spent.

2.3 Impact and cost of ending preventable maternal deaths

2.3.1 Health Impact of Scaling up Interventions

Table 3 provides estimated deaths that would be averted in the three scale up coverage scenarios, all in relation to the base scenario. The results indicate that if current coverages are scale-up, the estimated deaths averted will increase from 151 in 2021 to 1,510 in 2030 in the modest scenario. In the planned scenario, the averted maternal deaths would increase steadily from 270 in 2021 to 2,290 in 2030. The deaths averted would be even more in the ideal scenario where the deaths averted would rise from 331 in 2021 to 2,580 in 2030.

Table 3: Deaths averted under each scenario

Year	Modest	Planned	Ideal
2020	0	0	0
2021	151	270	331
2022	302	530	643
2023	454	782	939
2024	606	1,024	1,218
2025	758	1,258	1,481
2026	910	1,482	1,728
2027	1,062	1,698	1,961
2028	1,213	1,904	2,179
2029	1,362	2,102	2,383
2030	1,510	2,289	2,573

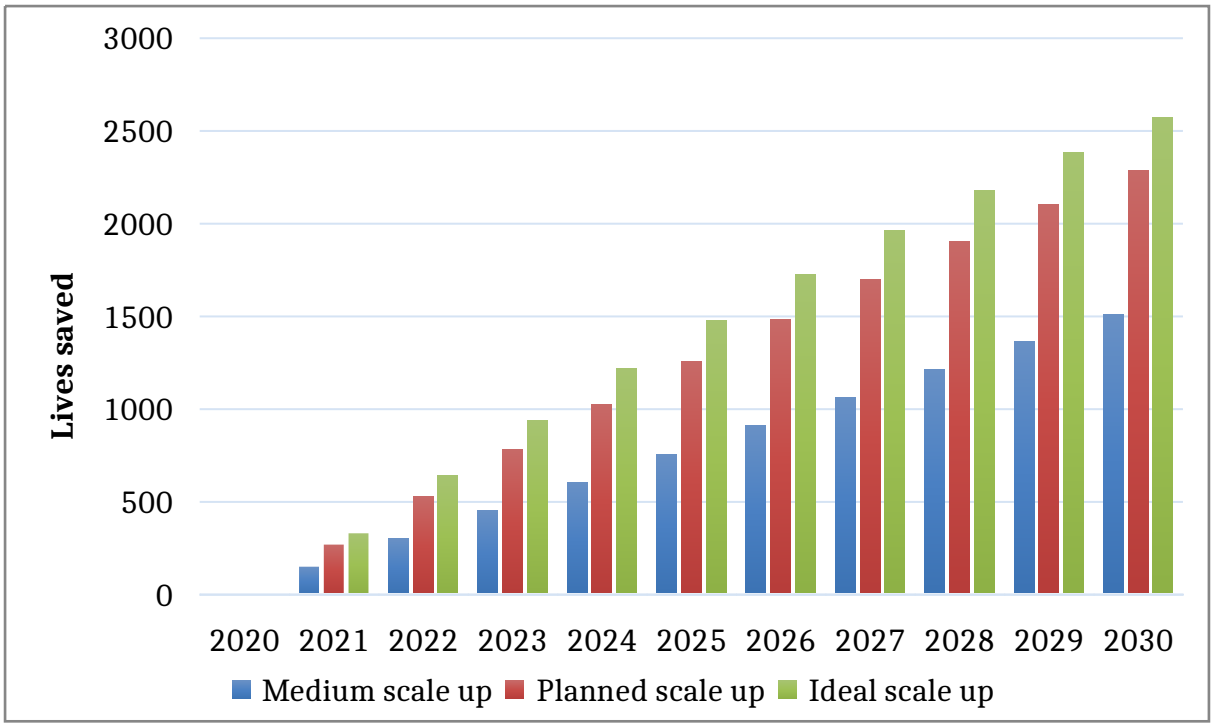


Figure 5: Death averted based on the three different scenarios

2.3.2 Incremental costs of intervention scale-up

The costing of the interventions was conducted using the LiST tool. Total costs of interventions under each scenario were estimated and are shown in table below (Table 4).

Table 4: Estimated total cost of interventions under each scenario (KES million)

Year	Baseline	Modest	Planned	Ideal
2020	19,914.73	20,410.69	20,932.73	21,161.72
2021	20,533.02	21,577.86	22,700.63	23,206.19
2022	21,154.55	22,804.43	24,612.60	25,446.39
2023	21,834.95	24,156.67	26,749.31	27,971.11
2024	22,562.72	25,623.67	29,103.45	30,776.35
2025	23,305.56	27,189.36	31,680.61	33,879.80
2026	24,052.56	28,808.45	34,398.57	37,182.58
2027	24,820.66	30,537.68	37,363.18	40,816.27
2028	25,643.33	32,424.88	40,643.19	44,862.19
2029	26,479.23	34,388.44	44,111.49	49,171.45
2030	27,348.43	36,499.15	47,904.04	53,915.43
Total	276,793.32	323,564.87	379,343.39	407,533.05

In the baseline scenario, the total cost will increase from KES 20.5 billion in 2021 to KES 27.4 billion in 2030. The increase in total is attributed to an increase in the population requiring the

different interventions. In the modest scenario, the total cost would reach KES 36.5 billion in 2030, whereas in the planned and ideal scenario, the total cost would reach KES 47.9 billion and KES 53.9 billion in 2030.

The incremental costs associated with the modest, planned and ideal coverage scenarios are shown in Table 5. As expected, scaling up interventions will result in rising incremental costs, which are costs above those of the baseline scenario.

Table 5: Incremental costs in the three scenarios (KES million)

Year	Modest	Planned	Ideal
2020	-	-	-
2021	495.97	1,018.00	1,246.99
2022	1,044.84	2,167.61	2,673.16
2023	1,649.88	3,458.05	4,291.84
2024	2,321.72	4,914.36	6,136.15
2025	3,060.95	6,540.73	8,213.62
2026	3,883.80	8,375.06	10,574.25
2027	4,755.88	10,346.00	13,130.02
2028	5,717.03	12,542.52	15,995.62
2029	6,781.55	14,999.86	19,218.86
2030	7,909.21	17,632.27	22,692.22
Total	37,620.83	81,994.46	104,172.73

The ideal scenario is shown to entail higher incremental costs than the medium scenario. These costs reflect the needed investment to realize decreased morbidity and mortality as already provided in the previous sections.

2.3.3 Return on Investment

Investing in maternal interventions will confer benefits to the country in terms of averted maternal and also child mortality. Table 6 below shows that under all the three scale up scenarios, investing a shilling in the maternal interventions brings more than 6 shillings, which is over 600 percent return on investment in the short term for instance.

Table 6: Return on investment from scaling up maternal RH interventions

	2021 - 2025			2021 - 2030		
	Total cost (KES)	Total productivity benefits (KES million)	Return on investment	Total cost (KES million)	Total productivity benefits (KES million)	Return on investment
Ideal	20,522	127,272	6.20	86.268	490,298	5.68
Planned	16,458	103,901	6.31	67,927	395,936	5.83
Medium	7,307	57,282	7.84	30,703	235,608	7.67

CHAPTER THREE:
ENDING THE UNMET NEED FOR FAMILY PLANNING

3.1 Introduction

This chapter presents the estimates of the resources needed for different scenarios generated from the model on scaling up family planning (FP). Family planning is one of the cost effective high impact interventions that prevents maternal deaths. Thus by reducing unmet needs for FP, maternal deaths are averted. The government of Kenya has prioritized this intervention as outlined in the various reproductive and maternal health documents and a coted implementation plan is available.

The general approach to the development of the investment case is explained in this chapter. The data inputs for the analysis were the FP method mix and contraceptive prevalence rate, projections have been made for the modern methods as well as for all methods. Cost analysis for increasing the CPR has been done, the impact on reducing unmet needs as well as the maternal lives saved for the different scenarios given. The return on investments in economic terms has been calculated.

3.2 Methods and Scenarios

3.2.1 Methods and Data

The LiST and FamPlan modules in Spectrum were used in the analysis of the investment case for ending the unmet need for family planning. The FamPlan module was used to project the different services that would be provided under different scenarios. The data inputs for the analysis in the FamPlan module were the FP method mix and contraceptive prevalence rate. The method mix for the period 2020 to 2023 was obtained from the Family Planning Commodities Quantification and Supply Planning (2021-2023) (Ministry of Health, 2021) and extrapolated to 2024 in the draft FP Costed Implementation Plan 2021-2024. The data on the method mixed from these two sources were used to make projections up to 2030 for the purpose of the investment case. Table A4 shows the projected method mix for mCPR.

The FamPlan module used CPR instead of mCPR; thus an estimation of CPR was done by adding about 4 per cent above the mCPR. The Kenya Demographic and Health Survey 2014 showed that 3.5 per cent of all women used methods other than the modern methods.

Additionally, it found that 5 percent of married women used traditional methods. Table A5 shows projected CPR using this assumption and converting the CPR to 100 per cent for analysis purposes.

In the analysis, four scenarios were considered; baseline scenario with mCPR of 58, mCPR of 60 at 2030 for modest scenario, mCPR of 64 for planned scenario and mCPR of 66 for ideal scenario. The corresponding CPR used in the analysis were 62, 64, 67.3 and 69 for baseline, modest, planned and ideal scenario respectively.

Costing analysis was done using the LiST costing tool in the Spectrum. The LiST costing tool used the information in the FamPlan to estimate the number of people reached with FP services for the different methods. Thus, the LiST costing tool required data on input prices, obtained from the different sources as earlier indicated in Chapter 2. The total cost per service was obtained by multiplying the number of persons reached and the unit cost of the service. The unit cost of service was computed, considering inputs used and input prices. Additional costs related to overhead, logistics and programme were also added to the analysis.

As in the case of ending maternal deaths, productivity benefits associated with lives saved through FP interventions was estimated using the human capital approach. The results of the productivity estimation were used with incremental costs of FP interventions to calculate return on investment.

3.2.2 Impact of Scaling FP interventions

The impacts of FP intervention are numerous. In the investment case, impact on unmet need for FP, total fertility rate and maternal lives saved were considered. The impacts of FP intervention are numerous. In the investment case, impact on unmet need for FP, total fertility rate and maternal lives saved were considered. Figure 6 below shows the projected trends in unmet need for FP under different scenarios, other interventions being held constant.

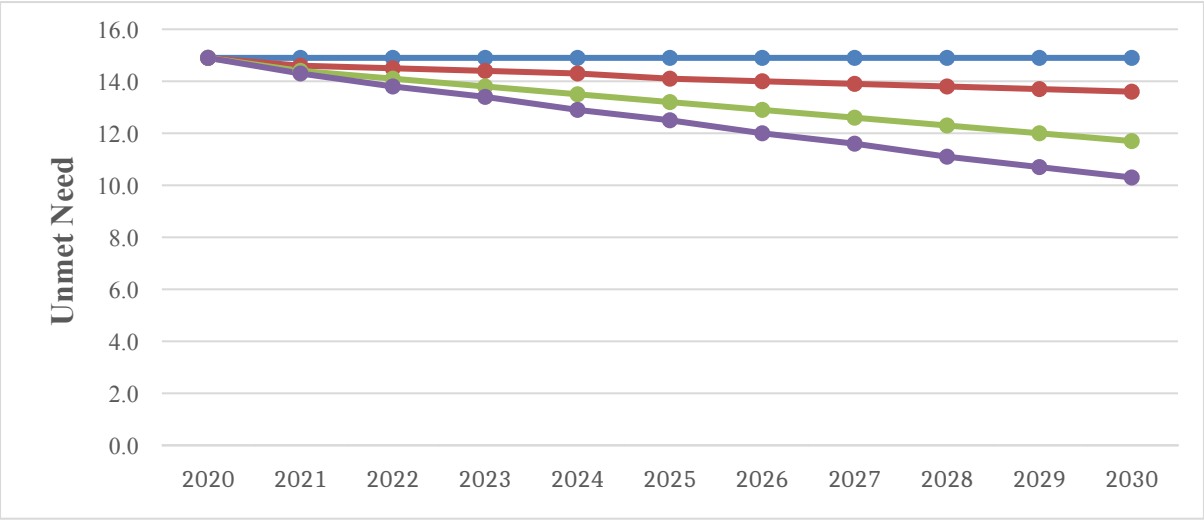


Figure 6: Impact of FP interventions on unmet need

In all cases of scale-up of interventions, the unmet need will be declining over time. As the pace of FP interventions scale up increases, the higher the reduction in the unmet need. The analysis shows that apart from scaling up FP interventions, other factors need to be considered to reduce the unmet need for FP to zero. Figure 7 below shows trends in total fertility rate with scaling FP interventions under the different scenarios.

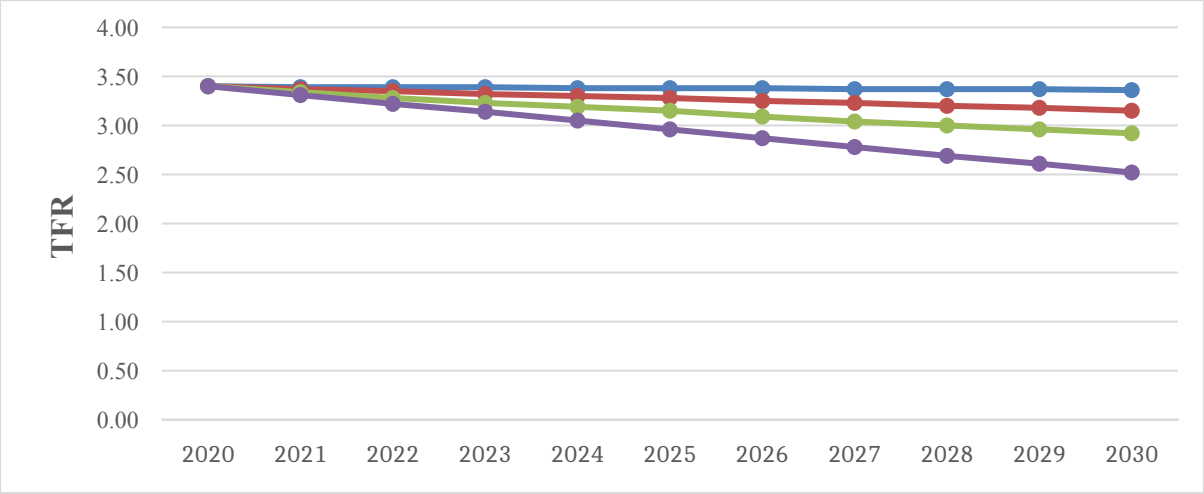


Figure 7: Impact of FP interventions on TFR

The country will benefit from scaling up interventions, as shown by reducing the total fertility rate. Figure 7 provides evidence that the MOH planned scale-up of mCPR of 64 per cent by 2030 will drive down TFR to reach 2.92 by 2030.

FP interventions also reduce maternal mortality by reducing both total and higher-risk pregnancies. The Fam Plan tool was used to estimate additional averted mortality in each scenario in relation to the status quo scenario. The projected maternal lives saved are shown in Figure 8 below.

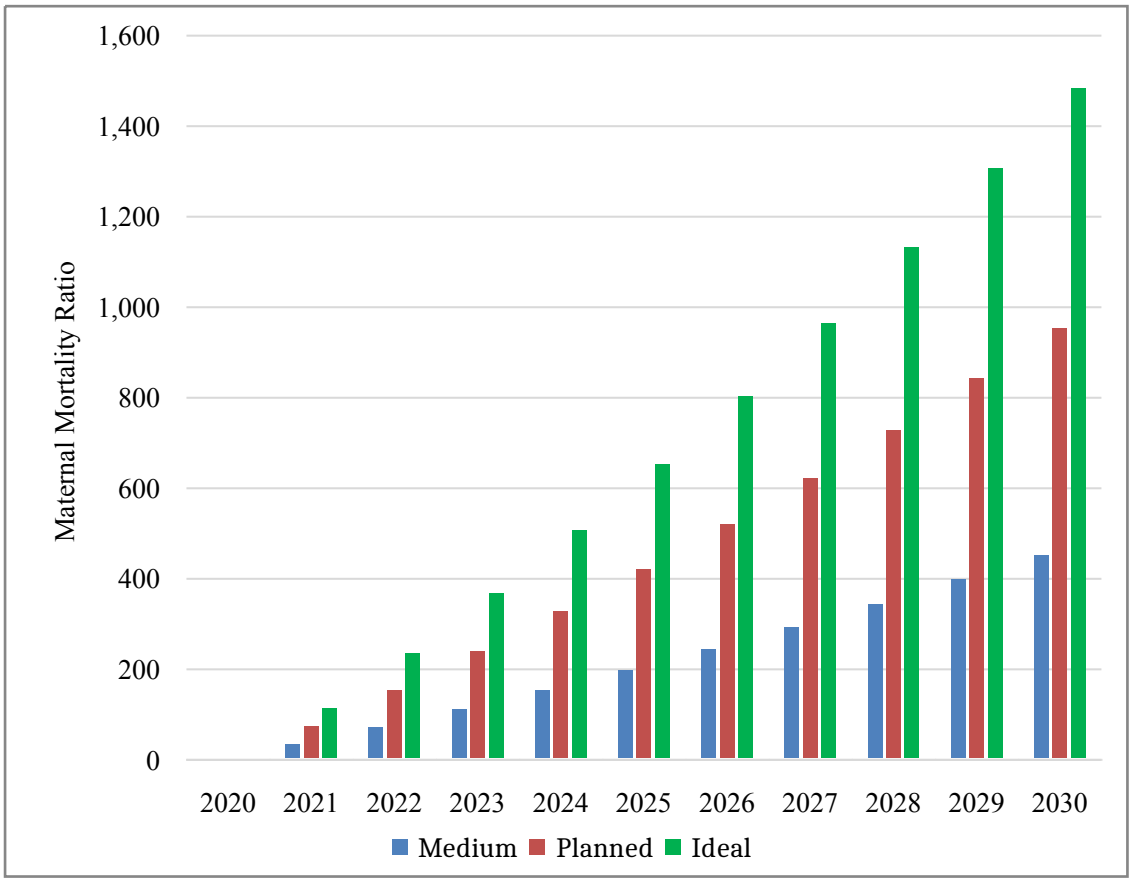


Figure 8: Maternal lives saved with FP scale-up

3.3 Cost of interventions

The costs of FP services shown in Table 7 indicate that over KES 4.7 billion was required in the base year 2020. The amount increased over time due to the scale-up of FP services across the different scenarios. In the status quo scenario, the total cost increases due to population increase, although the percentage coverage or mCPR is held constant until 2030.

Table 7: Estimated direct cost of FP services (KES million)

	Baseline	Modest	Planned	Ideal
2020	4,729	4,729	4,729	4,729
2021	4,836	4,851	4,879	4,894
2022	4,953	4,979	5,024	5,050
2023	5,052	5,089	5,154	5,191
2024	5,150	5,198	5,283	5,331
2025	5,243	5,304	5,410	5,471
2026	5,366	5,440	5,569	5,643
2027	5,469	5,556	5,709	5,796
2028	5,653	5,756	5,935	6,038
2029	5,765	5,882	6,087	6,204
2030	5,843	5,969	6,188	6,314

The resulting incremental costs, which are additional costs over the status quo costs are presented in the table below.

Table 8: Incremental from FP service scale up (KES million)

Year	Modest	Planned	**Ideal**
2020	-	-	-
2021	15.62	42.95	58.56
2022	26.03	71.58	97.61
2023	37.03	101.86	138.91
2024	48.41	133.17	181.62
2025	60.69	166.96	227.72
2026	73.92	203.36	277.37
2027	87.12	239.7	326.95
2028	102.56	282.2	384.93
2029	117.03	322.03	439.28
2030	125.36	344.94	470.53
Total	**693.77**	**1,908.75**	**2,603.47**

3.4 Return on Investment

Family planning contribute to saving life indirectly. The lives saved were converted into productivity benefits using the Human Capital Approach as indicated in the methodology for estimating productivity needs in the section on maternal health above. The results in Table 9 show that by scaling up FP interventions, Kenya will benefit in terms of productivity. For instance, in the planned scenario, every shilling invested in FP services scale up would give back KES 22 in productivity returns in shorter term and KES 32 in the longer term.

Table 9: Return on investment from scaling up maternal RH interventions

	2021-2025			2021-2030		
	Total cost (KES)	Total productivity benefits (KES million)	Return on investment	Total cost (KES million)	Total productivity benefits (KES million)	Return on investment
Ideal	1,140	14,846	13.03	3,935	63,806	16.22
Planned	465	10,249	22.05	1,300	41,182	31.69
Modest	265	4,784	18.04	810	19,385	23.93

CHAPTER FOUR:
ENDING GENDER BASED VIOLENCE

4.1 Introduction

This chapter presents the impacts and costs of interventions provided in the impact40 Model. The government of Kenya has set the elimination of Gender based violence by 2030 as its target. While four scenarios are presented, the targets in the optimum scenario are set at maximum for each intervention in order to move the outcome as close to the government target as possible. However as will be seen in the modelling b below even at maximum interventions the interventions in the model do not result in a zero prevalence rate for gender based violence in Kenya by 2030, which calls for either an expanded period of intervention or inclusion of other impact interventions to reach the target.

4.2 Methodology

In this investment case, the impact and costing tools provided by the Impact 40 were used. This Excel-based tool contained basic prevention and treatment interventions for intimate partner violence (IPV). The unit costs used in the analysis were the default ones included in the tool, which, according to UNFPA (2020), were derived from literature reviews and a 2007 study undertaken for UNAIDS. The scenarios considered were low scale-up, modest scale-up, planned scale-up, and ideal scale-up. Table 10 shows the four scenarios' baseline and end line coverages.

Table 10: Targets for GBV interventions scale-up

Intervention	Baseline	Low	Modest	Planned	Ideal
Community mobilization	0%	30%	60%	90%	100%
Outreach to male youth	0%	30%	60%	90%	100%
Economic empowerment	50%	60%	70%	90%	100%
Outreach to female sex workers	0%	30%	60%	90%	100%
Mass media	30%	40%	70%	90%	100%
Counseling	51%	60%	60%	90%	100%
Treatment	51%	60%	70%	90%	100%

4.3 Impact Results on ending GBV

The figure below shows the projected trends in the case of IPV averted. The number of IPV cases will decrease rapidly with the scale-up of the interventions. For instance, in the ideal scenario, the number of cases averted will increase from 93,800 in 2021 to 1,290,000 in 2030. In the planned scenario, cases averted would rise from about 93,800 to 1.10 million. However, the expected number of IPV cases are 3.08 million in the planned scenario and 2.89 million in the ideal scenario. Thus, the cases averted in 2030 would translate to 36 percent of all cases in the planned scenario and 45 percent in the rapid scenario. The IPV prevalence will also decline over time with implementation of the interventions as depicted in the figure below.

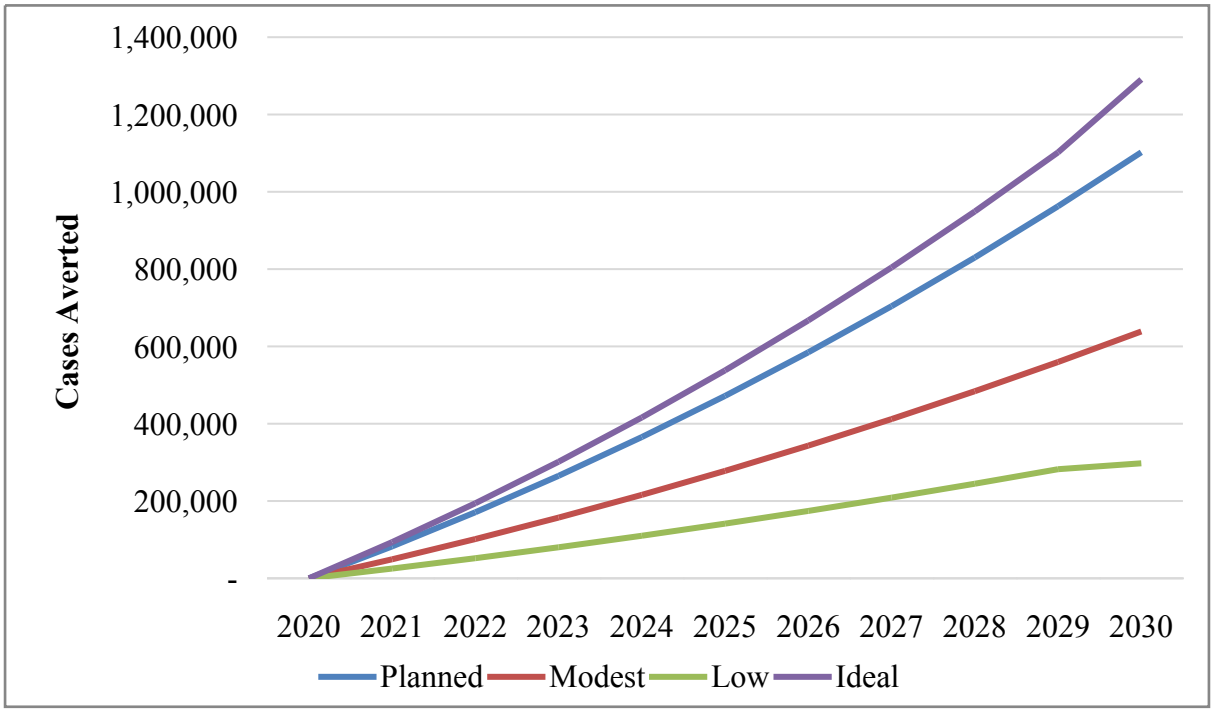


Figure 9: Estimated GBV cases averted

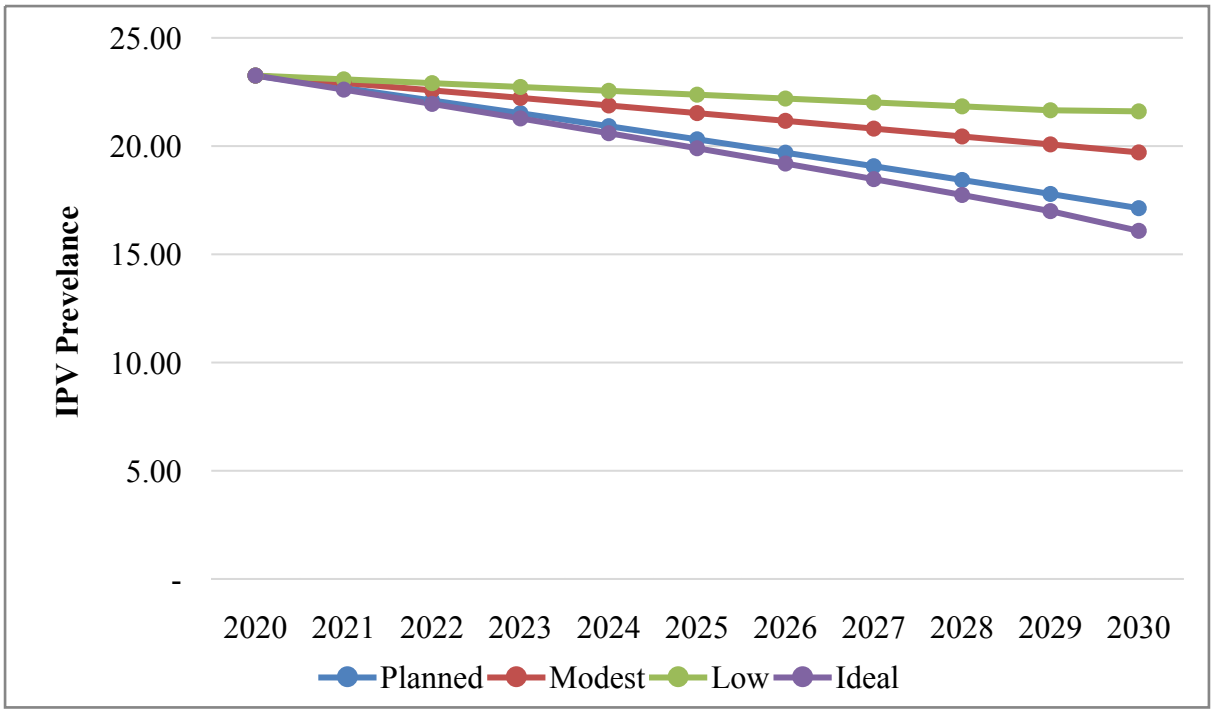


Figure 10: Projected trend in IPV Prevalence

4.4 Cost of the Interventions

Adopting the unit costs from Impact40, the estimated cost in each scenario is shown in table below. The costs are the total annual costs in each year. In each scenario, the total cost would increase from about KES 3.3 billion in the baseline 2020. In the planned scenario, the total cost would rise to reach about KES 9.5 billion in 2030.

Table 11: Estimated costs of GBV interventions (KES million)

Year	Low	Modest	Planned	Ideal
2020	3,327	3,708	3,708	3,708
2021	3,541	4,053	4,273	4,367
2022	3,756	4,400	4,850	5,041
2023	3,969	4,751	5,437	5,728
2024	4,180	5,102	6,031	6,425
2025	4,386	5,450	6,627	7,125
2026	4,583	5,788	7,215	7,818
2027	4,776	6,125	7,804	8,513
2028	4,967	6,459	8,394	9,209

2029	5,159	6,795	8,987	9,909
2030	5,357	7,137	9,590	10,654
Total	48,001	59,768	72,917	78,497

The Impact40 model has proposed seven interventions in the quest to reduce GBV cases using IPV as a marker across the globe. The scenarios modelled and presented show that scaling interventions to the maximum allowable in the model both by the planned government scale up of 90% and the rapid scenario of 100% will result in considerable reduction of the incidences of IPV, but will not eliminate all incidence of Gender Based Violence by 2030. By 2030, the planned scenarios and rapid scenarios will have eliminated 35% and 45% of all cases of GBV respectively. In terms of the costs, the government will have spent close to KES 80 billion on the interventions. Consequently, unless the duration within which the achievement of the transformative result is extended, the interventions contained in the model will not lead to the elimination of GBV in Kenya by 2030. Moreover 3 out of the 7 interventions did not have an intervention baseline coverage since data on their prevalence is not routinely collected. These interventions were likely to be at or near zero at baseline.

The situation analysis identified several interventions that have been found to have an impact in reducing incidences of GBV. These include increasing access to justice, legal assistance, raising the costs to men of engaging in gender-based violence, support to survivors of violence, use of hotlines for reporting incidences of GBV, emergency shelters, and educational campaigns to promote nonviolent behaviour and challenging the underlying beliefs that justify women's subordination and the use of violence to settle conflicts. It is also important to note interventions such as changing male attitudes as advocated for in the medical may not happen overnight and might be difficult to measure. There is a need to align intervention in the model with identified drivers of GBV, collect data on all the indicators in the model for monitoring progress as well as to expand the range of interventions to enable a realization of zero cases of GBV by 2030 as envisioned in the transformative results.

CHAPTER FIVE:
ENDING CHILD MARRIAGE

5.1 Introduction

Child Marriage is a prevalent practice in Sub-Saharan Africa (SSA) and is considered a violation of human rights of the children involved. In 2014 research by UNICEF showed that more than 700 million women alive worldwide were married before their 18th birthday while more than one in three (about 250 million) entered into union before the age of 15 years. In Africa, a study by UNICEF reveals that over a third of women are married before their 18th birthday (UNICEF 2014). In Kenya, the last demographic health survey KDHS (KDHS 2014) data shows that prevalence of child marriage in Kenya is at 23%. The report continues to report that marriage occurs relatively early among women aged 25–49, of whom 29% were married by age 18 and 9% were married by the age of 15. Although child marriages may affect both boys and girls, the practice disproportionately endangers the lives of young girls more. Of the girls and young women aged 15–19, approximately 2% were married by the age of 15 (KDHS 2014). The survey reports that 29% of child marriage is reported more in the rural areas compared to 17% of reports in urban areas.

This investment case has been conducted in order to inform efforts in acceleration of the achievement of the Sustainable Development Goals 5.2 that calls for elimination of all harmful practices, such as child, early and forced marriage, and Kenya's agenda for 'Zero Child Marriage by 2030'. The results of this investment case is geared supporting the increase investments to accelerate transformative result areas of ending Child Marriage in Kenya. This evidence will be used to influence decisions that catalyze transformative change through the protection of girls from Child Marriage. The investment cases will thus provide national, regional and global contexts and identify gaps to be filled for a sustainable financing landscape for the achievement of this transformative result.

5.2 Methodology

The Child Marriage Optimal Interventions (CMOI) Model was provided in Impact 40 for use by countries in the investment case analysis and was used in this report. UNFPA (2020) explains that the Child Marriage Optimal Interventions Model determines the optimal mix of interventions for each country to reduce child marriage to at least 5% by 2030 at the least cost.

In this investment case, all the interventions except malaria prevention were adopted. The unit costs in the model were also adopted and used in this report.

5.3 Results

5.3.1 Impact Results

Implementation of the interventions will reduce child marriage significantly. The annual number of child marriages will decrease from 109,000 in 2020 to 15,000 in 2030. However, if no interventions are implemented, cases would increase from 129,000 in 2020 to 131,000 in 2030. The child marriages averted per intervention per year is shown in Figure 11 below.

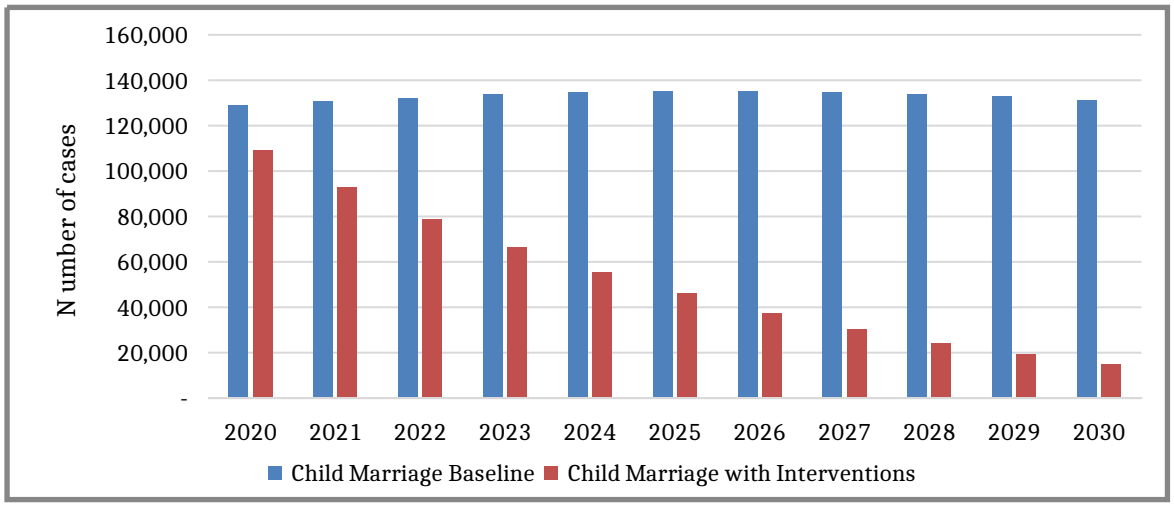


Figure 11: Cases of child marriage averted

CHAPTER SIX:
ENDING FEMALE GENITAL MUTILATION

6.1 Introduction

Globally it is estimated that about 200 million girls and women have undergone some form of FGM and a further 68 million are at risk of being cut by 2030 as a result of increasing population growth rates in many settings which means that the absolute numbers of girls who will be cut will continue to grow if the practice continues at current levels. In Kenya, the most recent Kenya Demographic and Health Survey (2014), estimates the national prevalence of FGM at 21%, compared to 27% in 2008/2009 and 32% in 2003 showing a slow but steady decline. This decline can be attributed to multifaceted approaches mounted by the Government of Kenya, UN agencies, NGOs and CBOs, Despite the steady decline nationally, the subnational prevalence of FGM remains relatively high in some communities, such as among the Somali at 94%, Samburu 86%, Kisii 84% and Masaai populations 78% (KDHS 2014). Evidence from the situation analysis indicates that more investments to accelerate the achievement of the transformative result to end FGM is needed. Over the last decade, we have seen emerging trends around the FGM practice. These are medicalization of FGM, cutting of younger girls or older mature women, clandestine cutting, cross- border FGM among others. The Covid-19 pandemic has further increased risks for women and girls exposing them to the practice thereby increasing cases of FGM.

This investment case is thus conducted to inform efforts in acceleration of the achievement of the Sustainable Development Goals 5.3, and Kenya's agenda for 'Zero FGM by 2030' geared towards increasing investments to tackle transformative result areas of ending FGM in Kenya. This evidence will be used to influence decisions and catalysing transformative change within the target women, girls and communities and hence this is of importance to donors and governments as well programmers, policy makers and other interested stakeholders. The investment cases will thus provide national, regional and global contexts and identify gaps to be filled for a sustainable financing landscape for the achievement of this transformative result.

6.2 Methodology

The FGM model in Impact40 informed the analysis of this investment component. There was a serious lack of data on baseline most of the intervention. It is only on four interventions that data were available. The scenarios considered were low, modest, planned and ideal. Table 12 shows the four scenarios' baseline and end line coverages.

Table 12: Coverages for FGM Interventions

	Baseline 2020	Coverage 2030			
Prevention		Low	Mediu m	Planned	Rapid
Community programs (direct reach)	50%	60%	70%	90%	100%
Mass and social media for prevention	50%	60%	70%	90%	100%
Provider training (prevention)	0%	30%	60%	90%	100%
Protection					
Mobile courts	0%	30%	60%	90%	100%
Legislation development (if none exists)		Yes	Yes	Yes	Yes
Capacity building for legal personnel	0%	30%	60%	90%	100%
Care and treatment					
Psychosocial support	51%	60%	70%	90%	100%
Provider training (care and treatment)	51%	60%	70%	90%	100%

6.3 Results

The results show modest increase in cases of FGM averted even when there is high coverage of interventions. The model reveals four scenarios of coverage of FGM interventions low 60% at an estimated cost of KES 54.5 million, modest 70% costing KES 106.7 million, planned 90% costing KES 171.0 million and ideal 100% costing KES 196.6. million all by 2030. While the expected FGM cases are about 100,000 per year, the results of using the selected indicators for interventions on Impact 40 model indicate that few cases of FGM would be reduced at about 4500 cases at most even with ideal 100% implementation of interventions proposed.

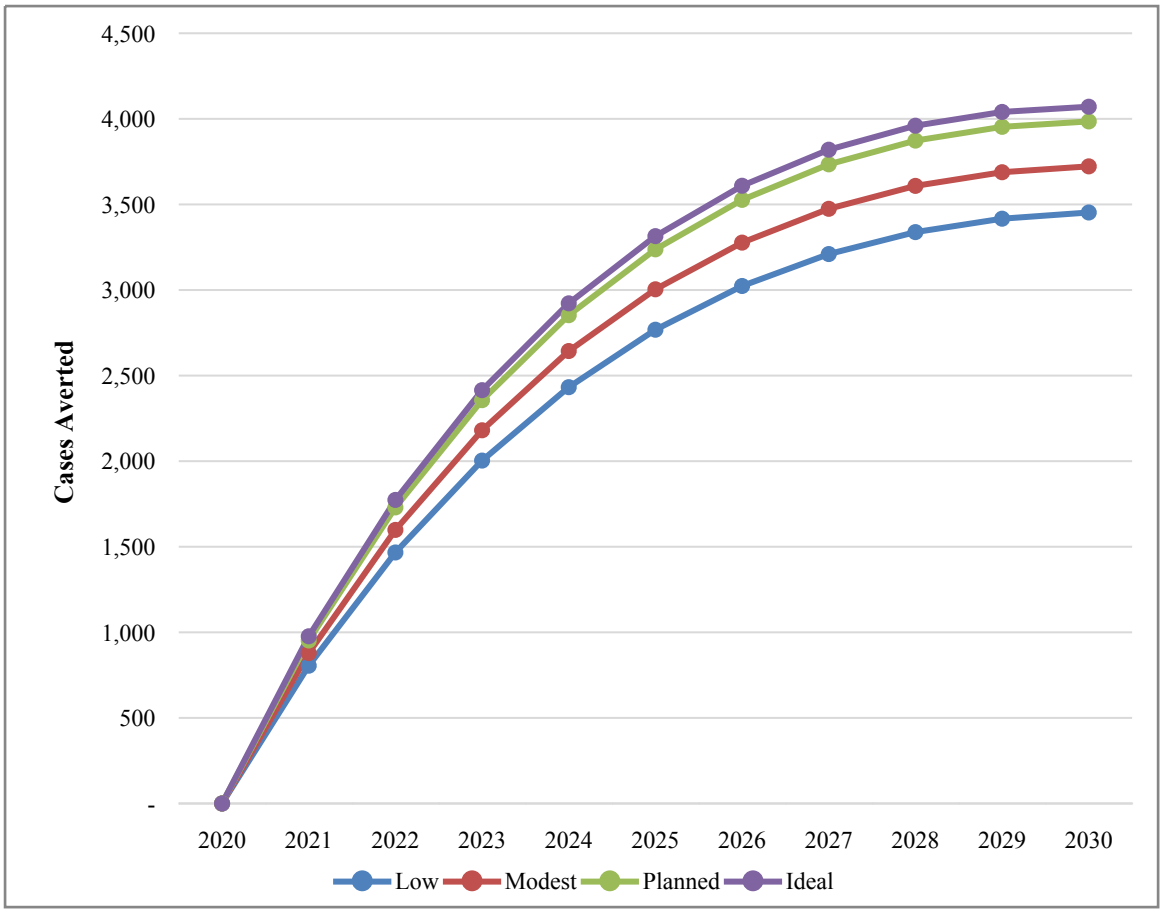


Figure 12: Impact of scaling up FGM interventions

CHAPTER SEVEN:
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary of results

Ending Preventable Maternal Deaths: The results indicate that if current coverages are scaled up, the estimated deaths averted will increase from 151 in 2021 to 1,510 in 2030 in the modest scenario. However, the planned scenario, would result in 779 more maternal deaths averted. If the interventions are scaled up further to reach the ideal coverage, the deaths averted would be even more in the rising from 331 in 2021 to 2,580 in 2030. The total cost will also increase in the baseline scenario; from KES 19.1 billion in 2021 to KES 27.4 billion in 2030. The increase in total is due to the increase in interventions attributed to an increase in the population requiring more interventions. In the modest, planned and ideal scenario, the total cost would reach KES 35.5 billion, KES 47.9 billion, and KES 53.9 billion in 2030. Scaling up interventions will result in rising incremental costs, which are costs above those of the baseline scenario. In all the three scenarios, investing "one" shilling in the maternal interventions would then bring more than "six" shillings, which is over 600 percent return on investment.

Ending Unmet Needs for Family Planning

Four scenarios were considered with mCPR of 58 at baseline, 60 at 2030 for modest scenario, 64 for planned scenario and 66 for ideal scenario. The corresponding CPR used in the analysis were 62 for baseline, 64 for modest, 67.3 for planned and 69 for ideal. Over KES 4.7 billion is required in the base year 2020. The amount increased over time due to the scale-up of FP services across the different scenarios including the baseline scenario, due to population increase. In all cases of scale-up of interventions, the unmet need will be declining over time and the rate increases as the investments increase. By 2030, close to 500 lives are saved by investing at the modest level. Increasing the investment to the planned level (mCPR of 64 per cent by 2030 will drive down TFR to reach 2,92 by 2030), then then close to 1000 lives are saved. If the investment level gets to the ideal level, then nearly 1500 lives are saved by 2030. The return on investment is realised in all the scenarios but the higher the investment the higher the return on each shilling invested. For the planned scenario, every shilling invested in scale up FP services would give back KES 22 in productivity returns in the shorter term and KES 32 in the longer term.

Ending Gender Based violence

The investment case presented used IPV as a marker and the latest KDHS report of 2014 that placed the prevalence of GBV cases at 47% of women aged 15-49 years who reported having experienced either sexual or physical violence at some point in their lives, with 25.5% in the last 12 months. The productivity losses from serious injuries were estimated at about KES 25 billion and from minor injuries at KES 8 billion. The total loss amounts to KES 46 billion which translates to about 1.1% of Kenya's Gross Domestic Product (GDP).

The interventions contained in the Impact40 model show a reduction of current rates of GBV by 45% at a cumulative cost of KES 80 billion by 2030. The interventions thus present a cost effective mechanism in tackling cases of GBV and the benefits far outweigh the costs. Unfortunately, the projected cases averted fall short of eliminating cases of GBV in line with the commitment by the Kenya Government to end all forms of GBV by 2030. The Impact40 model remains a very useful tool in support of this achievement of the transformative results on GBV. However, there is need to re-evaluate the model and include other proven high impact and cost-effective interventions if the transformative result on GBV is to be achieved by 2030.

Ending Child Marriage

In conclusion of this child marriage investment case, reveals that making more investments towards implementation of interventions with the highest child marriages averted such as Life Skills, Conditional Economic Incentives, Rural School Supply and Community Interventions will reduce child marriage significantly for greater impact. However, if there is no further increase investments on interventions implemented, cases of Child Marriage would actually increase from 129,000 in 2020 to 131,000 in 2030 as the situation analysis reveals that there are increasing aspects that are increasing vulnerabilities to Child Marriage. With the increase in investments however, the annual number of child marriages will decrease from 109,000 in 2020 to 15,000 in 2030.

Using this Child Marriage Optimal Interventions (CMOI) Model provided in Impact 40 for use by countries in the investment case analysis this analysis further reveals that the numbers of child marriage will not be at zero by 2030 despite the increase in investments as revealed by the model. The indicator on Malaria was also dropped in this analysis, as it was deemed irrelevant for the context of Kenya where we don't have specific Malaria interventions

targeting to reduce Child Marriage. The model however provides a clear guidance on the level of investments and interventions that have greater impact to end Child Marriage in Kenya.

Ending Female Genital Mutilation

While the expected FGM cases are about 100,000 per year, the results indicate that the cases reduced of less 4500 at most. The estimated cost for the Ideal scenario at 2030 is projected to be KES 196.6 million while that of the planned scenario is projected to be KES 171.0 million. However, this is not enough to bring the FGM case to zero cases. One of the limitations of this model is that, there was a serious lack of data on baseline most of the intervention indicators captured in the FGM model in Impact 40 model. It is only on two interventions that data were available. This may indicate that there could be other end FGM interventions that are implemented in Kenya and may be missing from the FGM model. The results show modest increase in cases of FGM averted even when there is high coverage of interventions. However, using this FGM Model provided in Impact 40 investment case analysis this analysis further reveals that the numbers of FGM will not be at zero cases by 2030 despite the increase in investments as revealed by the model. The model however provides a clear guidance on the level of investments and interventions that have greater impact to end CM in Kenya.

Conclusions

Scaling up coverage of interventions have been shown to have potential in saving Kenyan lives, especially with respect to FP and maternal reproductive health interventions. Furthermore, GBV and FGM were shown to reduce over time though not that significantly expected. Results show that in order to meet the objectives to achieve zero unmet need, zero maternal mortality, zero child marriage and zero GBV, there is need to include more interventions. We therefore propose the following key actions that the government can take:

1. Invest in scaling up interventions for FP and maternal RH interventions. The investment case analysis shows that the packages of FP and RH interventions are economically efficient and offers good return on investment (ROI) over the next 10 years.
2. Increase of resource allocations to FP, RH, GBV and FGM interventions by the Government of Kenya, and other national and international partners.
3. Need to think of other interventions that need to be included to achieve faster results in the GBV investment cases.
4. Data for updating the results need to be discussed and process put in place to collect them.

Limitations

While the analyses were completed successful, few limitations encountered including:

1. The data for coverage and unit process were easily not available for GBV and FGM. Therefore, default unit costs in the Impact 40 were used. Additionally, coverages for some interventions in these areas were set to zero due to lack of data. This notwithstanding, some interventions were not currently being implemented and zero coverages were correct.
2. The FGM model seems to under predict the impact of the interventions.
3. The Child Marriage Optimization Tool (CMOI) did not allow for scenario building in terms of coverage targets and only one scenario of 5% by 2030 was used.

REFERENCES

1. UNFPA. Developing Investment Cases for Transformative Results Toolkit 2021 [Available from: https://www.unfpa.org/publications/developing-investment-cases-transformative-results-toolkit.
2. UNICEF. Case Study on the End Female Genital Mutilation (FGM) programme in the Republic of Kenya 2021 [Available from: https://www.unicef.org/esa/media/8926/file/Kenya-Case-Study-FGM-2021.pdf.
3. UNICEF. Baseline Study Report Summary: Female Genital Mutilation/Cutting and Child Marriage among the Rendille, Maasai, Pokot, Samburu and Somali Communities in Kenya 2017 [Available from: https://www.unicef.org/kenya/media/541/file/Kenya-0000076.pdf.pdf.
4. Kenya. Demographic and Health Survey 2014 [Available from: https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf.
5. Population Reference Bureau. Kenya: Reproductive Transitions: Unmet Need for Family Planning 2014 [Available from: https://www.prb.org/wp-content/uploads/2014/07/kenya-unmet-need-contraception.pdf.
6. WHO, UNICEF, UNFPA, The World Bank. Trends in maternal mortality: 1990 to 2010 WHO, UNICEF, UNFPA and The World Bank estimates 2012 [Available from: https://www.who.int/reproductivehealth/publications/monitoring/9789241503631/en/.
7. Hodin SM, Caglia JM, Baye M, Bewa J, Waiswa P, Langer A. From MDGs to SDGs: Implications for Maternal Newborn Health in Africa. Afr J Reprod Health. 2016;20(3):26-8.
8. Owolabi O, Riley T, Juma K, Mutua M, Pleasure ZH, Amo-Adjei J, et al. Incidence of maternal near-miss in Kenya in 2018: findings from a nationally representative cross-sectional study in 54 referral hospitals. Sci Rep. 2020;10(1):15181.
9. Marchant T, Bryce J, Victora C, Moran AC, Claeson M, Requejo J, et al. Improved measurement for mothers, newborns and children in the era of the Sustainable Development Goals. J Glob Health. 2016;6(1):010506.
10. Ganatra B, Faundes A. Role of birth spacing, family planning services, safe abortion services and post-abortion care in reducing maternal mortality. Best Pract Res Clin Obstet Gynaecol. 2016;36:145-55.
11. Chandra-Mouli V, McCarraher DR, Phillips SJ, Williamson NE, Hainsworth G. Contraception for adolescents in low and middle income countries: needs, barriers, and access. Reprod Health. 2014;11(1):1.
12. Glasier A, Gülmezoglu AM, Schmid GP, Moreno CG, Van Look PF. Sexual and reproductive health: a matter of life and death. Lancet. 2006;368(9547):1595-607.
13. Nove A, Matthews Z, Neal S, Camacho AV. Maternal mortality in adolescents compared with women of other ages: evidence from 144 countries. Lancet Glob Health. 2014;2(3):e155-64.
14. Kantorová V, Wheldon MC, Ueffing P, Dasgupta ANZ. Estimating progress towards meeting women's contraceptive needs in 185 countries: A Bayesian hierarchical modelling study. PLoS Med. 2020;17(2):e1003026.
15. Gichangi P, Waithaka M, Thiongo M, Agwanda A, Radloff S, Tsui A, et al. Demand satisfied by modern contraceptive among married women of reproductive age in Kenya. PLoS One. 2021;16(4):e0248393.
16. Ontiri S, Mutea L, Naanyu V, Kabue M, Biesma R, Stekelenburg J. A qualitative exploration of contraceptive use and discontinuation among women with an unmet need for modern contraception in Kenya. Reprod Health. 2021;18(1):33.
17. Izugbara CO, Egesa CP, Kabiru CW, Sidze EM. Providers, Unmarried Young Women, and Post-Abortion Care in Kenya. Stud Fam Plann. 2017;48(4):343-58.

18. Amo-Adjei J, Mutua M, Athero S, Izugbara C, Ezeh A. Improving family planning services delivery and uptake: experiences from the "Reversing the Stall in Fertility Decline in Western Kenya Project". BMC Res Notes. 2017;10(1):498.
19. Krogstad EA, Odhiambo OK, Ayallo M, Bailey VC, Rees H, van der Straten A. Contraceptive implant uptake in Kenya versus South Africa: Lessons for new implantable technologies. Contraception. 2020;101(4):220-5.
20. Winston J, Calhoun LM, Corroon M, Guilkey D, Speizer I. Impact of the Urban Reproductive Health Initiative on family planning uptake at facilities in Kenya, Nigeria, and Senegal. BMC Womens Health. 2018;18(1):9.
21. Benson A, Calhoun LM, Corroon M, Lance P, O'Hara R, Otsola J, et al. Longitudinal Evaluation of the Tupange Urban Family Planning Program in Kenya. Int Perspect Sex Reprod Health. 2017;43(2):75-87.
22. Chakraborty NM, Mbondo M, Wanderi J. Evaluating the impact of social franchising on family planning use in Kenya. J Health Popul Nutr. 2016;35(1):19.
23. Bertrand JT, Sullivan TM, Knowles EA, Zeeshan MF, Shelton JD. Contraceptive method skew and shifts in method mix in low- and middle-income countries. Int Perspect Sex Reprod Health. 2014;40(3):144-53.
24. Harrington EK, McCoy EE, Drake AL, Matemo D, John-Stewart G, Kinuthia J, et al. Engaging men in an mHealth approach to support postpartum family planning among couples in Kenya: a qualitative study. Reprod Health. 2019;16(1):17.
25. Achwoka D, Pintye J, McGrath CJ, Kinuthia J, Unger JA, Obudho N, et al. Uptake and correlates of contraception among postpartum women in Kenya: results from a national cross-sectional survey. Contraception. 2018;97(3):227-35.
26. Yemane TT, Bogale GG, Egata G, Tefera TK. Postpartum Family Planning Use and Its Determinants among Women of the Reproductive Age Group in Low-Income Countries of Sub-Saharan Africa: A Systematic Review and Meta-Analysis. Int J Reprod Med. 2021;2021:5580490.
27. National Crime Research Centre. Gender Based Violence in Kenya 2014 [Available from: http://crimeresearch.go.ke/wp-content/uploads/2018/02/wwwroot_publications_Gender-Based-Violence-in-Kenya.pdf.
28. National Gender and Equality Commission. GENDER-BASED VIOLENCE in KENYA: THE ECONOMIC BURDEN on SURVIVORS 2016 [Available from: https://www.ngeckenya.org/Downloads/GBV%20Costing%20Study.pdf.
29. Alemu B. Early marriage in Ethiopia: causes and health consequences. Exchange on HIV and AIDS, Sexuality and Gender. 2008;1:4-6.
30. Avalos L, Farrell N, Stellato R, Werner M. Ending female genital mutilation & child marriage in Tanzania. Fordham Int'l LJ. 2015;38:639.
31. Gitau T, Kusters L, Kok M, van der Kwaak A. A baseline study on child marriage, teenage pregnancy, and female genital mutilation/cutting in Kenya. Royal Tropical Institute, Amsterdam. 2016.
32. Boyden J, Pankhurst A, Tafere Y. Child protection and harmful traditional practices: female early marriage and genital modification in Ethiopia. Development in Practice. 2012;22(4):510-22.
33. Petroni S, Steinhaus M, Fenn NS, Stoebenau K, Gregowski A. New findings on child marriage in sub-Saharan Africa. Annals of global health. 2017;83(5-6):781-90.
34. AMREF. Evidence on the effects of COVID-19 Pandemic on Female Genital Mutilation/Cutting (FGM/C) And Child, Early and Forced Marriages (CEFM) In Kenya 2020 [Available from: https://amref.org/kenya/download/evidence-on-the-effects-of-covid-19-pandemic-on-female-genital-mutilation-cutting-fgm-c-and-child-early-and-forced-marriages-cefm-in-kenya/.

35. Kalamar AM, Lee-Rife S, Hindin MJ. Interventions to Prevent Child Marriage Among Young People in Low- and Middle-Income Countries: A Systematic Review of the Published and Gray Literature. J Adolesc Health. 2016;59(3 Suppl):S16-21.
36. Botea I, Chakravarty S, Haddock S, Wodon Q. Interventions Improving Sexual and Reproductive Health Outcomes and Delaying Child Marriage and Childbearing for Adolescent Girls. Ending Child Marriage Notes Series. 2017.
37. Perlman D, Adamu F, Wodon Q. Vulnerability of Adolescent Girls in Niger: Insights from Quantitative and Qualitative Research. Education Global Practice Washington, DC: The World Bank. 2017.
38. Brown G. Out of wedlock, into school: combating child marriage through education: Office of Gordon and Sarah Brown Limited; 2012.
39. Malhotra A, Warner A, McGonagle A, Lee-Rife S. Solutions to end child marriage. Washington, DC: International Center for Research on Women. 2011.
40. Kimani S, Kabiru CW. Shifts in female genital mutilation/cutting in Kenya: Perspectives of families and health care providers. 2018.
41. Esho T, Karumbi J, Njue C. Rapid evidence assessment: Quality of studies assessing interventions to support FGM/C abandonment. 2017.
42. Muiruri M. Kenya: Mungiki Gang Forcing Central Women to Undergo FGM 2021 [Available from: https://allafrica.com/stories/202106280915.html.
43. Katz I, Sanders R, Carvalho MN, Friedman HS, Legesse B, Winfrey W, et al. Cost and impact of scaling up female genital mutilation prevention and care programs: Estimated resource requirements and impact on incidence and prevalence. PLoS One. 2021;16(1):e0244946.

ANNEXURE

Table A 1: Coverage targets

Intervention	Baseline	Modest	Planned	Ideal	Data source for bassline
Periconceptual					
Folic acid fortification	37.5	50	60	60	Use default from Impact40
Safe abortion services	0	0	0	0	It's illegal and team decided for 0
Antenatal care					
Iron fortification	78.7	80	90	100	KHIS
TT - Tetanus toxoid vaccination	68.8	80	90	100	KHIS
Prevention of malaria in pregnancy	75.9	80	90	100	KHIS
Syphilis detection and treatment	0	70	90	100	Team decided Government not doing this
Hypertensive disorder case management	11.1	50	90	100	Numerator from KHIS and denominator from Spectrum
Diabetes case management	10.2	50	90	100	Numerator from KHIS and denominator from Spectrum
Malaria case management	64	80	90	100	From malaria indicator survey 2021, Ministry of Health
MgSO4 management of pre-eclampsia	11.1	50	90	100	Using proxy of Hypertensive as above
Childbirth					
Clean birth environment	52	70	90	100	Based on indicator definition, MOH is not promoting home deliveries.
Antibiotics for preterm or prolonged PROM	46.9	70	90	100	Using the UNFPA Impact value for baseline
MgSO4 for eclampsia	64.9	80	90	100	Numerator from KHIS and denominator all pregnancies from Spectrum
Uterotonics for postpartum haemorrhage	70.6	80	90	100	Numerator from KHIS and denominator all pregnancies from Spectrum

Intervention	Baseline	Modest	Planned	Ideal	Data source for bassline
Periconceptual					
Parenteral administration of antibiotics	67	80	90	100	Numerator from KHIS and denominator all pregnancies from Spectrum
Assisted vaginal delivery	17.8	50	90	100	(model)
Manual removal of placenta	42.8	70	90	100	Using the UNFPA Impact value for baseline
Removal of retained products of conception	31.3	70	90	100	Using the UNFPA Impact value for baseline
Caesarean delivery	62.38	80	90	100	Using the UNFPA Impact value for baseline
Blood transfusion	7.74	50	90	100	Using the UNFPA Impact value for baseline
Induction of labour for pregnancies lasting 41+ weeks	1.08	50	90	100	Using the UNFPA Impact value for baseline
Postnatal					
Maternal sepsis case management	5.4	50	90	100	Using the UNFPA Impact value for baseline

Table A 2: Summary of data sources for direct costing

Variable	Measurement	Sources
Total in need population	Total number of women who need for a given intervention year	• Spectrum
Coverage target	The percentage of the women that is provided with a given service in each year	• From Table 3.1 above
Cases treated or served	Actual numbers based on population in need and coverage targets	• Costing tool computation
Salaries and allowances	Total average annual salary and allowances per cadre in the public and private sector health sector	• MoH • County Department of Health
Prices of medicines, etc.	Prices in KES for these inputs	• Kenya Medical Supplies Authority
Overhead cost	Cost of utilities, administration and other staff (excluding doctors, nurses, pharmaceutical technologists, laboratory technologists and technicians, radiographers/ X-ray technicians)	• Dynamic Costing Model (Kenya)
Contact time	The time it takes, in minutes, a doctor or a nurse or any other staff involved in screening, diagnoses and treatment to serve one patient during an outpatient visit or an inpatient day	• Costing tool computation

Table A 3: Summary of data sources for productivity benefits

Variable	Measurement	Sources
GDP at market prices	Annual value in KES for each year from 2020 to 2030	• Kenya National Bureau of Statistics (KNBS) and the National Treasury for projections
Labour force participation rate	The rates for men and women	• Kenya National Bureau of Statistics (KNBS) • International Labour Organization (ILO)
Employment rate	The rates for men and women	• Kenya National Bureau of Statistics (KNBS) • World Bank
Impact	Deaths averted	• Spectrum in Impact 40
Output per worker	Average GDP product per worker	• Kenya National Bureau of Statistics (KNBS)

Table A 4: Method mix projection for modern contraceptives

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Pills	10.90	9.08	7.25	5.43	3.61	2.79	2.15	1.52	1.08	0.54	0.01
Injectable	20.44	20.97	21.50	22.03	22.60	23.12	23.66	24.20	24.74	25.27	25.81
IUCD insertion	7.00	5.41	3.82	2.23	0.60	0.53	0.48	0.43	0.38	0.34	0.30
Implants insertion	16.13	18.60	21.07	23.54	26.00	26.42	26.32	26.50	26.65	26.79	26.90
Female sterilization	0.23	1.08	1.93	2.78	3.60	4.13	4.73	5.17	5.56	5.91	6.23
Male voluntary surgical contraception	0.07	0.08	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11
Male condoms	3.19	3.47	3.76	4.04	4.30	4.26	4.35	4.33	4.32	4.31	4.30
Female condoms	0.03	0.08	0.13	0.18	0.20	0.24	0.27	0.29	0.31	0.33	0.34
mCPR	58.00	58.77	59.55	60.33	61.11	61.59	62.07	62.56	63.15	63.60	64.00

Table A 5: Projected method mix for all methods

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Male condom	4.02	4.25	4.48	4.70	4.93	5.16	5.39	5.62	5.84	6.07	6.30
Female sterilization	5.85	6.18	6.51	6.83	7.16	7.49	7.82	8.15	8.48	8.81	9.14
Injectable	44.82	44.13	43.43	42.74	42.04	41.35	40.65	39.96	39.26	38.57	37.87
Implants insertion	19.11	21.14	23.18	25.21	27.25	29.29	31.32	33.36	35.40	37.43	39.47
IUCD insertion	5.37	4.88	4.38	3.89	3.40	2.90	2.41	1.92	1.43	0.93	0.44
Pills	12.54	11.29	10.03	8.78	7.53	6.28	5.02	3.77	2.52	1.26	0.01
Withdrawal	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Periodic abstinence	6.35	6.17	5.99	5.83	5.66	5.50	5.30	5.11	4.94	4.76	4.59
Traditional (not specified)	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Other	0.42	0.45	0.48	0.49	0.51	0.52	0.57	0.60	0.62	0.64	0.66
Total	100	100	100	100	100	100	100	100	100	100	100

Table A 6: Child marriages averted per intervention

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rural School supply	2,679	5,069	7,194	9,068	10,692	12,064	13,183	14,088	14,793	15,320	15,689
Improve School infrastructure	1,859	3,517	4,992	6,292	7,419	8,371	9,148	9,775	10,265	10,630	10,886
Pedagogical Changes	2,187	4,138	5,873	7,403	8,728	9,848	10,762	11,500	12,076	12,506	12,808
Cash Transfers to poor students	2,078	3,931	5,579	7,033	8,292	9,356	10,224	10,925	11,472	11,881	12,167
Community intervention	2,624	4,966	7,047	8,883	10,474	11,818	12,914	13,800	14,492	15,007	15,369
Conditional Economic Incentives	3,281	6,207	8,809	11,104	13,092	14,773	16,143	17,250	18,114	18,759	19,211
Life Skills	5,140	9,724	13,801	17,396	20,511	23,144	25,291	27,025	28,379	29,389	30,098
Total	19,847	37,552	53,295	67,179	79,208	89,375	97,665	104,363	109,592	113,491	116,228

Table A 7: Cost of child marriage reduction interventions (KES million)

Intervention	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rural School supply	185	390	622	875	1,144	1,424	1,710	2,000	2,292	2,581	2,867
Improve School infrastructure	93	195	311	437	572	712	855	1,000	1,146	1,291	1,433
Pedagogical Changes	185	390	622	875	1,144	1,424	1,710	2,000	2,292	2,581	2,867
Cash Transfers to poor students	185	390	622	875	1,144	1,424	1,710	2,000	2,292	2,581	2,867
Total Education Intervention Costs	648	1,365	2,177	3,061	4,003	4,985	5,986	7,002	8,021	9,034	10,034
Community intervention	125	263	420	591	772	962	1,155	1,351	1,547	1,743	1,936
Conditional Economic Incentives	574	1,210	1,929	2,713	3,548	4,419	5,306	6,206	7,109	8,007	8,893
Life Skills	899	1,895	3,021	4,248	5,556	6,918	8,307	9,716	11,131	12,536	13,924
Community Intervention Costs	1,598	3,368	5,370	7,552	9,877	12,299	14,767	17,273	19,787	22,286	24,754
Total Cost	2,246	4,733	7,547	10,614	13,880	17,284	20,753	24,275	27,808	31,320	34,787

Table A 8: Estimated cost of FGM interventions by scenario (KES Million)

Year	Low	Modest	Planned	Ideal
2020	42.16	68.39	116.04	139.06
2021	50.38	79.13	131.76	157.26
2022	50.98	82.02	135.26	160.40
2023	51.87	85.30	139.35	164.23
2024	46.88	82.78	137.81	162.54
2025	47.96	86.39	142.60	167.25
2026	49.12	90.16	147.71	172.39
2027	50.36	94.09	153.12	177.90
2028	51.68	98.15	158.83	183.78
2029	53.08	102.35	164.80	190.01
2030	54.54	106.68	171.04	196.56