REVIEW OF

TECHNOLOGY-BASED
INTERVENTIONS

TO ADDRESS CHILD MARRIAGE AND
FEMALE GENITAL MUTILATION

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March 2023

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CONTENTS

COUNTRY CASE STUDIES

BANGLADESH [BD] 34

BURKINA FASO [BF] 40

EGYPT [EG] 46

ETHIOPIA [ET] 53

GHANA [GH] 59

INDIA [IN] 65

KENYA [KE] 71

MOZAMBIQUE [MZ] 78

NEPAL [NP] 85

SIERRA LEONE [SL] 91

SUDAN [SD] 99

UGANDA [UG] 105

ZAMBIA [ZM] 113

ACRONYMS AND ABBREVIATIONS

AIDOS	Italian Association for Women in Development
CDFU	Communication for Development Foundation Uganda
COVID-19	Coronavirus disease 2019
CSO	Civil society organization
CWFD	Concerned Women for Family Development
DHS	Demographic and Health Survey
DREAM	Developing Rights-based and Empowering Approaches to Mobilize
FAHP	Forum Against Harmful Practices
FGM	Female genital mutilation
G2G	Girl-to-Girl Empowerment Movement
GBV	Gender-based violence
GDELT	Global Database of Events, Language and Tone
GDDI	Gender Digital Divide Index
GDP	Gross domestic product
Global Programme	UNFPA–UNICEF Global Programme to End Child Marriage
GSMA	Global System for Mobile Communication
ICT	Information and communication technology
ISOC	Internet Society
ITU	International Telecommunications Union
IVR	Interactive Voice Response
Joint Programme	UNFPA–UNICEF Joint Programme on the Elimination of Female Genital Mutilation
LFC	Linha Fala Criança
M&E	Monitoring and evaluation

MENA	Middle East and North Africa
NCCW	National Council for Child Welfare
NGO	Non-governmental organization
NORSAAC	Northern Sector Action on Awareness Centre
ODWaCE	Organization for the Development of Women and Children
PASS	Promoting Adolescents Safe Spaces
SAGE	Support to Adolescent Girls' Empowerment in Sierra Leone
SDG	Sustainable Development Goal
SGBV	Sexual and gender-based violence
SMS	Short message service
SRH	Sexual and reproductive health
SRHR	Sexual and reproductive health and rights
SSA	Sub-Saharan Africa
SSMK	Saathi Sanga Manka Kura
STEM	Science, technology, engineering and mathematics
UNCDF	United Nations Capital Development Fund
UNCTAD	United Nations Conference on Trade and Development
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UPAG/ICT	Unleashing the Power of Adolescent Girl's Network through Information Communication Technologies
USAID	United States Agency for International Development
VAC	Violence against children
WEF	World Economic Forum
WHO	World Health Organization

INTRODUCTORY OVERVIEW

GLOBAL CONTEXT AND DEFINITIONS

The harmful practices of child marriage and female genital mutilation (FGM) – as defined in Box 1 – are fundamental obstacles to both sustainable development and the achievement of gender equality worldwide. Globally, there are around 650 million girls and women who are or have been married as children[1] and at least 200 million have been affected by FGM.[2]

The drivers of child marriage and FGM are specific to each region and country context, but girls are known to be at greater risk of both these harmful practices in certain communities. The root causes of gender inequalities related to harmful gender roles, norms and power relations are behind both practices, as are other issues that contribute to their persistence, including the following intersecting factors that create a lack of agency and opportunities for girls and women:

- Lack of both legislation and systems to protect the human rights of girls and women
- Limited access to education and support networks
- Living in rural areas
- Belonging to a household with a low income
- Prolonged violent conflict
- Poverty
- Vulnerability to crises
- Discrimination and barriers to meaningful participation.

Added to these factors, for FGM specifically, there is a close link to the social norms of some communities, with some people seeing FGM as an identity marker, a rite of passage into womanhood, a way to suppress a woman's sexuality or an indicator of family honour.

BOX 1. THE HARMFUL PRACTICES DEFINED

Female genital mutilation

Female genital mutilation (FGM) is "all procedures involving partial or total removal of the female external genitalia or other injury to the female genital organs for non-medical reasons",[3] including clitoridectomy, excision, infibulation and other procedures. FGM may have a variety of immediate and long-term consequences, including severe pain, shock, infections, complications affecting both mother and child during childbirth, long-term gynaecological problems such as fistula, psychological consequences, and even death.[4]

Child marriage

Child marriage is "any formal marriage or informal union between a child under the age of 18 and an adult or another child".[5] Girls form the vast majority of children in marriages (both formal and informal ones), although their spouses are sometimes under the age of 18 years too. Given that one or both parties have not given their full, free and informed consent, a marriage involving a child is a form of forced marriage.[6]

TECHNOLOGY AND DIGITAL SOLUTIONS

The need to end child marriage and FGM with innovative and impactful solutions has never been greater – without accelerated progress to end both of these harmful practices, millions of women and girls across the globe will continue to be harmed. In preventing, reducing and eliminating both child marriage and FGM, digital and technological solutions (see Box 2) can play a role – and they can make their impact at an unprecedented pace and scale. As these technologies rapidly proliferate across the world, they present an opportunity for governments and organizations to consider how they can optimize them to reinforce and ramp up their efforts to end child marriage and FGM.

BOX 2. DEFINITIONS OF TOOLS AND INTERVENTIONS

Technology[7]	Any materials, techniques or systems that specifically pertain to or are related to information and communication technologies or digital spaces and technologies that aim to change the disempowered state of girls and women, to directly or indirectly mitigate child marriage and/or FGM.
Digital technologies[8]	Digital technologies are electronic tools, systems, devices and resources that generate, store or process data. Digital technologies are continually evolving and expanding. They include the internet and mobile technologies; digital networks, content, services and applications; old and new systems of media, communication and information; connected devices and environments; virtual and augmented reality; artificial intelligence, including machine learning; robotics; automated systems and data analytics; and biometrics and biotechnology. The functioning of digital technologies is enabled by digital infrastructure (e.g., undersea, underground and above-ground cables; tower sites; data centres; satellites; the invisible spectrum used for wireless communication). The infrastructure is essential – it is the backbone for connectivity.
Technology-driven interventions	Policies, programmes and initiatives that use technological materials or services *as the core components* – to empower girls and women to directly tackle and mitigate child marriage and/or FGM.
Technology-enabled interventions	Policies, programmes and initiatives that use technological materials or services *in some part* – to empower girls and women to directly tackle and mitigate child marriage and/or FGM. In other words, technology-enabled interventions use the materials or services, but not as the main tools or main focus.

Note: These definitions have been adapted for the purposes of this study and report, and may differ from definitions used in other contexts.

People increasingly rely on technology for access to critical information, services and networks. The Coronavirus disease 2019 (COVID-19) pandemic has increased this dependence and fast-tracked the shift to digital technologies. Tech-based and tech-driven interventions are a means to both empower women and girls, and to directly or indirectly address and mitigate child marriage and FGM. The tech can connect women and girls at risk to the relevant authorities, and can be used to report cases. Not only this, but they can also be cost-effective educational tools in raising awareness of the negative consequences of child marriage and FGM – and they can spark collective action. Interventions of this type have delivered promising outcomes in different countries where the harmful practices are prevalent, because they have been able to reach larger populations than was possible through the non-tech interventions of before – and they can accelerate information sharing and knowledge transfer.

Women and girls cannot fully realize these benefits of the technologies, however. This is because they often have less access to the tech than men. Across the world, only 57 per cent of women are online, compared with 62 per cent of men. This gap is starker in the least-developed countries, where only 19 per cent of women are using the internet. Globally, women are also 8 per cent less likely than men to own a mobile phone.[9]

The digital gender divide is even greater in remote and rural communities, where prevalence for child marriage and FGM is higher. Without bridging all the gaps across this divide and ensuring women's and girls' meaningful inclusion in the digital transformations taking place in their communities, the full, equitable impact of the technologies will be lost. This will also risk the reinforcement of existing gender inequalities.

OVERALL OBJECTIVE OF THE STUDY

Building on the advancements made towards reaching Sustainable Development Goal (SDG) 5, the objective of this study is to contribute to the achievement of gender equality and the empowerment of women and girls around the world by mapping the landscape of tech interventions against child marriage and FGM in 13 countries across Africa and Asia. This study concerns SDG target 5.3 in particular – "Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation" – and the specific objective is to complete a comprehensive landscape mapping of the key technology-driven and technology-enabled interventions to mitigate the two harmful practices across these countries.

METHODOLOGY TO MAP THE LANDSCAPE

To guide this mapping of interventions on child marriage and FGM, the study adopted five categories of analysis to classify the interventions as either driven by tech or enabled by it. The categories combine elements from the socioecological model (e.g., individual, household and community dimensions) with the theories of change proposed in both the United Nations Population Fund–United Nations Children's Fund (UNFPA–UNICEF) Joint Programme on the Elimination of Female Genital Mutilation (the Joint Programme)[10] and the UNFPA–UNICEF Global Programme to End Child Marriage (the Global Programme).[11] These five categories are defined as follows.

1. Individual-level empowerment (knowledge, skills and information for girls)
The interventions in this category focus on providing girls with information and skills so that they are able to make effective choices about their lives, understand their rights and express their opinions. The topics of the knowledge or information provided include rights awareness, health-related information (including sexual and reproductive health and rights), financial literacy, interpersonal relationships, government services provision, and gender equality.

2. Family and community engagement (addresses social, gender and religious norms)
The interventions under this classification seek to address social, gender and religious norms by increasing the knowledge, awareness and understanding of harmful cultural practices among particular community and family members, such as traditional and religious leaders, and parents and male 'breadwinners', with regard to gender inequality as well as the risks of FGM and child marriage.

3. Service development and strengthening (service development, provision and strengthening)
The interventions here are centred on creating and enhancing education, health, and the systems on gender-based violence and child protection – to provide better gender-responsive services to girls. The strengthening of these services is done to prevent and adequately respond to child marriage and FGM.

4. Legal and policy systems interventions (enhanced legal and political responses)
The interventions in this category are focused on developing and implementing national action plans, laws, strategies, policies and programmes to address FGM and/or child marriage. These legal and policy interventions are executed at the system-level, with the primary objective of empowering and protecting the women and girls who are most at risk of FGM and/or child marriage. The aim is also to enhance the capacities of the public sector to implement effective solutions.

5. Economic empowerment (social protection, poverty reduction and economic empowerment)
In this last category, the interventions seek to address the underlying drivers affecting girls and their families (poverty especially) that lead to child marriage and FGM. These solutions will often target the creation or enhancement of economic empowerment services.

Global news on child marriage and FGM – data analysis through the GDELT Project

This study used the openly available event database of the GDELT project (gdeltproject.org), which monitors the world's broadcast, print and web news in over 100 languages, identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. The project codes this information as follows:[12]

- **Actor 1 name**
  + the name of the organization/entity/representative that inflicts an action (e.g., deciding, appealing, consulting, etc.)

- **Actor 2 name**
  + the name of the organization/entity/representative that receives an action (e.g., being asked, requested, supported, etc.)

- **Event type**
  + the type of the event taking place in the report (e.g., events pertaining to governance, health, refugees, politics, etc.)

- **Actor location**
  + the country Actor 1 or Actor 2 was in when deciding on an action

- **Action location**
  + the country where the action or event mentioned in the news report took place.

The researchers for this report extracted the data according to several selection criteria. The period was limited to the years from 2014 to 2022 (the full range that was presently available in the event database). The collection was restricted to observations from reports surrounding either child marriage or FGM in addition to technology, by using the following pools of relevant keywords for the harmful practices:

- **Child marriage**
  + "girls-not-brides", "child-bride", "girl-bride", "child-and-forced-marriage", "girl-marriage", "young-marriage", "arranged-marriage", "virginity-testing", "girl-bride", "underage-

marriage", "bride-abandonment", "early-marriage", "forced-marriage", "early-and-forced-marriage", "honour-based-abuse", "honour-killing", "child-marriage"

- **Female genital mutilation**
  + "FGM", "female-genital-cutting", "genital-circumcision", "female-circumcision", "female-genital-mutilation", "female-mutilation", "genital-mutilation", "genital-cutting".

Intersectional feminist approach

This study adopted an intersectional feminist approach. Intersectionality is an analytical tool commonly applied in feminist studies to emphasize the simultaneity of oppressions that some groups face in a more exacerbated form given the different identities they hold, such as age, race, ethnicity, class and sexuality.[13]

The approach has allowed this study to seek to understand whether the technological interventions mapped across the countries took into account the various identities held by survivors of child marriage and FGM, and those at risk of these practices. The study also assessed if the organizations creating and implementing the interventions had embedded an intersectional approach into the ideation, proof of concept, life cycle and scalability on the intervention/product. In other words, were girls' and women's voices prioritized during the design, piloting, implementation, evaluation and scalability of these interventions?

This information was gathered through an exhaustive review of the literature along with data collection from key informant interviews. This information is presented in the descriptive tables of the mapped interventions in section 4, which delivers the results across the 13 country case studies included in this landscape exercise.

Box 3 offers some more detail about how the study's intersectional approach applied feminist 'lenses' through which to analyse the interventions.

BOX 3. FEMINIST LENSES

Each country's intervention mapping in section 4 includes an overview of how organizations included the following four elements to applying a feminist lens in design and implementation.

1. Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions. These consultations allow to integrate a gender perspective more efficiently, and/or address the intersectional aspects of target groups.[14]
2. Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers. The goal is to ensure that the intervention adequately addresses the perspectives and/or needs of those impacted, while also enabling them to amplify their voices and be part of decision-making processes.[15]
3. Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were part of the intervention, which is a relevant step not only to measure their progress and sustainability, but also because it opens an opportunity to generate disaggregated information, gender-sensitive/gender-responsive indicators, and gender analysis frameworks.[16]
4. Engagement of womenand/or girl-led led organization(s)	The intervention is designed or implemented, partly or completely, by a womenand/or girl-led organization(s). This is important because it highlights the crucial role that women play in engaging with their communities; the need to encourage more women to occupy leadership positions; the fact their presence helps to uplift other female voices; and, that they are more likely to take gender equity and the SDGs at the heart of their work.[17]

Note: Additional descriptive information about the feminist lenses and intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within section 4, following the general description of each intervention, which can be identified by the use of the symbol [♀]. It is important to mention that this assessment is based on information collected during semi-structured interviews with local stakeholders. Considering that access to these stakeholders was not possible for all interventions, and that some information may not have been publicly available, this analysis is not provided in every case.

OVERALL CONTEXT IN AFRICA AND THE MIDDLE EAST

FEMALE GENITAL MUTILATION IN AFRICA AND THE MIDDLE EAST

On a global average, the majority of cases of FGM occur on the African continent, where almost 140 million girls and women have been affected by this practice. It is concentrated in a portion of West Africa surrounding Guinea, in the Horn of Africa, and throughout the countries bordering the Red Sea. In the Middle East and North Africa (MENA), almost 50 million girls and women have undergone FGM in five practising countries, accounting for one quarter of the global total. Yet, the prevalence of FGM varies in the MENA region, from 94 per cent in Djibouti to 7 per cent in Iraq.[18]

It is noteworthy that FGM is gradually declining in many areas of Africa and the Middle East over the last three decades. Promising advancements have been made in nations including Egypt, Sierra Leone and Ethiopia.[19] Seven out of 10 girls in African nations where FGM is highly prevalent believe the practice should be banned, and five out of 10 girls who have personally experienced FGM believe the practice should be discontinued.[20] Likewise, it has been documented that mothers with higher levels of educational attainment are less likely to subject their daughters to the practice. Yet, the speed of this change is still quite limited, and to achieve the global goal of eradication of FGM by 2030, the nations of the region must employ efforts to combat and eliminate it 10 times faster than the current pace.[21] In countries like Somalia, Guinea, Mali, the Gambia, Guinea-Bissau, Chad, and Senegal, data on the prevalence of FGM are still ubiquitous, sometimes showing no signs of declining.[22]

In some cases, both child marriage and FGM practices intersect, with FGM being a precursor step to marriage, for example. It is estimated that more than 40 million women and girls in Africa have been subjected to both practices. However, the most common scenario is the prevalence of one practice over the other.[23]

CHILD MARRIAGE IN AFRICA AND THE MIDDLE EAST

West and Central Africa have the highest prevalence of child marriage in the world: with nearly 60 million (or 37 per cent) married before age 18, and 12 per cent before age 15. The highest numbers are in Nigeria (23.6 million), followed by the Democratic Republic of the Congo (7.1 million) and the Niger (4.8 million). Among women aged 20 to 24 who were married before age 18, 62 per cent were in the poorest quintile, 64 per cent had no education and 51 per cent lived in rural areas. At the current pace, 25 million more girls in the region will marry during childhood in the next decade.[24]
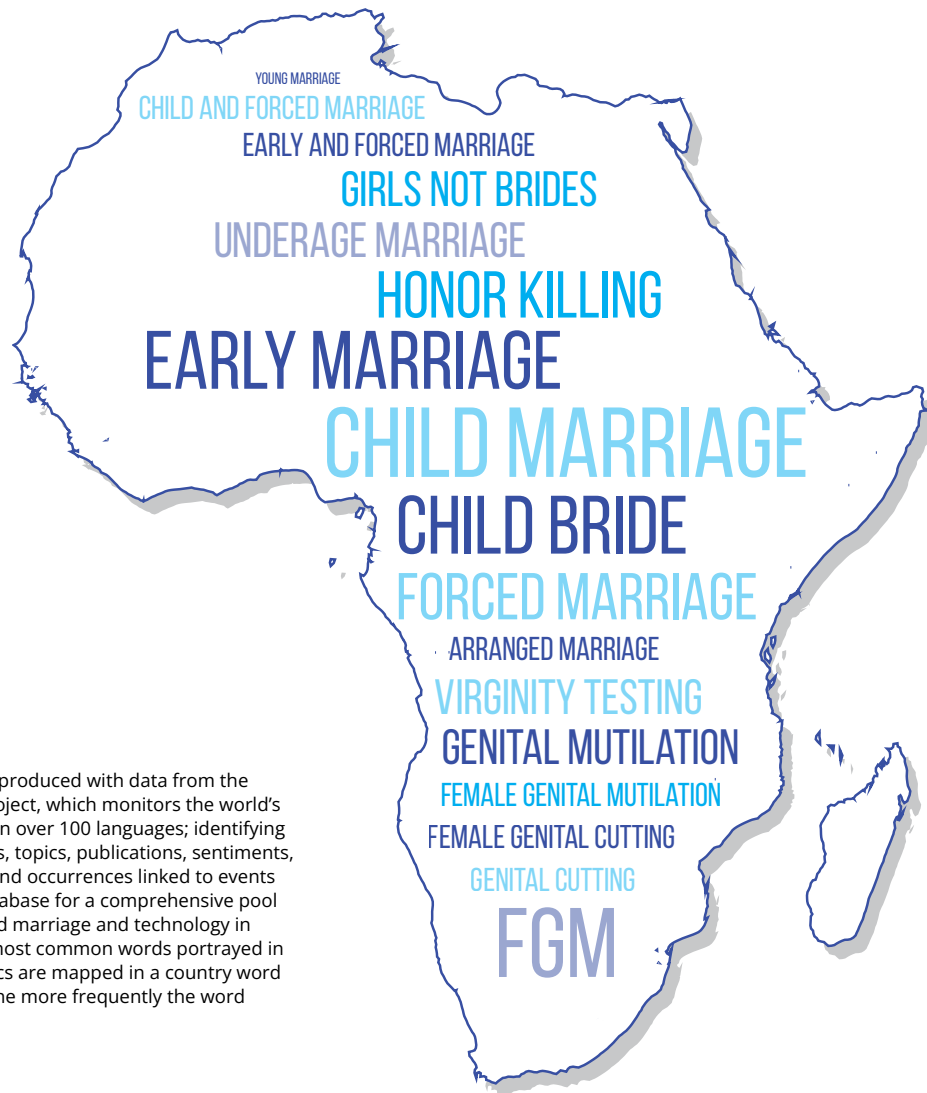
Child marriage rates in the Sahel region are even higher than those in the rest of West and Central Africa. According to some estimates, children and young people make up two thirds of the region's population, and by 2050, the proportion of individuals under 20 is predicted to double. More than half of young women married in childhood, with a high in the central Sahel, where 7 out of 10 young women marry as children. In comparison to women and girls outside the region, Sahelian women and girls marry over two years sooner.[25]

Eastern and Southern Africa are also among the regions with the highest prevalence of child marriage. Nearly 32 per cent of the region's young women reported that they were married or in union before turning 18. Over 50 million child brides live in the area, with Ethiopia accounting for the highest burden (17.3 million), followed by the United Republic of Tanzania (5.7 million), Uganda (4.7 million), Mozambique (4.4 million) and Kenya (4.2 million). Among women aged 20 to 24 who married before age 18, it followed the same demographic patterns as in West and Central Africa, with 47 per cent in the poorest quintile, 61 per cent having no education and 41 per cent living in rural areas. At the current pace, 20 million more girls in the area will wed as children over the next 10 years.[26]

In regard to the MENA region, around 40 million girls and women alive today are affected by child marriage, 700,000 per year and 6 per cent of the recorded numbers around the world. The practice is most common in the Sudan and Yemen, where one in three girls have been subjected to underage marriage. Insecurity, armed conflict, and other vulnerable contexts also perpetuate the practice in the region. [27]

GLOBAL NEWS ANALYSIS RESULTS FOR AFRICA AND THE MIDDLE EAST

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in relation to technology in Africa and the MENA region (2014–2022)

YOUNG MARRIAGE
CHILD AND FORCED MARRIAGE
EARLY AND FORCED MARRIAGE
GIRLS NOT BRIDES
UNDERAGE MARRIAGE
HONOR KILLING
EARLY MARRIAGE
CHILD MARRIAGE
CHILD BRIDE
FORCED MARRIAGE
ARRANGED MARRIAGE
VIRGINITY TESTING
GENITAL MUTILATION
FEMALE GENITAL MUTILATION
FEMALE GENITAL CUTTING
GENITAL CUTTING
FGM

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM, child marriage and technology in Africa and the Middle East, the most common words portrayed in the reports related to these topics are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of articles and/or reports covering both FGM and child marriage in Africa and the Middle Eastregion (2014–2022)
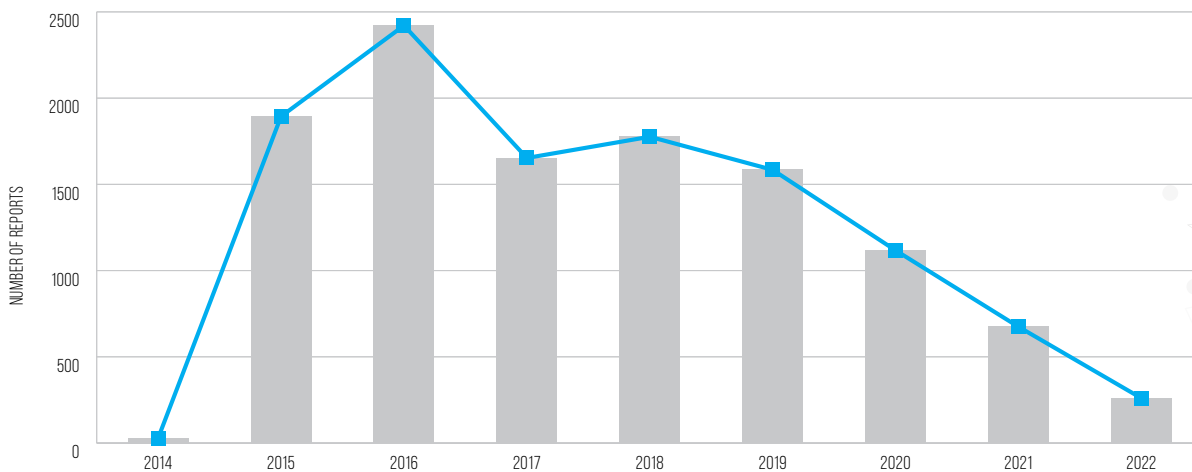
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM and technology in Africa and the Middle East, it can be observed that in 2016 the region reached nearly 2,500 reports published corresponding to both child marriage and FGM.

FIGURE 3. Key actors involved in actions and responses taken towards addressing both FGM and child marriage related to technology in the regions of Africa and MENA (number of publications)
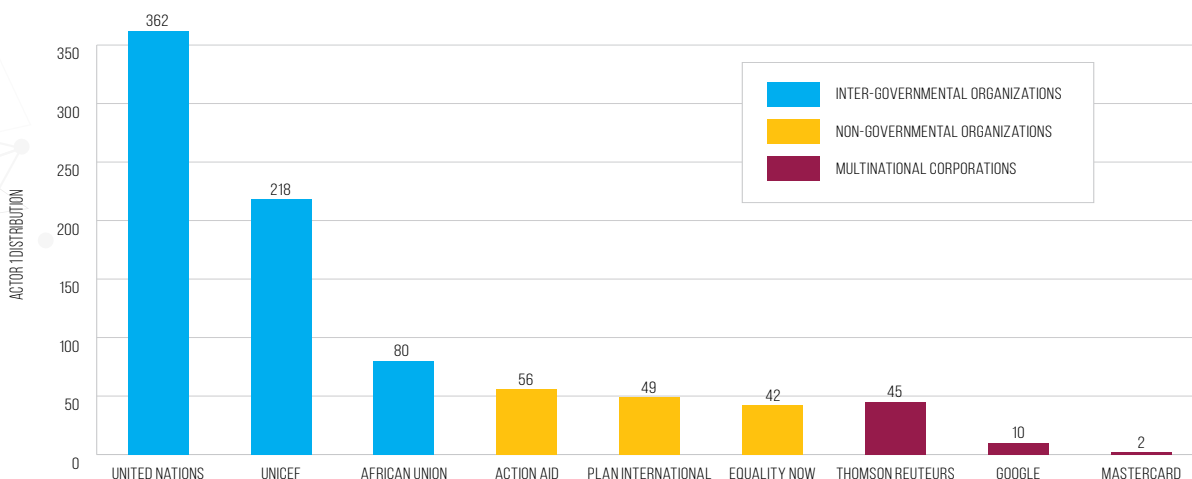
SNAPSHOT OF THE TECHNOLOGY LANDSCAPE IN AFRICA

TABLE 1. DIGITAL ACCESS AND GOVERNMENT SUPPORT IN AFRICA

🖥️	**Internet users**[28] (proportions of the adult male and female populations)	35% of men 24% of women
📱	**Mobile phone ownership**[29] (proportions of the adult male and female populations)	82% of men 69% of women
🏛️	**Level of government support for digital literacy**[30] (scale 0–3)[a]	Medium: 2.2

The African region has seen sustained, albeit slow, progress in its technological environment. As of 2020, 29.7 per cent of households across the continent have reported access to the internet, although this varies considerably across the region.[31] Sub-Saharan Africa, for example, remains as one of the least connected regions in the world in terms of internet access, consisting of 47 per cent of the world's unconnected population – approximately 210 million people in 2020.[32] Mobile phone penetration has increased rapidly in Africa, with the average mobile cellular subscription rate at 82.3 per cent of the population. However, 18 per cent of the population still has no access to a mobile broadband network.[33] Africa continues to face structural challenges in strengthening its technological infrastructure, access, and use, especially considering how many least-developed countries in the region are landlocked, rural areas with large and sparsely populated communities. Moreover, a significant digital gender divide remains. Despite unprecedented growth in the mobile industry across African countries, a gender gap in mobile phone ownership persists, with 82 per cent of male owners compared with 69 per cent of female owners. For most internet users in the region, particularly women, their primary means of accessing the internet is through mobile phones, however women in Africa are still 41 per cent less likely than men to use the internet through this device. Internet access and affordability continues to be a challenge,

---

a   The score on government support for digital literacy, on a scale from 0–3 (low to high), reflects a government plan or strategy to address digital literacy for students and/or teachers – through the design and development of courses in ICT skills, computer science, programming or other classes for students; and through ICT capacity-building courses for teachers. A zero score indicates that the government does not have such a plan/strategy, neither for students and nor for teachers; a score of 1 reflects a plan for student digital literacy but without including teacher capacity-building; a medium score of 2 indicates a current plan for both; and the highest score of 3 reflects a plan addressing both students and teachers, and with the courses and capacity-building starting at the primary school level.

particularly for poor rural women. Across Africa, 35 per cent of men use the internet compared with only 24 per cent of women, while internet access among rural households stood at 6.3 per cent compared with 28 per cent of households living in urban areas.[34] Several governments in Africa have national strategies in place addressing digital literacy and accessibility of electronic services, however it has yet to be replicated in other countries in the region.

SNAPSHOT OF THE TECHNOLOGY LANDSCAPE IN THE MIDDLE EAST

TABLE 2. DIGITAL ACCESS AND GOVERNMENT SUPPORT IN THE MIDDLE EAST		
	Internet users[35] (proportions of the adult male and female populations)	61.3% of men 47.3% of women
	Mobile phone ownership[36] (proportions of the adult male and female populations)	90% of men 82% of women
	Level of government support for digital literacy[37] (scale 0–3)[b]	High: 2.7

The Middle East is one of the most diverse regions in terms of digital development: on one end, there are advanced countries leading the region in Information and communication technology (ICT), while on the other, there are least-developed countries, whose technological environments are not well-developed due to persistent structural barriers. In 2020, 83.5 per cent of households in the Middle East had access to the internet, compared with 51.8 per cent in 2017.[38] Mobile cellular coverage is high, with an estimated 95 per cent of the population living in an area with a mobile cellular signal. The Middle East also has one of the highest rates of mobile phone ownership in the world, with 98 of 100 inhabitants being active mobile subscribers in 2020. Despite these relatively high figures, the digital gender divide remains a reality across the region. Women are still 9 per cent less likely to own a mobile phone and 21 per cent less likely than men to be mobile internet users. In terms of internet access in the Middle East, only 47.3 per

cent of women and 61.3 per cent of men have access, which leaves a wide gap that is especially prevalent among less educated and lower income individuals.[39] Nonetheless, there is strong government support for digital literacy throughout the Middle East, as suggested by national policy frameworks that strengthen the digital capabilities and skills of students and include the training of teachers in information and communication technology (ICT).

b   See page 16 for an explanation of this government support score

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OVERALL CONTEXT IN ASIA

FEMALE GENITAL MUTILATION IN ASIA

While great attention has been paid to campaigning and preventive efforts in high-prevalence African nations, there has been little mention of FGM in the Asia-Pacific region. Data on the prevalence of FGM among countries in the region is limited and rarely included in worldwide reporting.[40] According to local and small-scale research studies, FGM is practised in Bangladesh, Brunei, Cambodia, India, Indonesia, Lao People's Democratic Republic, Malaysia, the Philippines, Singapore, Sri Lanka, Thailand and Viet Nam. For example, a study carried out in Malaysia in 2012 with 1,196 women attending public health-care centres found that 93 per cent of them had undergone FGM. In Indonesia, 49 per cent of the approximately 34 million girls under the age of 12 were reported to have undergone FGM in 2013.

The ethnic community of the Bohras, which has an estimated population of over 500,000 of women in India and Pakistan, is reported to practise FGM in approximately 50–80 per cent of girls within the community.[41]

The reasons for the practice differ among countries. Some regard FGM to be a rite of passage, such as in the Philippines, whereas in Southern Thailand it relates to preconceived notions about the female character. In India, Indonesia and Malaysia, the practice may relate to hygiene, purity and control over female sexuality. FGM may also be considered a religious practice for Muslim females in Bangladesh and Sri Lanka.[42]

CHILD MARRIAGE IN ASIA

In South-East Asia and the Pacific, the rate of girls married or in unions before the age of 18 ranges between 11 per cent and 33 per cent. Rates are highest in the Lao People's Democratic Republic, Papua New Guinea, Cambodia, and Thailand.[43] In the past 10 years, South Asia has seen the largest decrease in the number and proportion of child marriage globally, mostly as a result of India's progress. Given its size and population, India's development has significantly decreased the number of girls who are subjected to the practice, with 1 in 4 young women getting married in 2016 compared with 6 in 10 in 1991. The practice of child marriage has declined also in Indonesia, where rates were cut in half over 25 years, and in the Maldives, with a frequency that was 25 times lower in 2017 than in 1992.[44]

While most countries have seen a decrease in child marriage, progress in Cambodia, Indonesia, and Viet Nam has stalled during the last two survey periods, and in the Philippines, the rate of child marriage has grown considerably. There is also substantial within-country variance in child marriage rates. Certain groups (closed caste communities in India and Nepal), geographies (a few islands in the Maldives[c]), and states (Maharashtra, Rajasthan and Uttar Pradesh in India) have been experiencing some increases in the number of child brides.[45]

UNFPA and UNICEF have identified three major cultural patterns driving adolescent pregnancy, child marriage and early union in the region. Firstly, child marriages that are forced or arranged are often motivated by poverty, external crises and societal conventions. Secondly, self-initiated marriages usually take place when young individuals opt to marry in order to form a relationship, enter adulthood or leave a problematic familial environment. Lastly, circumstantial child marriage might occur as a reaction to adolescent sexual behaviour and/or premarital pregnancy linked to preserving the family's reputation. Moreover, the level of consent is particularly significant in determining harm in child marriage.[46]

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c   Despite that the Maldives has experienced a major decline in child marriage rates, and that it is close to eradicating this phenomenon by 2030, some specific islands in the archipelago still present an increase in cases of child marriage, which shows how the reality of this phenomenon changes not only from country to country, but in different regions of the same country.

GLOBAL NEWS ANALYSIS RESULTS FOR ASIA

FIGURE 4. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Asia (2014–2022)

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM, child marriage and technology in Asia, the most common words portrayed in the reports related to these topics are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 5. Number of articles and/or reports covering both FGM and child marriage in Asia
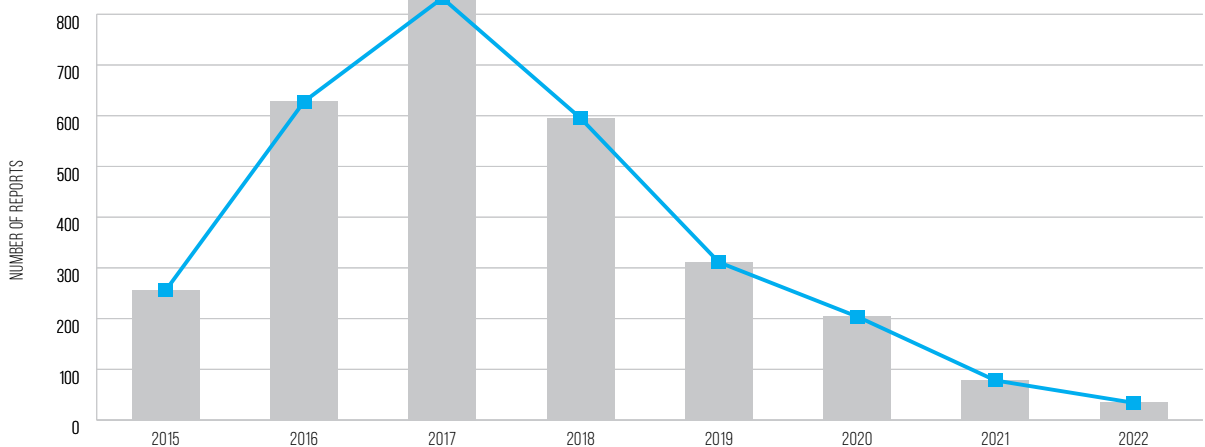
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM and technology in Asia, it can be observed that in 2017 the region reached over 800 reports published corresponding to both child marriage and FGM.

FIGURE 6. Key actors involved in actions and responses taken towards addressing both FGM and child marriage in Asia
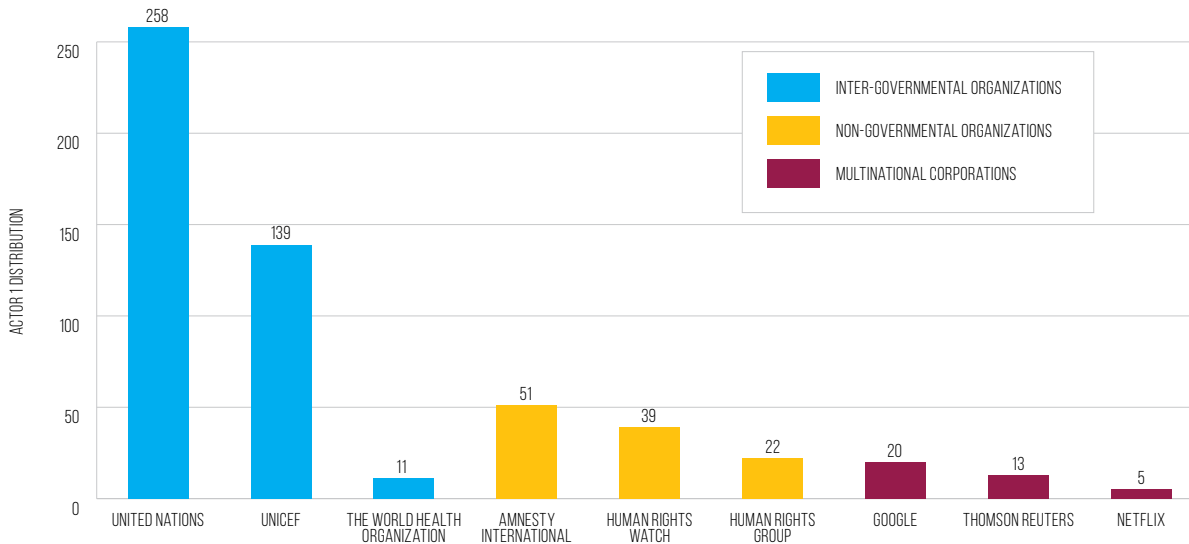
TABLE 3. DIGITAL ACCESS AND GOVERNMENT SUPPORT IN ASIA		
Internet users[47] (proportions of the adult male and female populations)		59% of men 54% of women
Mobile phone ownership[48] (proportions of the adult male and female populations)	87% of men 62% of women (South Asia)	94% of men 93% of women (East Asia and the Pacific)
Level of government support for digital literacy[49] (scale 0–3)[d]		Medium: 2.3

SNAPSHOT OF THE TECHNOLOGY LANDSCAPE IN ASIA

The technological environment in Asia varies across the region, which includes some of the world's most populous countries in addition some of the smallest countries in terms of geographical size. At the same time, unlocking the full potential of technology remains a challenge for low and middle-income Asian countries. While an average of 70 per cent of households have access to the internet across Asia, this figure varies starkly throughout the region, ranging from a 99.7 per cent internet penetration rate in the Republic of Korea down to a 17.7 per cent rate in the Philippines.[50] Mobile phone ownership is quite advanced, with 128 mobile subscribers per 100 inhabitants – well beyond the world average of 112 mobile cellular subscriptions per 100 inhabitants.[51] However, a gap persists between those living in areas with a mobile broadband network, but do not have access to mobile internet, as is the case in South Asia, which has the largest gap at 61 per cent – greater than any of its neighbours and other regions worldwide. South Asia also has the largest gender gap in terms of mobile ownership compared with any other region worldwide with 62 per cent of women and 94 per cent of men owning mobile phones, while East Asia and the Pacific stands in contrast with only a 1 per cent gender gap.[52] In 2019, only 41.3 per cent of women in Asia used the internet, compared with 48.3 per cent of men.[53] In 2020, this digital gender gap has narrowed down but still persists, with 54 per cent of women and 59 per cent of men having internet access. This digital gender divide is also most evident in South Asia, where women are 36 per cent less likely than men to have access to the internet.[54] In all countries in the region (except Sri Lanka) digital literacy has been integrated into educational curricula and governments have allocated more funding towards expanding accessibility and connectivity.

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d   See page 16 for an explanation of this government support score

COMPARATIVE MAPPING OF INTERVENTIONS ACROSS 13 COUNTRIES IN AFRICA AND ASIA

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Africa and Asia. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◑] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

A detailed description of the interventions mapped in this study listed is provided in the corresponding country case studies.

SUMMARY OVERVIEW OF ALL INTERVENTIONS MAPPED

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
BANGLADESH	Radio Pollikontho 99.2 FM / ◉	N/A	BRAC Community Empowerment Programme	• Radio	N/A
	Alapon Helpline / ◉	• UNFPA • Ministry of Education	Concerned Women for Family Development (CWFD)	• Mobile technology (Helpline) • Web and social media (Facebook)	• Consultations with experts and/or community leaders • Consultations with target group(s) • Women-led organization
BURKINA FASO	SOS Excision Hotline / ◉	N/A	Comité National de Lutte contre la Pratique de l'Excizion	• Toll-free hotline • Mobile phones • Radio	N/A
	QG Jeune / ◉	• Government of Belgium • Government of Canada • Government of the Netherlands • Luxembourg Aid and Development • UNICEF • UNAIDS • Orange Mobile	UNFPA	• Mobile phones • Mobile phone application • Multimedia platform	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments
	RapidPro / ◉	Bill & Melinda Gates Foundation Inc.	UNICEF	• Mobile phones • SMS • Social media	• Consultations with experts and/or community leaders • M&E instruments

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
BURKINA FASO *(continued)*	iCivil Platform / ◉	• UNICEF • UNFPA	iCivil	• Mobile phones • Mobile phone application • Digital wristband	N/A
	C'est La Vie! TV series / ◉	• Réseau africain pour l'éducation à la santé • Programme de Marketing Social et de Communication pour la Santé (PROMACO) • Voix de femmes • Ratanga Club	Equipop	• Television • Social media • Mass media	N/A

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
EGYPT	Dawwie Initiative / ◑	• UNICEF • UNFPA	• National Council for Childhood and Motherhood • National Council for Women	• Virtual Training (e.g., online training, through the use of computers, etc.)	N/A
	RIDE ON Course: Remote self-guided curriculum to promote adolescents' well-being / ◉	N/A	• Terre des Hommes	• Virtual trainings	N/A
	Reproductive Health and Family Planning Information for Factory Workers in Alexandria / ◑	N/A	The Population Council	• Mobile Technology • WhatsApp	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments
	UNICEF & UNFPA FGM and child marriage docudramas (360 Edutainment) / ◉	• UNICEF • UNFPA	• UNICEF • UNFPA	Video screening/ documentaries	N/A

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
ETHIOPIA	Berhane Hewan / ◐	• UNFPA • Ethiopian Ministry of Women, Children and Youth Affairs • Amhara Regional Bureau of Women, Children and Youth	Population Council	• School trainings • Mobile phones • Solar lanterns	N/A
	Interactive Voice Response (IVR) Technology / ◉	N/A	• UNICEF • VIAMO	• Mobile phones • IVR technology • Radio programmes	• Consultations with experts and/or community leaders • M&E instruments
	Popular Education Techniques / ◐	Educational Media Agency	• Organization for the Development of Women and Children (ODWaCE) • The Italian Association for Women in Development (AIDOS)	• Audiovisual training materials • Radio programmes	• Consultations with experts and/or community leaders • M&E instruments
GHANA	Promoting Adolescents Safe Spaces (PASS) Project / ◐	• UNFPA • UNICEF	• NORSAAC • International Needs Ghana	• Radio	• Consultations with experts and/or community leaders • Consultations with target group(s)
	Child Protection Community Facilitation Toolkits / ◐	UNICEF	• UNICEF • Ministry of Gender, Children and Social Protection • Ministry of Local Government and Rural Development • Non-governmental organization (NGO) partners	• -Interactive games • -Radio • Digital application	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
INDIA	Love Matters India / ◉	• RNW Media • Bill & Melinda Gates Foundation • The David and Lucile Packard Foundation • India • AmplifyChange programme • Ideas42	Development Consortium	• Social media (including Facebook, WhatsApp YouTube, Instagram and Twitter) • Radio programmes • Television • Websites • Helpline • Podcasts • Videos, including animation and virtual reality, as well as augmented reality	• Consultations with experts and/or community leaders • Consultations with target group(s) • Women-led organization
	Naubat Baja / ◉	• Directorate of Women Empowerment, Government of Rajasthan • The Rural Electrification Corporation Foundation • UNFPA	Jeevan Ashram Sansthan (JAS)	• Radio • Mobile technology	• Consultations with experts and/or community leaders • Women-led organization
KENYA	PASHA App / ◉	• UNICEF • UNFPA	• Anti-FGM Board • Referral services	• Mobile phone application	• Consultations with target group(s) • M&E instruments
	i-Cut App / ◉	• LakeHub Foundation • Technovation Challenge	'The Restorers', a group of young women formed when still attending in high school	• Mobile phone application	• Women-led organization
	Campaign 'Spot it! Stop it!' / ◉	• UNICEF • Joining Forces Alliance • Rotary Club • Safaricom • Airtel • Boda bodas (Transportation system)	• Ministry of Labour and Social Protection, through the Department of Children Services • Local radio and television stations	• Traditional media (TV spots, radio dramas, radio call-ins, newspaper inserts, posters) • Community-based merchandise	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
KENYA *(continued)*	Shujaaz / ◉	N/A	Shujaaz	• Web platform • Social media • SMS messaging • Print media	N/A
	Childline Kenya / ◉	• Plan International • Kenya Alliance for the Advancement of Children – SOS Children's Villages • Child Helpline International	• Ministry of Labour and Social Protection, through the Department of Children • Childline Kenya	• Helpline • Social media	N/A
MOZAMBIQUE	SMS BIZ / ◉	• UNICEF • UNFPA • Rapariga Biz • Telecommunica-tion companies • Spotlight Initiative • Ministry of Gender, Child and Social Action	UNICEF	• Digital platform • SMS messaging • Chatbots • Live chats • Social media	• Consultations with target group(s) • M&E instruments
	Linha Fala Criança / ◉	• UNICEF • UNFPA • Plan International • Save the Children • World Vision • Girls Not Brides • Telecommunica-tion companies (Tmcel, Movitel, Vodacom) • Ministry of Health • Ministry of Educa-tion and Human Development • Ministry of Gender, Child and Social Action	Linha Fala Criança	• Helpline • SMS messaging • WhatsApp • Traditional media (TV, radio)	• Consultations with experts and/or community leaders • M&E instruments

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
MOZAMBIQUE *(continued)*	Digital Technologies and Mass Media Campaigns During COVID-19 / ◐	• UNICEF • UNFPA • Ministry of Gender, Child and Social Action • Regional Psycho-social Support Initiative	• UNICEF • UNFPA	• Mobile telephones • SMS messaging • Children helplines	• Consultations with experts and/or community leaders
NEPAL	Boju Bajai / ◉	N/A	Boju Bajai	• Podcast (Soundcloud) • Online videos (YouTube)	N/A
	Rupantaran / ◉	• Department of Women and Children • Ministry of Health and Population • Ministry of Education	• UNICEF • UNFPA	• Radio • SMS messaging • Mobile phones	• Consultations with experts and/or community leaders • Consultations with target group(s) • Women-led organization
	Saathi Sanga Manka Kura (SSMK) / ◉	• UNICEF • Radio Nepal	Digital Broadcast Initiative Equal Access	• Radio • Social media • SMS messaging	N/A

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
SIERRA LEONE	Anti-FGM Documentaries / ◉	N/A	Amazonian Initiative Movement	• Film screen and projector • YouTube	N/A
	Adolescent Safe Spaces for Life Skills Training / ◑	• UNICEF • UNFPA • Irish Aid	• Women in Crisis Movement • The National Secretariat for the Reduction of Teenage Pregnancy	• Mobile phones • Radio • Tablets	N/A
	Developing Rights-based and Empowering Approaches to Mobilize (DREAM) Action to End FGM / ◉	Forward United Kingdom	• Girl2Girl Empowerment Movement • Advocacy Movement Network	• Computers • Radio	N/A
	Unleashing the Power of Adolescent Girl's Network through Information Communication Technologies (UPAG/ICT) / ◉	Internet Society (ISOC)	ChildHelp Sierra Leone	• Computers • Internet facilities	N/A
	Support to Adolescent Girls' Empowerment in Sierra Leone (SAGE) / ◉	• KoBo Toolbox • Purposeful United Kingdom • Government of the United Kingdom • Community Action to Restore Lives • Daindemben Federation • Munafa M'Patie Federation	Purposeful Sierra Leone	• Mobile phone applications • Mobile phones • Internet • Radio programmes	N/A
	Public Education Initiatives through the Media / ◉	N/A	Forum Against Harmful Practices (FAHP)	• Social Media (Facebook, WhatsApp) • Internet • Radio programmes	• Consultations with experts and/or community leaders • Consultations with target group(s) • Women-led organization

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
THE SUDAN	Saleema Initiative / ◑	• UNICEF • Government of Sudan	• National Council for Child Welfare (NCCW)	• Radio • TV shows • Mass media	• M&E instruments
	Changing Cultural Attitudes towards Female Genital Mutilation / ◉	• Swiss National Committee of UNICEF • European Research Council	• Authors • Gezira State Government • National Council for Child Welfare • Gezira State Council for Child Welfare	• Edutainment • Movies	N/A
	Effects of School-based Health Education on Attitudes of Female Students towards Female Genital Mutilation in the Sudan / ◑	N/A	Authors	• Video screenings	N/A
	Ahfad University Online GBV Training Courses / ◉	N/A	Ahfad University	• Virtual training	N/A
UGANDA	Sauti Helpline / ◉	• UNICEF • Plan International • Save the Children Uganda • World Vision Uganda • Uganda Child Rights NGO Network	• Ministry of Gender Labour and Social Development • Referral services	• Free telephone service • Social media • Traditional media (TV, radio)	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments
	U-Report Uganda / ◉	• UNICEF • Sauti Helpline • Ministry of Gender Labour and Social Development	UNICEF	• Digital platform • SMS messaging • Chatbots • Live chats • Social media	• Consultations with target group(s) • M&E instruments
	SafePal / ◑	UNFPA	Ministry of Gender Labour and Social Development	• Mobile phone application	• Consultations with target group(s) • M&E instruments

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
UGANDA *(continued)*	SautiPlus / ◉	Rutgers Uganda	Reach a Hand Uganda	• Digital platform • Mobile phone application • Social media • Traditional media (TV and radio) • Print media	N/A
	Media Campaigns Against FGM / ◑	• European Council • UNICEF • UNFPA • UN Women • UNDP • UNHCR • Ministry of Gender Labour and Social Development • Government of Sweden	• Uganda Law Society • Communication for Development Foundation Uganda (CDFU)	• Traditional media (TV, radio) • Mobile legal aid clinics	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments
	WhatsApp Group, 'Kenya Uganda anti-FGM Forum' / ◉	• UNICEF • UNFPA	• Ministries of gender in both countries • Local authorities in border region (e.g., police, councils) • Referral services • Community leaders	• Mobile phone application • Virtual calls (Zoom) • Television broadcasting • Social media	• Consultation with experts and/or community leaders
	SafeBoda / ◉	• UNICEF • UNFPA	SafeBoda	• Mobile phone application • Delivery transportation service	N/A

COUNTRY	INTERVENTION/ TYPE	SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
ZAMBIA	Natwampane, Prevent! Sexual and Gender-Based Violence (SGBV) Project / ◉	European Development Fund	• BBC Media Action • Lifeline/Childline Zambia • Norwegian Church Aid • World Vision Zambia • Other CSOs, including: Women for Change, Lusitu Chambers, Zambia Episcopal Conference, Catholic Medical Mission Board, and others.	• Radio • Helpline	• Consultations with experts and/or community leaders • Consultations with target group(s)
	Digital Technologies and Mass Media Campaigns During COVID-19 / ◖	• UNFPA • UNICEF	• Ministry of Education • Ministry of Community Development and Social Services	• Mass media (including TV and radio) • Online polls • Phone calls • Tablets • Virtual meetings	• Consultations with experts and/or community leaders • Consultations with target group(s) • M&E instruments
	Stop Gender-Based Violence (GBV) / ◖	• USAID • Lifeline/ChildLine Zambia • Women and Law and Development in Africa (WiLDAf) • Ministry of Health	Zambia Centre for Communication Programmes	• Mobile videos • Traditional media (radio) • Database • Helpline	• Consultations with target group(s) • M&E instruments
	'Yes I do' programme / ◖	• Plan International the Netherlands • Rutgers • Amref • CHOICE for Youth and Sexuality • Royal Tropical Institute • Dutch Ministry of Foreign Affairs • Ministry of Education	• Plan International Zambia • Generations Alive • Afya Mzuri • Other CSOs	• Radio • Social media	• Consultations with experts and/or community leaders • M&E instruments

BANGLADESH
CASE
STUDY

BANGLADESH

BANGLADESH OVERVIEW

	Child marriage prevalence[55] (girls married before the age of 18 years, as a proportion of all girls)	51%
	FGM prevalence[56]	–
	Internet users[57] (proportions of the adult male and female populations)	76% of men 66% of women
	Mobile phone ownership[58] (proportions of the adult male and female populations)	97% of men 79% of women
	Level of government support for digital literacy[59] (scale 0–3)[e]	Medium: 2

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

There is currently no data available on the practice of FGM in Bangladesh. The lack of data evidencing the prevalence of FGM in Bangladesh can be attributed to the lack of attention from national governments and the international community as to how this practice occurs in countries in the Asia-Pacific region, considering that much of the work related to advocacy and prevention efforts are focused on countries of high prevalence in Africa and diaspora in Europe.[60] Currently, only two of more than 13 countries in the Asia-Pacific region report national data on the prevalence of FGM (specifically, Indonesia and the Maldives). Yet, it is important to highlight that FGM still occurs in the country, and it is mainly associated with beliefs and customs of Muslim communities, who still maintain that the practice should be continued due to the "medical benefits" associated with female circumcision.[61]

The available data on child marriage is much more extensive. According to the latest Multiple Indicator Cluster Survey in 2019, although the prevalence of child marriage has declined by 2.1 per cent in the past 10 years, more than half of Bangladeshi women aged 20 to 24 years (51 per cent), were first married or in union before the age of 18, ranking the country as that with the highest prevalence of child marriage in the Asian region. Bangladesh is home to over 34 million child brides (girls and women married before the age of 18),[62] in a country of around 83 million females.[63] Although the country prohibits child marriage by setting a minimum age for legal union, the legal age of marriage for women in Bangladesh is three years below that for men, at ages 18 and 21 years, respectively. As observed in other cases, the high rate of child marriage impacts the lives of these girls in considerable ways, especially when looking at data related to their sexual and reproductive health, as well as empowerment and autonomy. For instance, more than 60 per cent of women aged 20 to 24 years who were married before the age of 18 belong to the poorest quintiles of the country, and 30 per cent of women belonging to this same group believe intimate partner violence (wife-beating) is justified.[64]

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

A GDELT word cloud and figures on reports for child marriage and FGM are not available for Bangladesh. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology, there were no results returned for associated reports pertaining to child marriage and/or FGM in the country. Consequently, a country word cloud map representing the most common words portrayed in the reports is also unavailable.

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e   See page 16 for an explanation of this government support score

THE TECHNOLOGY ENVIRONMENT IN BANGLADESH

Considering that most technological tools and interventions require a robust technology environment, it is crucial to understand the general state of digital and technological development in the country to adequately grasp the scope, reach and potential impact of the interventions mapped. Although Bangladesh has experienced a considerable decrease in its gross domestic product (GDP) between the years 2016 and 2022 (from 7.1 per cent in 2016 to 6.9 per cent in 2021),[65] most likely impacted by the economic crisis triggered by the COVID-19 pandemic and also experienced by other countries, the total number of telephone subscribers (i.e., subscriptions to a mobile telephone service) during this period follows the opposite trend, with 107 subscriptions per 100 inhabitants as of 2020.[66] While the number of male subscribers was 86 per cent of the total population in 2017, the figure reached 97 per cent in 2022, and the percentage of female subscribers rose from 77 per cent to 79 per cent during the same period.[67] Furthermore, access to electricity showed a tremendous upturn between 2007 and 2020, with the percentage of the connected population growing from 46.5 per cent of the total population to 96.2 per cent.[68] With more access to electricity, the percentage of individuals using the internet (measured by the amount of individuals who have used the internet (from any location) in the last three months) also increased from 7 per cent of the total population in 2013 to 25 per cent in 2020.[69] In terms of infrastructure, it is worth noting that nearly all the country's population is covered by at least a 3G and/or 4G mobile network (97.8 per cent in both cases).[70]

The Government of Bangladesh has been committed to digitizing the country and empowering the population through the access and use of ICT, which explains the impressive results evidenced above. In 2008, Prime Minister Sheikh Hasina launched 'Digital Bangladesh', an initiative "to boost people's social and economic development" by injecting information technology in key areas of service provision, including education, health care, governance and manufacturing, among others.[71] The goal was to provide ICT policy and its implementation in general at all levels. Moreover, the government implemented two additional initiatives with the

goal of empowering vulnerable and marginalized communities in the country (specifically, women and youth located in rural areas) by increasing the delivery of services through mobile phones and personal computers: the Access to Information Programme, in partnership with the UNDP Bangladesh country office (launched in 2007 and considered the pioneer forerunner of the government's public service innovation agenda[72]) and the Enhancing Digital Government and Economy Project, in partnership with the World Bank ("to improve the efficiency and cybersecurity of digital government, and increase digitally enabled employment and raise revenues of IT industry firms supported by the initiative"[73]). Finally, in 2020 the government released the country's National Strategy for Artificial Intelligence, which aims to leverage artificial intelligence to achieve an ICT driven knowledge-based society where everyone gets easy access to information and services online.[74]

Despite the government's steady efforts, Bangladesh still ranks among the lowest of the Asian countries in the Economist Impact in the Inclusive Internet Index 2022 across all four categories of analysis (i.e., availability, affordability, relevance and readiness). Specifically, only 36.4 per

cent of all households have access to the internet, and the gender gap in mobile phone access widened considerably between 2017 and 2022, from 10.5 per cent to 18.6 per cent respectively.[75] Moreover, phone ownership is nearly 30 per cent higher among boys in Bangladesh than girls.[76] While 39 per cent of adult men own a smartphone device that allows access to mobile internet and other applications, the same is true for only 21 per cent of adult women in the country (42 per cent of women own basic or feature phones with limited or no access to internet and applications).[77] Finally, the gender gap in digital literacy has been one of the greatest challenges to the achievement of the ambitious outcomes listed above. For instance, although the government has an active plan or strategy to promote internet access and e-inclusion for females, such plans are impeded from being implemented because the gender gap in internet access is still above 10 per cent.[78]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Bangladesh. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

RADIO POLLIKONTHO 99.2 FM / 2012 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPES OF TECHNOLOGY USED	FEMINIST LENSES
N/A	BRAC Community Empowerment Programme	Child marriage	Moulvibazar	1. Individual level empowerment 2. Family and community engagement	Radio	N/A[f]

In 2012, BRAC formally inaugurated its community radio, named "Radio Pollikontho 99.2 FM". The initiative aims to provide reliable and up-to-date information to empower local communities, with the ultimate goal of improving the socioeconomic condition of the poorest and most disadvantaged groups in Bangladesh. For this purpose, the programmes are primarily broadcasted in the local dialect, with focus on women and children's issues and development, including child marriage. According to estimates, more than 1 million people are reached each year with social awareness messages by Radio Pollikontho.[79] Among the topics covered by Radio Pollikontho are information on sustainable agriculture practices, education, sexual and reproductive health and rights, environment and disaster management, women and children's rights, market price, resources and services from government and NGOs, among others. BRAC's Radio Pollikontho is being broadcast from Chadnighat union in Moulvibazar within a radius of 17 km from the station. The radio formally went on air on 5 January 2012, and is being broadcast twice a day from 9:00–11:00 am, and from 3:00–5:00 pm. Listeners' clubs have also been formed in order to assess the effectiveness of the programmes. So far, 769 listeners clubs have been formed. The initiative is also part of Digital Bangladesh strategy to increase people's social and economic development by injecting information technology in key areas of service provision. Moreover, during the COVID-19 pandemic, 748,679 students continued learning through at-home learning platforms facilitated by BRAC, including mobile phones, television and community radio, and 214,860 pre-primary students from government primary schools were reached through radio schools.[80]

f   Organization/intervention not interviewed

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ALAPON HELPLINE / 2014 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPES OF TECH-NOLOGY USED	FEMINIST LENSES
• UNFPA • Ministry of Education	Concerned Women for Family Development (CWFD)	Child marriage & FGM	Key urban districts (i.e., Dhaka, Barguna, and Satkhira) and Rohingya communities in Cox's Bazar	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Mobile technology (Helpline) • Web and social media (Facebook)	1. Consultation with experts and/or community leaders 2. Consultations with target group(s) 3. Women-led organization

Alapon Helpine provides youth in Bangladesh with psychosocial support and information on sexual and reproductive health and other issues relevant to adolescents, to fight and prevent not only child marriage, but also gender-based violence and other harmful practices. As informed by UNFPA Bangladesh, since 2014 Alapon Helpline has been implemented with the ultimate goal of reaching young people in need, and it initially started as part of the 'Generation Breakthrough' project (a flagship initiative led by UNFPA Bangladesh, which equips young people with life skills and knowledge by using innovative approaches, to positively shift attitudes and behaviours around gender roles, gender-based violence, and sexual and reproductive health). The helpline is available 7 days a week, 12 hours a day and can be called by youth and adolescents between the ages of 10 and 24, as well as their parents. Considering the anonymous nature of the calls ensured by Alapon (i.e., that there is no need to disclose personal information), it encourages young people to discuss and bring up subjects they would otherwise not be comfortable discussing, particularly issues seen as taboo that are related to sexual and reproductive health and rights, including menstruation, sex, and masturbation, among others. According to data from UNFPA, although the majority of the calls to the helpline were from male adolescents, the number of female callers dramatically increased in August 2021 "as flashcards with information on the 'Alapon' helpline were included in Menstrual Hygiene Management kits that were distributed to adolescent girls affected by Cyclone Amphan."[81]

UNFPA also established a partnership with Aspire to Innovate, a multinational digital transformation catalyst from the Government of Bangladesh and started to host weekly Facebook live sessions in which Alapon counsellors informed viewers on issues relevant to adolescents. Any person with a Facebook account can join the sessions free of charge and submit their questions to the counsellors. Despite being an initiative that is proving to be an essential success in the country, barriers that prevent national adoption of Alapon Helpline are the still low number of counsellors available to attend to the adolescent population, the gender gap in access to mobile phones (where girls still lag far behind), and the fact that calls are not toll-free (only the helpline in Rohingya refugee camps in Cox's Bazar is).

♀ This intervention integrates two key aspects of an intersectional feminist approach. First, the organization implementing and coordinating Alapon Helpline is a women-led civil society organization. CWFD is a non-political, non-profit voluntary organization run by women of Bangladesh, and provides community-based health care initiatives to empower women and girls, as well as overall communities to exercise their rights to eliminate social injustice, create economic opportunities, and equip underprivileged youth of urban and rural population with social and educational skills to develop human resources for a positive social change. Second, during the design and piloting phases of Alapon Helpline, UNFPA, CWFD and other involved stakeholders carried out several consultations with experts in sexual and reproductive health as well as psychosocial services, to ensure that adolescent counselling services were not only relevant and accessible by the target audience, but also handled and developed following key ethical principles. According to UNFPA Bangladesh, a memorandum of understanding was established with Dhaka University, to guarantee and ensure that the contributions of experts in psychosocial services were integrated into the design of the initiative.

BURKINA FASO
CASE STUDY

BURKINA FASO

BURKINA FASO OVERVIEW

	Child marriage prevalence[82] (proportion of young women aged 20-24 married before the age of 18 years)	52%
	FGM prevalence[83] (proportion of women and girls aged 15–49 years)	76%
	Internet users[84] (proportions of the adult male and female populations)	56% of men 39% of women
	Mobile phone ownership[85] (proportions of the adult male and female populations)	94% of men 88% of women
	Level of government support for digital literacy[86] (scale 0–3)[g]	Low: 0

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Widespread poverty and deeply rooted traditions continue to drive child marriage and FGM in Burkina Faso, despite the government's commitment to eliminate both. According to recent data, 42.3 per cent of women aged 18 to 49 had been subjected to both harmful practices.[87]

The prevalence of child marriage in Burkina Faso remains stagnant at 52 per cent, placing the country as the seventh highest in the world, with one in two girls married before the age of 18.[88] In many cases, these marriages are polygamous and with an average of a 10.9-year age difference between married girls and their husbands.[89] Girls in the Sahel region in northern Burkina Faso are particularly at risk, with a prevalence rate at 65 per cent, and also marrying on an average two years earlier than those living outside the Sahel.[90]

While there is no progress when it comes to eradicating child marriage, FGM has become less common in Burkina Faso, being one of the few African countries that has passed an anti-FGM law (in 1996). The level of FGM among women aged 15 to 49 years has declined significantly since 1999, from 83.6 per cent to 76 per cent in 2010.[91] However, the practice is mostly performed on girls before the age of 5 years, with prevalence ranging from 22 per cent to 87 per cent per cent depending on one's ethnicity. Although the prevalence of FGM remains high, only 9 per cent of the population believe that the practice should continue. Additionally, fewer adolescents have undergone FGM in Burkina Faso, suggesting that the practice is less likely to be passed down across generations.[92] Cross-border FGM, however, continues to be a challenge, as citizens often travel into countries where anti-FGM laws are weakly enforced or simply do not exist.[93]

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

A GDELT word cloud and figures on reports for child marriage and FGM are not available for Burkina Faso. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology, there were no results returned for associated reports pertaining to child marriage and/or FGM in the country. Consequently, a country word cloud map representing the most common words portrayed in the reports is also unavailable.

THE TECHNOLOGY ENVIRONMENT IN BURKINA FASO

Addressing both child marriage and FGM in Burkina Faso through digital platforms requires an understanding of the technological environment in the country. Burkina Faso is among the least electrified countries in the world, with only 19 per cent of the population having access to electricity. By regional standards, this rate is well below the average of

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g   See page 16 for an explanation of this government support score

48.4 per cent across sub-Saharan Africa. Of the country's 21.5 million population, 90 per cent of households are concentrated in rural areas where electricity access is at a staggering 3 per cent compared with 66 per cent for those living in urban areas.[94] Only 26 per cent of households thus have access to the internet – of which men have greater access at 56 per cent than women at 39 per cent – but the country has recorded more and more internet users over the years (measured by the proportion of households that have access to the internet and that have used it in the past 12 months).[95] On top of disruptions caused by the COVID-19 pandemic, internet restrictions and nationwide shutdowns amid political unrest, such low internet penetration is exacerbated by the high cost of connectivity in a country that is among the world's poorest. When it comes to network coverage, 3G technology continues to account for most mobile networks at a rate of 48 per cent compared with minimal 4G connections at 27 per cent.[96] Burkina Faso's landlocked location and primarily rural population make it commercially unattractive for digital infrastructure to develop outside the main cities and communities with poor or no access to electricity.[97] On the other hand, mobile cellular subscriptions (i.e., subscriptions to a mobile telephone service) are very high with 106 subscriptions per 100 inhabitants, making Burkina Faso among the leading countries in sub-Saharan Africa with the most mobile-cellular telephone subscriptions.[98] While there are more male mobile phone subscribers at 94 per cent compared with female subscribers at 88 per cent, this gap has been shrinking over time.[99] Mobile phones are used to interact with radio stations either through basic features such as call or text since smartphone penetration is low in the country (37 per cent) and the radio remains to be

the preferred media channel, as is the case across sub-Saharan Africa.[100]

In terms of digital literacy, Burkina Faso has the lowest year-on-year average growth rate globally, scoring 2.89 out of 7 among the population possessing sufficient digital skills.[101] Despite government efforts to create an enabling environment for ICT infrastructure to flourish through the support of development organizations, there is a lack of a national strategy directly addressing digital literacy for students and training for teachers.[102] Moreover, Burkina Faso also lacks strategies addressing the gender digital divide. According to the United Nations Capital Development Fund (UNCDF), the country scores 39 per cent for digital inclusiveness, which is still relatively low on both global and regional scales.[103]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNICEF and UNFPA, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Burkina Faso. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◑] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

RAPIDPRO / 2017 — ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
Bill & Melinda Gates Foundation Inc.	UNICEF	Child marriage & FGM	Nationwide	**1.** Individual level empowerment **2.** Family and community engagement **3.** Service development and strengthening	• Mobile phones • SMS messaging • Social media	**1.** Consultations with experts and/or community leaders **2.** M&E instruments

RapidPro is a free and open-source software that allows for mobile-based applications to be easily developed and scaled up. According to a representative from UNICEF Burkina Faso, it powers mobile applications like U-Report, mHealth and other citizen engagement platforms for an improved data tracking and reporting system. RapidPro gathers data through short message services (SMS) and other communication channels (e.g., social media) to automate data analysis and allow real-time information collection from the target end-users. RapidPro is implemented in Burkina Faso in English, French and all local dialects. This mobile software has significantly improved communication among youth, community members and health officials and other health-related service providers.

♀ This intervention integrates an intersectional feminist approach by powering mobile health systems that improve decision-making at local, district and national levels regarding women's and girls' access to services. It also disseminates targeted information and sensitization messages towards groups with specific vulnerabilities (e.g., pregnant women, ill children). Scaling up RapidPro to Burkina Faso included initial scoping missions to country offices and national government counterparts to learn best practices and be informed by experts on the field. RapidPro also enables real-time programme monitoring and data collection from target end-users, including beneficiaries, using gender-sensitive indicators.[104]

QG JEUNE / 2018 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• Government of Belgium • Government of Canada • Government of the Netherlands • Luxembourg Aid and Development • UNICEF • UNAIDS • Orange Mobile	UNFPA	Child marriage & FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Mobile phones • Mobile phone application • Multimedia platform	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

QG Jeune is an interactive digital platform designed by youth and for youth. It is a reference tool launched in 2018 dedicated to strengthening young people's access to sexual and reproductive health (SRH) information and services on a large scale for the development of their full potential.[105] It connects adolescents and youth (aged 15–24) to specialists providing quality information and tools to help them make informed choices and motivate them to adopt safer and healthier behaviours.[106] As the platform generates data on the use of SRH services by adolescents, the platform also offers a selection of wellness products and services to promote sustainable behaviours among youth. Through a virtual currency reward system, those visiting health centres and/or responding to surveys on the use of SRH services are connected to local businesses to benefit from them. QG Jeune also offers educational courses developed by health-care professionals to strengthen the youth's knowledge on SRH issues and open a platform to learn about other themes as well – such as environmental management, addiction prevention and leadership – especially for adolescents who have been forced to drop out of school. There are currently over 30,000 unique users on the website and over 30 million interactions on the QG Jeune platform.[107]

♀ This intervention integrates an intersectional feminist approach by intentionally involving youth (boys and girls) in the design and implementation of QG Jeune. Through a participatory approach, it was designed by youth with guidance from UNFPA and other experts in validating its methodology. It also aims to promote positive masculinities to transform young boys into actors for change that can fight against child marriage and FGM. Moreover, UNFPA conducts annual and quarterly reports using gender-disaggregated data to review the progress of its interventions. The internal surveys answered by the users also help measure the impact of the different channels of demand that spark the interest of young people in SRH, help understand their behaviour regarding access to SRH services and evaluate their experience on the services needed.[108]

ICIVIL PLATFORM / 2018 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	iCivil	Child marriage & FGM	Nationwide	1. Service development and strengthening 2. Legal and policy systems interventions	• Mobile phones • Mobile phone application • Digital wristband	N/A[h]

The iCivil is a modern and centralized Civil Registration and Vital Statistics platform that digitizes the existing civil registration process in Burkina Faso through a wristband.[109] Midwives are trained to use smartphones to register births and vital statistics accurately in real time directly into the national system. This provides a digital medical record of the child and eases their access to a lifetime of public services beyond health care. iCivil is projected to expand to other services such as recordings, deaths, divorces, obtaining passports and tracking vaccinations.[110] In its pilot phase from 2015–2016, it registered 2,600 newborns, constituting a 30 per cent increase in birth registration compared with previous years.[111]

h   Organisation/intervention not interviewed

SOS EXCISION HOTLINE / 1990 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Comité National de Lutte contre la Pratique de l'Excision	FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening 4. Legal and policy systems interventions	• Toll-free hotline • Mobile phones • Radio	N/A[i]

The state-sponsored, toll-free 24-hour hotline called "SOS Excision" provides a fast and anonymous way of reporting girls at risk of FGM.[112] SOS Excision was launched even before the adoption of the law criminalizing FGM in the country. The guaranteed anonymity of the callers – mostly women, youth and educated individuals – allows them to report any information that could help prevent or punish the perpetrators and accomplices of FGM and alert the police at no cost. Approximately 150 calls a year are made and 70 per cent of all FGM cases before the courts come through this manner.[113]

C'EST LA VIE! TV SERIES / 2018 – 2021 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• Réseau africain pour l'éducation à la santé • Programme de Marketing Social et de Communication pour la Santé (PROMACO) • Voix de femmes • Ratanga Club	Equipop	Child marriage & FGM	Benin, Burkina Faso, Côte d'Ivoire, Guinea, Mali, the Niger, Senegal, Chad and Togo	1. Individual level empowerment 2. Family and community engagement	• Television • Social media • Mass media	N/A[j]

C'est la vie! ('That's life!') is a regional campaign for social and behaviour change designed and deployed in West and Central Africa to stimulate personal reflections and collective debates on existing social norms and to support changes in individual and societal behaviour in terms of SRH, maternal and child health, and gender-based violence.114 It is made up of a wide range of what is called 'edutainment' (educational entertainment) content. The campaign is deployed online (Facebook, Instagram, YouTube), in the mass media (at the continental level with more than 40 local media partners), and at a community level thanks to a network of partner CSOs.

EGYPT
CASE
STUDY

EGYPT

EGYPT OVERVIEW

	Child marriage prevalence[115] (girls married before the age of 18 years, as a proportion of all girls)	17%
	FGM prevalence[116] (proportion of women and girls aged 15–49 years	87%
	Internet users[117] (proportions of the adult male and female populations)	72% of men 67% of women
	Mobile phone ownership[118] (proportions of the adult male and female populations)	83% of men 76% of women
	Level of government support for digital literacy[119] (scale 0–3)[k]	High: 3

k   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage with relation to technology in Egypt (2014–2022)

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Egypt, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Egypt, compared with other countries (2014–2022)
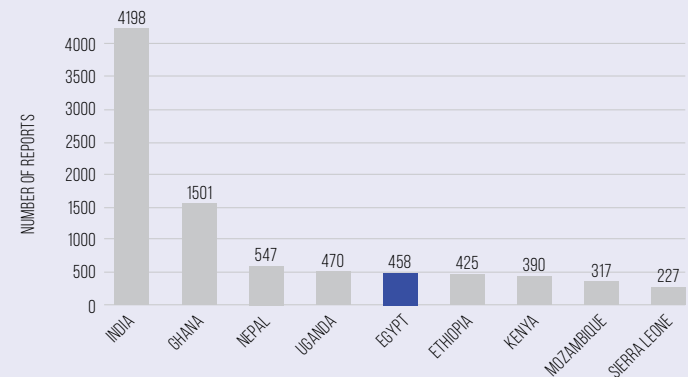
FIGURE 3. Number of reports covering the topic of FGM in Egypt, compared with other countries (2014–2022)
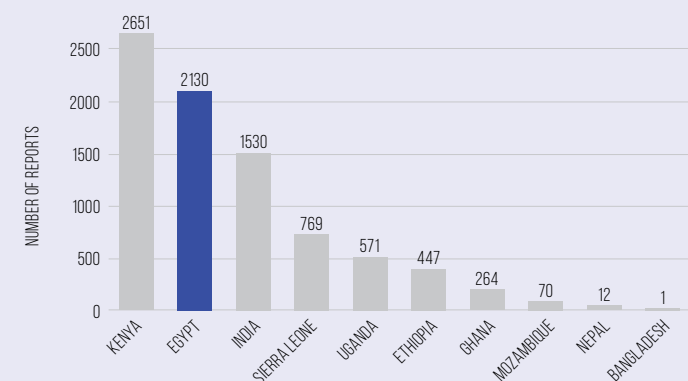
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in Egypt, it can be observed that there are a total of 458 reports corresponding to child marriage and 2,130 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Egypt is the third largest African country in terms of population, with a total of 102 million inhabitants.[120] Child marriage and FGM are both prevalent in the country.

According to the most recent data, the total number of girls and women who were married before age 18 is 8.1 million, meaning that 1 in 6 women are wed before their 18th birthday (17 per cent). There is a critical point between the ages of 15 and 18 when these rates spike, taking into account that only around 2 per cent of girls in Egypt are married before they turn 15.[121] Girls who live in poor, rural households and whose vulnerability is further exacerbated by low education, are at the highest risk of child marriage.[122] Although the minimum legal age for marriage has been set at 18 since 2008, the practice of child marriage is yet to be criminalized.[123] In 2014, Egypt developed the National Strategic Plan for the Prevention of Early Marriage in order to reduce child marriage rates by 50 per cent by the year 2020, but the implementation of this strategy has been cut short due to political issues and the sensitivity of the matter.

For its part, FGM is a much more widespread and acute issue in the country. The percentage of women and girls aged 15 to 49 that have been subjected to FGM stands at a critical 87 per cent, with the rural (93 per cent) and poorest (94 per cent) populations being the most affected.[124] Furthermore, 71 per cent of FGM is reported to take place during the ages of 10 to 14. Within the African continent, Egypt is one of the top five countries with the highest levels of FGM.[125] The incidence of FGM in the country is related to closely held religious beliefs in which FGM is portrayed as a rite of passage to adulthood, a salvaging of a girl's virginity and an enabler to protect her family's honour.[126] In this regard, FGM has also been interpreted as a potential driver of child marriage, since it signals a girl's readiness and suitability for marriage. Nevertheless, there are signs that (small) changes are occurring. Younger generations (15–19 years old) are suffering less FGM than older generations.[127] In parallel, women's support for the continuation of the practice has also been reduced by almost 15 percentage points in the last 20 years. Despite FGM being prohibited and criminalized since 2008, this has had little to no effect on prevalence reduction, a situation that is compounded by the fact that the practice has been highly medicalized in the country with almost 80 per cent of procedures being conducted by health personnel.[128]

THE TECHNOLOGY ENVIRONMENT IN EGYPT

Egypt's technological environment has rapidly evolved during the last 10 years, growing from its already strong foundations. First and foremost, overall electricity access in the country has reached 100 per cent and has not gone down since 2016.[129] This has definitely aided in the increase of household internet adoption (measured by the proportion of households that have access to the internet and that have used it in the past 12 months), which currently stands at 76 per cent. Nevertheless, an access gender gap favouring men still persists, with 72 per cent of men having access to the internet versus only 67 per cent of women.[130]

Mobile services are also widespread in Egypt. Network coverage in the country is particularly strong with 3G technology reaching 99.2 per cent of the population (second only to South Africa

coverage levels on the African continent) while 4G networks cover up to 96 per cent of Egyptians.[131] Likewise, access to mobile phone services (i.e., subscriptions to a mobile telephone service) is high in the country with 93.2 subscriptions per 100 inhabitants, but still under the 110 subscriptions average for the MENA region.[132] Nevertheless, Egypt is still lagging behind in access to smartphones. Although the majority of men (60 per cent) and women (51 per cent) in the country own a smartphone, the rest of the population only has access to basic phones or feature phones that prevent them from adequately using mobile internet and even downloading the most basic apps from an online app store.[133] Additionally, both mobile phone ownership and mobile internet use present a gender gap in the country. While 83 per cent of men own a mobile phone, just 76 per cent of women do, which means that the 63 per cent to 55 per cent gap between men and women in mobile internet usage is a compounding barrier when developing FGM and child marriage digital interventions.[134] According to the 2021 Global System for Mobile Communications (GSMA) Consumer Survey, only 15 per cent and 20 per cent of women report using their mobile phone to obtain information and use health services, respectively.[135] Women predominantly use their devices for communication (e.g., network calls, online calls, video calls, SMS, social networking) and entertainment (e.g., games, video, music).[136] This is in line with studies that have found that the most effective communication channels to convey information about harmful practices such as child marriage are not actually the new media

(e.g., smartphones or social media) but rather interpersonal communication (e.g., talking directly with doctors and health promoters) and traditional media channels such as radio and TV.[137]

The high indices of mobile service and internet adoption go hand in hand with the government efforts to develop digital literacy in the country. The Economist Impact classifies Egypt as one of the leading countries in digital strategy and digital literacy development. Egypt's Vision 2030 strategy outlines a plan to elevate digital literacy in the country, not only through the embedding of digital skills curricula in primary and secondary education, but also through capacity-building for teachers. Against this backdrop, the Ministry of Education has (with the support of USAID) created science, technology, engineering and mathematics (STEM) training for teachers and administrations in basic education.[138] In spite of this political and governmental buy-in related to digital skills' development, only 53.5 per cent of individuals in the country have standard ICT skills.[139] Additionally, the World Economic Forum (WEF) has classified Egypt as a country with a medium level (4.66) of digital skills.[140] However, it is not only digital skills that are preventing Egyptians from taking advantage of these types of technologies; as standard literacy skills are reported to be the main barriers to acquiring and using mobile phone devices.[141] Although Egypt has e-inclusion strategies related to improving female internet access and adoption, there are still steps to be taken in creating and implementing action plans for gender-sensitive digital skills' development.[142]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Egypt. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

UNICEF & UNFPA FGM AND CHILD MARRIAGE DOCUDRAMAS (360 EDUTAINMENT) / 2018 — ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	• UNICEF • UNFPA	Child marriage & FGM	Nationwide	1. Individual-level empowerment 2. Family and community engagement	Video screening / documentaries	1. Consultations with experts and/or community leaders 2. M&E instruments (i.e., to assess the impact of the intervention in the target group)

Before and during the pandemic, UNICEF individually and the Joint Programme as a whole have rolled out docudramas pertaining to FGM and child marriage in Egypt. During early 2020, before the pandemic, UNICEF screened docudramas on topics such as FGM and child marriage in clubs of 30 people, which were attended by girls and their parents.[143] These showings later transitioned to open venues in order to comply with physical distancing measures in the country. Likewise, the Joint Programme produced docudramas that were later used by religious leaders to harmonize and raise awareness on different messages related to the discontinuation of FGM practices in the country. The theory of change behind these tools is that the probability of social and behavioural change on sensitive topics, such as harmful practices, is more likely when girls and their families hear mutually reinforcing messages that depict people like them.[144] Specifically, the docudrama series titled "Ahl El-hetta" is being implemented by UNICEF to change attitudes towards topics such as FGM, child marriage, gender equality, violence against children and child labour, among others. The docuseries consists of 20-minute episodes. After the screenings, trained facilitators open a discussion about the main topic of the series where the local community shares its different points of view and approaches to the subjects. So far, more than 60,000 attendees have been reached.[145]

♀ This intervention integrates an intersectional feminist approach by directly consulting with experts in the development of scripts for the docuseries especially when it comes to sensitive issues such as FGM and child marriage. Furthermore, the project implements preand post-viewing assessments to ascertain if attitudinal changes effectively take place.

DAWWIE INITIATIVE / 2019 — ONGOING / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	• National Council for Childhood and Motherhood • National Council for Women	Child marriage & FGM	21 Governorates in Egypt	1. Individual-level empowerment 2. Family and community engagement 3. Service development and strengthening	• Virtual training (e.g., online training, through the use of computers, etc.)	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments (i.e., to assess the impact of the intervention in the target group)

The Dawwie Initiative is a project implemented by the National Council for Childhood and Motherhood (NCCM) and the National Council for Women that seeks to empower girls through the provision of safe spaces where they can share their aspirations and stories and also receive support and knowledge on issues related to health, marriage, bodily integrity and well-being, among others.[146] The package of activities included in the Dawwie Initiative range from providing safe spaces for girls to share their experiences and engage with family and communities, to digital literacy trainings to help girls and boys safely navigate the cyber world (i.e., Dawwie Digital Literacy Toolkit), to guidance on where to find essential services such as health, youth and cultural centres.[147]

♀ This intervention integrates an intersectional feminist approach through the development of its key pillars: voice and skills. All activities, whether they are storytelling activities or capacity-building activities, are designed by experts. Also, most of the activities are implemented and consulted with both the boys and the girls that the programme targets. Finally, the project has created and incorporated from the outset a monitoring and evaluation framework that is used to assess the impact of the intervention in the 21 governorates it operates in.

RIDE ON COURSE: REMOTE SELF-GUIDED CURRICULUM TO PROMOTE ADOLESCENT WELL-BEING / 2020 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Terre des Hommes	Child marriage	Egypt and Jordan	1. Service development and strengthening	Virtual trainings	N/A[l]

Terre des Hommes created a remote, self-guided course titled "RIDE ON" that sought to promote adolescent well-being during the COVID-19 pandemic; a fundamental aspect in supporting child marriage programming when there was little to no physical access to girls and adolescents.[148] Specifically, it was created to help child protection professionals support adolescents (12–18 years) in order to address anxiety and feelings of insecurity or disconnection.[149] The project was first launched in Jordan and Egypt during the health emergency, given the course's adaptability to reach hard contexts, and is currently being translated into Arabic. UNICEF and UNFPA have stated that the tool could be scaled up to attend to child marriage prevention programming in the region.[150]

REPRODUCTIVE HEALTH AND FAMILY PLANNING INFORMATION FOR FACTORY WORKERS IN ALEXANDRIA / 2021 – 2023 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
The Population Council	The Population Council	Child marriage & FGM	Alexandria, Egypt	1. Individual-level empowerment 2. Family and community engagement 3. Service development and strengthening	• Mobile technology • WhatsApp	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments (i.e., to assess the impact of the intervention in the target group)

Based on a similar pilot test study in Port Said carried out by the Population Council, the organization has developed a new project in Alexandria to raise the awareness of factory workers around the subject of family planning and reproductive health. According to a representative from the Population Council in Egypt, factory workers are chosen as the main target group given that they are mostly a young population and Egypt has recently had an increase in fertility trends since the year 2014. Peer educators are the basis of this intervention, in which they send out a series of 36 messages on reproductive health and family planning that cover specific subjects such as FGM and child marriage. The messaging strategy is carried out through face-to-face meetings with peer educators and also through two-way targeted messaging via WhatsApp in which the factory workers can consult peer educators about the messages shared. According to a baseline measurement carried out before the implementation of the intervention, around 90 per cent of workers have access to a smartphone, while 75 per cent to 80 per cent of the workers actively use WhatsApp to communicate. Flyers and face to face messaging will also be made available for those not interested in receiving messages or for those whose WhatsApp usage is low. The Population Council expects to reach 20,000 male and female factory workers from 10 different factories in an industrial zone in Egypt. The project will then be evaluated after six months of service delivery through the comparison of knowledge levels between workers from the target 10 factories and the workers from five additional control factories.

♀ This intervention integrates an intersectional feminist approach by directly consulting with the female and male factory workers about the content of the interventions. Messaging through WhatsApp is worded in such a way that it is not gender-specific and as such, if the women deem it relevant, they can be forwarded to their spouses in an attempt to tackle family dimensions affecting actions taken towards responsible reproductive health and family planning. Finally, health committees from the factories also review and assess the pertinence of the messaging and the flyers shared with the factory workers.

| Organization/intervention not interviewed

ETHIOPIA
CASE
STUDY

ETHIOPIA

ETHIOPIA OVERVIEW

	Child marriage prevalence[151] (girls married before the age of 18 years, as a proportion of all girls)	40%
	FGM prevalence[152] (proportion of women and girls aged 15–49 years	65%
	Internet users[153] (proportions of the adult male and female populations)	66% of men 58% of women
	Mobile phone ownership[154] (proportions of the adult male and female populations)	99% of men 98% of women
	Level of government support for digital literacy[155] (scale 0–3)[m]	High: 3

m   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Ethiopia (2014–2022)
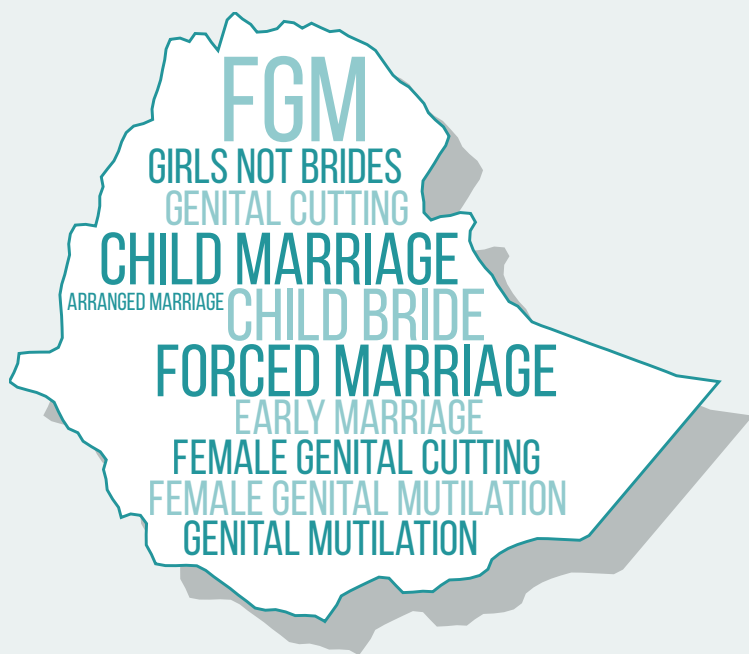
FGM
GIRLS NOT BRIDES
GENITAL CUTTING
CHILD MARRIAGE
ARRANGED MARRIAGE
CHILD BRIDE
FORCED MARRIAGE
EARLY MARRIAGE
FEMALE GENITAL CUTTING
FEMALE GENITAL MUTILATION
GENITAL MUTILATION

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Ethiopia, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Ethiopia, compared with other countries (2014–2022)
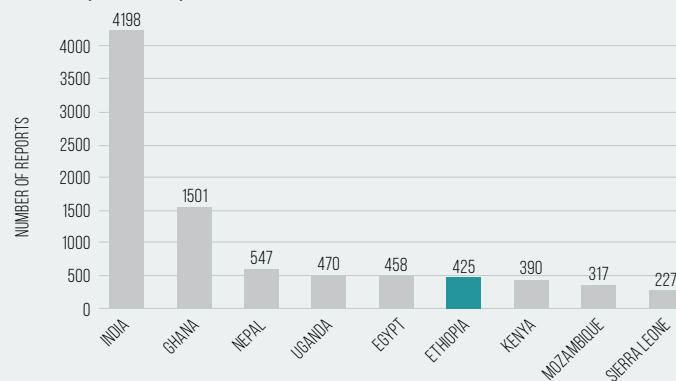
FIGURE 3. Number of reports covering the topic of FGM in Ethiopia, compared with other countries (2014–2022)
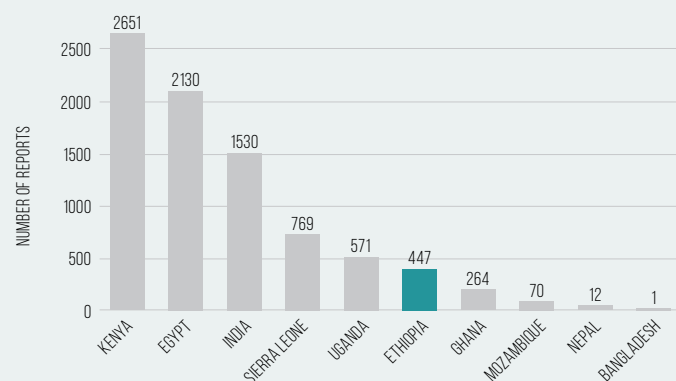
Note: After filtering the GDELT project database for the actors, actions and associated reports pertaining to FGM and/or child marriage in Ethiopia, it can be observed that there are a total of 425 reports corresponding to child marriage and 447 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

In Ethiopia, as in much of the rest of the world, child marriage has been declining, with the prevalence of girls married before their 18th birthday dropping from 75 per cent in 1980 to 40 per cent in 2020. This figure represents 17.3 million child brides in the country, with 7.5 million having been married before turning 15 years old.[156] However, Ethiopia still ranks 15th among the highest rates of child marriage in the world and fifth when it comes to the total number of child brides. Moreover, progress across the country remains uneven, as the prevalence of child marriage is declining in some districts while it is rising in others. The regions of Addis Ababa, Amhara and Tigray have experienced declines, whereas an increase in prevalence has been seen in the Oromia and Somali regions. Together with the Afar and Benishangul-Gumuz regions, Oromia and Somali account for nearly half or more of all girls that are married before they are 18.[157]

Notwithstanding progress made, Ethiopia has to accelerate such efforts to mitigate the practice uniformly across the country to meet the target of eliminating FGM by 2030 as set out in the SDGs. In contrast, while Ethiopia has seen faster progress in eliminating child marriage compared with other high-prevalence countries in Eastern and Southern Africa, it still has the largest absolute number of women and girls who have undergone FGM in the region. It is still widely practised, with 65 per cent of girls and women aged 15 to 49 years reporting to have undergone FGM and those who were cut before the age of 5 years constituting more than half of all adolescent girls who underwent the practice. The regions with the highest prevalence are in Eastern Ethiopia, bordering Somalia, where there is currently no anti-FGM legislation in place.[158]

THE TECHNOLOGY ENVIRONMENT IN ETHIOPIA

In Ethiopia, only half of its population of 117.8 million has access to electricity.[159] As the most populated landlocked country in the world, ICT development and deployment is a challenge because of widespread poverty and vast infrastructure needs.[160] Consequently, Ethiopia is also one of the least inclusive when it comes to access to the internet (measured by the proportion of households that

have access to the internet and that have used it in the past 12 months) with only 24 per cent of the population being connected. Although the gender gap in internet access is still in favour of men at 66 per cent while women are at 58 per cent, this gap has decreased over the years and Ethiopia is one of the leading countries across sub-Saharan Africa with increasing female connectivity. In terms of mobile services, the state-run Ethio Telecom is the sole mobile operator present in the country. The telecom provider has expanded its 3G and 4G networks throughout Ethiopia and, as of 2020, 97 per cent of the population is covered by a mobile-cellular network.[161] Mobile telephone subscriptions (i.e., subscriptions to a mobile telephone service) vary across the region, but Ethiopia also has one of the smallest gender gaps in mobile phone access, with 99 per cent of men and 98 per cent of women having access to a mobile phone.[162] Moreover, the country has a high smartphone adoption rate at 43 per cent that is set to increase in the coming years driven by a growing interest in gaming and streaming services across sub-Saharan Africa.[163] Only 38 per cent of the population, however, actually owns a mobile phone – a figure that has decreased from 42 per cent in 2018 – now with only 20 active mobile subscriptions per 100 inhabitants.[164]

Despite the difficulty of deploying ICTs in this large, landlocked and primarily rural country, the government invests heavily in the sector's growth and has committed significant resources to improve its infrastructure, service provision and human capital to meet its ambitious targets in the country's national development plan.[165] With key players from the ICT sector and the government's political willingness, Ethiopia has current plans and strategies that address digital literacy for students from primary to tertiary education, including ICT and curriculum training for teachers and the expansion of digital equipment and learning materials in all educational institutions. Ethiopia's renewed e-strategy also seeks to create an enabling environment for ICT growth and development while creating programmes that encourage students to pursue ICT-related fields.[166]

According to a survey by the Ethiopian Statistics Service, more than 90 per cent of the total population aged 10 years and above have no ability to use a computer. This lack of basic digital skills also reflects a gender digital divide in the country, where 86 per cent of men do not have the ability to use a computer while 93 per cent of women do not.[167] Ethiopia is ranked one of the lowest countries in Africa when it comes to equitable access to information technology.[168] High offline activity and inequality in the country highlights wider social norms that manifest themselves in a digital context.

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Ethiopia. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

BERHANE HEWAN / 2004 — 2008 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
● UNFPA ● Ethiopian Ministry of Women, Children and Youth Affairs ● Amhara Regional Bureau of Women, Children and Youth	Population Council	Child marriage	Amhara	1. Individual level empowerment 2. Family and community engagement 3. Economic empowerment	● School trainings ● Mobile phones ● Solar lanterns	N/A[n]

Berhane Hewan, meaning 'Light for Eve' in Amharic, works by changing local opportunity structures and addressing motivations for child marriage. It involved a combination of tutoring, group formation, support for girls to remain in school, and incentives and community engagement and awareness. Its conditional asset transfer involves the provision of solar lanterns if a daughter remains unmarried and in school until she is at least 18 years old. These also help them study after dark and charge their mobile phones. Girls are also taught to generate money by charging neighbours to power up their mobile phones with their own lanterns. Over 750 girls joined the programme while it was implemented.[169]

INTERACTIVE VOICE RESPONSE (IVR) TECHNOLOGY / 2020 — ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	● UNICEF ● VIAMO	Child marriage & FGM	Afar, Amhara, Gambella, Oromia, SNNPR and Somali regions	1. Individual level empowerment 2. Family and community engagement	● Mobile phones ● Interactive voice response (IVR) technology ● Radio programmes	1. Consultations with experts and/or community leaders 2. M&E instruments

This project is meant to reach adolescent leaders of girls' clubs and create social and behavioural change by providing them with a user-friendly information helpline and remote training using IVR as an interactive medium. Through IVR technology, girls are provided with weekly content from child marriage and FGM experts, guidance on facilitating discussions with their peers as well as push messaging services about these harmful practices.[170] According to representatives from UNICEF Ethiopia and Viamo, these services created an alternative channel during COVID-19 and proved to raise awareness on child marriage and FGM and change users' (girls' club leaders and community members) behaviours, expressing more negative attitudes towards these practices and greater willingness to report them. Radio programmes would also help advertise the hotline number, and the training content for capacity development is structured in a way that users can easily digest engaging content within 5 minutes without dropping the call. The pilot project was reported to have reached 500 adolescent girls and will soon be scaled up to 5,500 girls from 9 different regions.

♀ This intervention also integrates an intersectional feminist approach by consulting with experts of child marriage and FGM for the IVR content delivered. Moreover, the technology can easily gather real-time data of its reach effectiveness, and it ensures two-way communication so that girls and community leaders can provide regular feedback on the programme.

n   Organization/intervention not interviewed

POPULAR EDUCATION TECHNIQUES / 1994 – ONGOING / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
Educational Media Agency	• Organization for the Development of Women and Children (ODWaCE) • The Italian Association for Women in Development (AIDOS)	FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Economic empowerment	• Audiovisual training materials • Radio programmes	1. Consultations with experts and/or community leaders 2. M&E instruments

This project implemented by AIDOS and ODWaCE, with the former National Committee on Traditional Practices of Ethiopia focused on providing training and information to school communities and the wider public to increase awareness on FGM and its consequences.[171] ODWaCE's popular education techniques involve the use of both mainstream media and social media for their advocacy work to change existing practices, laws and policies that adversely affect children and women subject to FGM. They work on thematic areas such as SRH, women's economic empowerment, teenage pregnancy and women's precarity. These interventions take place at local, regional and national levels and involve training socially influential individuals to make them duty-bearers for information campaigns targeting particular audiences (e.g., schools, religious leaders, health authorities). According to the Executive Director of ODWaCE, their recent media dialogue intervention in 2021 reached approximately 25,000 people nationwide.

♀ This intervention also integrates an intersectional feminist approach by fully engaging its target users at all levels and across different age and class groups. ODWaCE also holds joint review sessions with women and girls and maintains a 50:50 gender parity in their advisory councils.

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GHANA
CASE
STUDY

GHANA

GHANA OVERVIEW

👪	**Child marriage prevalence**[172] (girls married before the age of 18 years, as a proportion of all girls)	19%
🧍	**FGM prevalence**[173] (proportion of women and girls aged 15–49 years	4%
💻	**Internet users**[174] (proportions of the adult male and female populations)	81% of men 58% of women
📱	**Mobile phone ownership**[175] (proportions of the adult male and female populations)	97% of men 97% of women
🏛	**Level of government support for digital literacy**[176] (scale 0–3)o	High: 3

o   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Ghana (2014–2022)
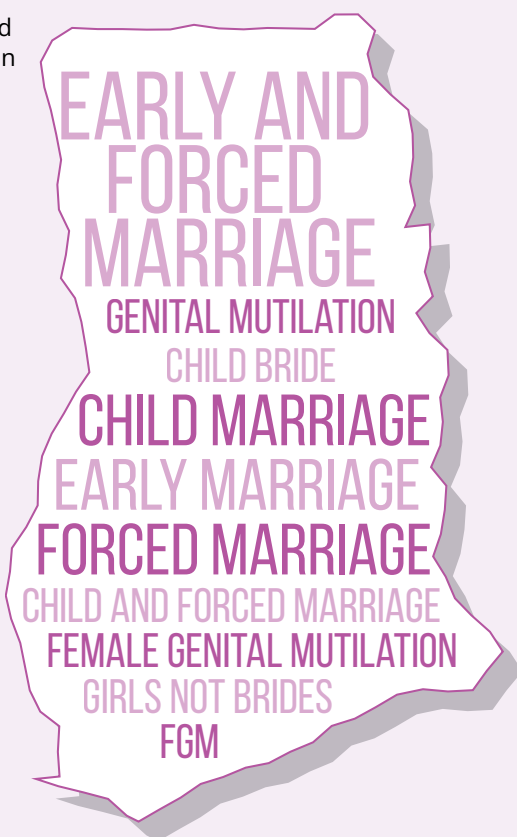
EARLY AND FORCED MARRIAGE
GENITAL MUTILATION
CHILD BRIDE
CHILD MARRIAGE
EARLY MARRIAGE
FORCED MARRIAGE
CHILD AND FORCED MARRIAGE
FEMALE GENITAL MUTILATION
GIRLS NOT BRIDES
FGM

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Ghana, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Ghana, compared with other countries (2014–2022)
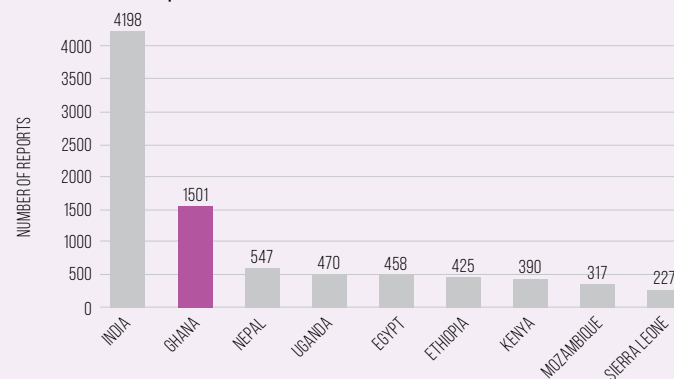
FIGURE 3. Number of reports covering the topic of FGM in Ghana, compared with other countries (2014–2022)
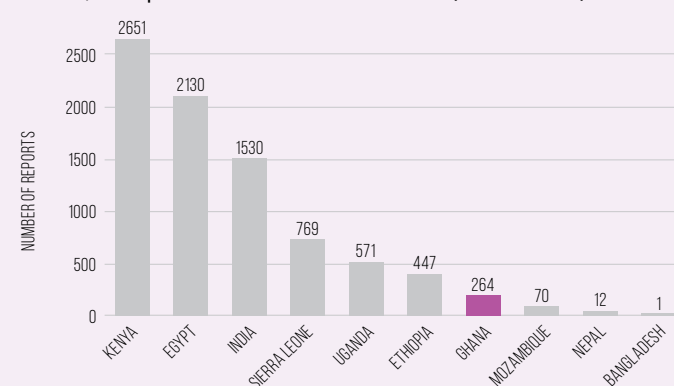
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in Ghana, it can be observed that there are a total of 1,501 reports corresponding to child marriage and 264 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Ghana has a considerable prevalence rate in terms of child marriage, but increasingly lower FGM incidence throughout recent years.

Overall, national FGM rates are close to 4 per cent for girls and women aged 15 to 45 years old.[177] Nevertheless, estimates for the northern region (where the issue is most critical) have placed the figure at around 92.8 per cent, with the upper west and upper eastern regions being the most affected.[178] The practice was first criminalized and prohibited in 1994 and the penalties were further strengthened in a 2007 legal amendment. There have been signs of decreasing trends over the last decade, especially when disaggregated by the youngest age groups.[179]

For its part, the rate of child marriage in the country has shown signs of decrease during the last 20 years, but it is still considerable, considering that around 5 per cent of women in Ghana are married before they turn 15 and 19 per cent are married by the age of 18.[180] These figures are exactly in line with world averages. Child marriage in the country is more common among the rural population, women with up to primary levels of education and in the two lowest wealth quintiles. Although the minimum legal age for marriage is 18, as established in Ghana's 1998 Children's Act, the practice is still present in all the 10 administrative regions of the country.[181]

THE TECHNOLOGY ENVIRONMENT IN GHANA

Taking into account that most technological tools and interventions require a robust technology environment, it is crucial to understand the general state of digital and technological development in the country to adequately grasp the scope, reach and potential impact of interventions . The most recent data on access to electricity in Ghana shows that coverage in the country is at an all-time high, with around 85.9 per cent of the population having access to electricity, which is reflected both at urban (94.7 per cent) and rural (74 per cent) access levels.[182] Although high, this figure is in contrast to the percentage of internet users in the country

(measured by the proportion of households that have access to the internet and that have used it in the past 12 months) which currently stands at 33 per cent. This indicator is even more striking when the internet gender gap is taken into consideration: in Ghana, 81 per cent of men have access to the internet while just 55 per cent of women do.[183]

Regarding mobile services, 95 per cent of the population is covered by at least a 3G mobile network, irrespective of whether they are subscribers. Likewise, mobile cellular telephone subscriptions (i.e., subscriptions to a mobile telephone service) are very high with 130.2 subscriptions per 100 inhabitants, meaning that there are more subscriptions than people in the country. Equally high, even after disaggregating by sex, is mobile phone ownership where 97 per cent of men and women have access to a cell phone. However, these high figures do not translate into high levels of smartphone penetration. The majority (47.9 per cent) of Ghanaians who are mobile phone owners own basic phones without features such as the internet, followed by 46.1 per cent who own smartphones, and 12.8 per cent who own feature phones that only allow for a limited access to web browsing and that entirely lack the option for app downloads. Furthermore, basic phone ownership increases to 61.3 per cent and 50.6 per cent when disaggregated by rural population and

female population, respectively.[184] Widespread access to electricity, internet access and mobile subscriptions has also been reflected in a steady increase in active mobile broadband subscriptions, meaning access to internet through mobile devices. In Ghana, there are 85 subscriptions per 100 people. This landscape begins to showcase a strong foundation related to main enablers for digital and technological interventions.

Underlying this increasingly promising environment is the high government support for digital literacy in general.[185] The Government of Ghana has a National Education Strategic Plan in place to not only increase digital literacy for students (through curriculum introduced in primary schools) but also strengthen teacher digital capacities with the use of vocational education training.[186] Development of these types of strategies are a good first step in the upskilling of the population and as a result have placed Ghana over the sub-Saharan African median of digital skills indicators. On a scale of 1 to 7, with 7 being the highest score, Ghana (4.21) is categorized as a country with a medium level of digital skills.[187] Although important advances have been made, Ghana's technology and digital environment is still lacking an active gender-sensitive approach towards granting women's access to internet and digital skills, which can negatively affect uptake levels of FGM and child marriage technology-driven/-enabled interventions. There are, however, bodies such as the Girls Education Unit under Ghana Education Services that incentivize women and girls to enter STEM higher education.[188]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Ghana. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

PROMOTING ADOLESCENTS SAFE SPACES (PASS) PROJECT / 2019 – 2021/ ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNFPA • UNICEF	• Northern Sector Action on Awareness Centre (NORSAAC) • International Needs Ghana	Child marriage	Three regions (Northern, North East and Savanna Reions) and six districts (Tolon, Kpandai, Bole, West Mamprusi, Tatale/Sanguli and Mamprugu Moadugri) covering a total of 30 communities	1. Individual-level empowerment 2. Family and community engagement 3. Service development and strengthening	Radio	1. Consultations with experts and/or community leaders 2. Consultations with target group(s)

The overall goal of the PASS project is to ensure that out-of-school adolescent girls between the ages of 10 and 19 have access to safe spaces in which they are provided with the key networks, life skills and knowledge to empower them to build confidence, make informed decisions, express their voices and access services and community support to prevent and respond to child marriage. The safe spaces are led by trained facilitators (exclusively young women) from the community and take place once a week in physical spaces where girls can play, network, enjoy their childhood without risk and reflect on key topics such as girls' decision-making, consent and girls' empowerment, among others. Shortly before and during the 2020 pandemic, NORSAAC and International Needs Ghana leveraged airtime on local radios stations to reach communities in programme districts and create virtual safe spaces for girls. Small radio sets were delivered to more than 1,000 girls, so they could have access to their own device in which they could listen to the weekly topic discussion. Other technology-enabled dimensions of the project included engaging with the trained facilitators through WhatsApp in case they needed to adapt their weekly sessions or if they themselves had questions or needed clarification about certain topics to be presented. Over its three years of operations, the project has reached 13,000 at-risk adolescent girls.

♀ This intervention integrated an intersectional feminist approach through two aspects. First, the intervention has developed and tested its materials with Ghanian girls before scaling up the project. Additionally, the selected facilitators of the safe spaces are young women that are recommended by community leaders and that can more easily relate with young girls at risk of child marriage. Finally, the women designing the content and the methodology of the PASS intervention are formally trained in feminist leadership and women's empowerment, which aids them in designing programmes that are both thematically relevant and tailored to Ghanian culture.

CHILD PROTECTION COMMUNITY FACILITATION TOOLKITS / 2016 – ONGOING / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
UNICEF	• UNICEF • Ministry of Gender, Children and Social Protection • Ministry of Local Government and Rural Development • NGO partners	Child marriage	Nationwide 16 regions in Ghana	1. Individual-level empowerment 2. Family and community engagement	• Interactive games • Radio • Digital applications	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments (i.e., to assess the impact of the intervention in the target group)

UNICEF has implemented (through partnerships with government and NGO actors) a set of child protection community facilitation toolkits. The toolkits are composed of training manuals, flash cards and interactive games and activities that are used by community facilitators to promote communal reflection on such topics as child labour, sexual abuse and exploitation, child marriage, teenage pregnancy, gender roles, corporal punishment and bullying, among many others.[189] These dialogue spaces are expected to trigger actions leading to behaviour and social change to create a safe and protective environment for children. The target groups of the intervention focus not only on community members such as children at risk, but also on parents, traditional leaders and teachers. Although in its inception the focus of these toolkits was face-to-face engagement, with the onset of COVID-19 the project began to leverage radio to carry out discussions around child protection based on the content of the toolkit. Pre-recorded messages, jingles and even TV transmissions were used to disseminate key messages and reach a wider audience. According to a representative from UNICEF Ghana, the project also uses a monitoring and reporting application that is constantly fed with information by the community facilitators to provide real-time data on the impact levels and the communities reached with the toolkits. Over 2,000 community facilitators from both government agencies and NGOs have been trained on how to use the tools effectively to engage with different target audiences since 2016. Over 3 million people in over 4,000 communities across 81 districts and 15 regions have been reached with the toolkits. These toolkits have also been adapted to reach community members through local radio.

♀ This intervention integrated an intersectional feminist approach by carefully designing and integrating toolkit material that addressed the deep-rooted gender issues that enable child protection concerns such as the risk of child marriage. Much of this content was structured by gender experts to enable gender role analyses within communities in a way that the gender inequalities in their systems could be easily understood. Also, the different backgrounds and needs of girls are integrated in the toolkit with content specifically tailored to different groups such as adolescent girls, girls with disabilities and marginalized populations within the country.

INDIA
CASE
STUDY

INDIA

INDIA OVERVIEW

	Child marriage prevalence[190] (girls married before the age of 18 years, as a proportion of all girls)	23%
	FGM prevalence[191]	–
	Internet users[192] (proportions of the adult male and female populations)	43% of men 32% of women
	Mobile phone ownership[193] (proportions of the adult male and female populations)	84% of men 72% of women
	Level of government support for digital literacy[194] (scale 0–3)[p]	Medium: 2

p   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS
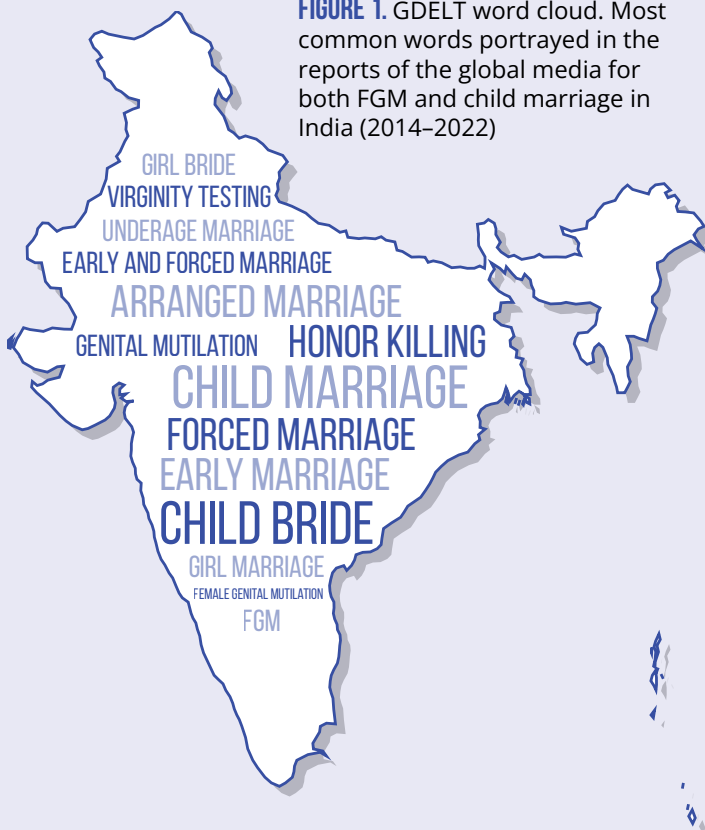
FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in India (2014–2022)

GIRL BRIDE
VIRGINITY TESTING
UNDERAGE MARRIAGE
EARLY AND FORCED MARRIAGE
ARRANGED MARRIAGE
GENITAL MUTILATION   HONOR KILLING
CHILD MARRIAGE
FORCED MARRIAGE
EARLY MARRIAGE
CHILD BRIDE
GIRL MARRIAGE
FEMALE GENITAL MUTILATION
FGM

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in India, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in India compared with other countries (2014–2022)
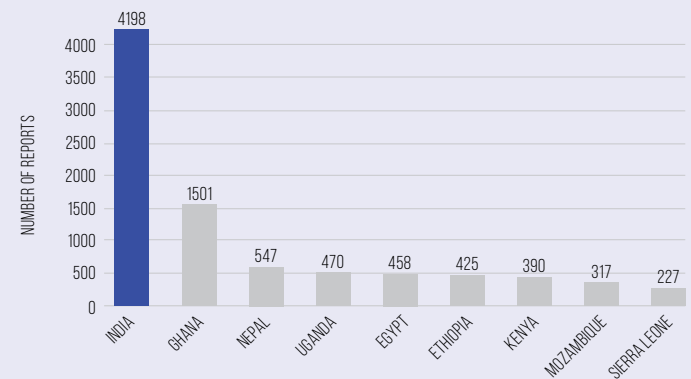
FIGURE 3. Number of reports covering the topic of FGM in India compared with other countries (2014–2022)
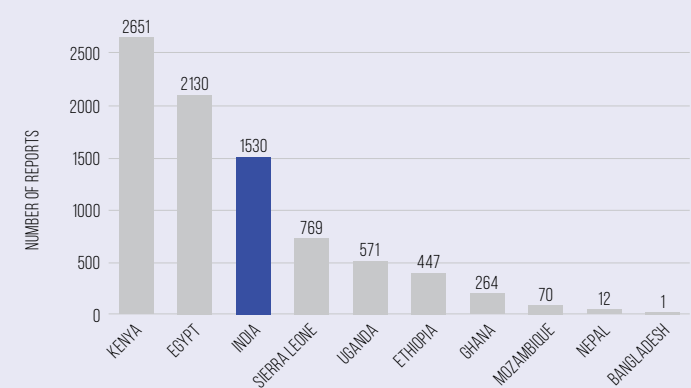
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in India, it can be observed that there are a total of 4,198 reports corresponding to child marriage (see Figure 2) and 1,530 reports corresponding to FGM (see Figure 3) in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Although FGM is not that prevalent in India, it is still accepted and practised by certain ethnic groups in the country. According to testimonies collected by independent journalists in Mumbai, members of the Dawoodi Bohra community – a minority Shia Muslim group that accounts for around 2 million of India's population – still support the continuation of the practice, claiming FGM has the same value and importance as male circumcision.[195] Currently, there is no legal framework or legislation prohibiting and criminalizing FGM in India, and in 2017 the government declared that no data was available to confirm the existence of the practice in the country.[196] However, according to Sahiyo, an NGO working to end FGM, an estimated 80 per cent of girls from the Dawoodi Bohra community and Bohra subsects have undergone the procedure.[197]

Child marriage is widely practised among different communities in the country. While the prevalence of girls getting married before age 18 has declined from 47 per cent to 23 per cent between 2005/06 and 2019/21, it is still higher than the global average of 19 per cent.[198] Furthermore, estimates suggest that each year, at least 1.5 million girls under 18 get married in India, which makes it home to the largest number of child brides in the world – accounting for a third of the global total.[199] It is worth noting that although traditional gender norms play a significant role in the existence and continuation of child marriage, particularly in the Indian context, structural socioeconomic inequalities have a relevant weight in the maintenance of this harmful tradition. According to recent data, women who are better off financially marry much later when compared with women who are economically vulnerable (the average marrying age of women in the highest wealth quintile is 21.1 years, compared with 17.5–19.3 years for women in other wealth quintiles).[200]

THE TECHNOLOGY ENVIRONMENT IN INDIA

India has seen a steady demand for the creation and use of technologies and digital solutions, particularly to fight problems of an environmental nature in the country, given the high levels of pollution present in its major urban areas. Consequently, the country is among the most advanced emergent economies in terms of producing and exporting information technology products and services, which has become one of the most significant growth catalysts for the Indian economy, contributing to the country's GDP and public welfare.[201] In turn, access to electricity has grown exponentially over the past 20 years, and by 2020 nearly 99 per cent of the country's population had access.[202] Additionally, considering the high demand (mainly led by young people) for social media and applications that allow them to be increasingly connected in real time, India has significantly improved internet availability, penetration and usage for its population, particularly by narrowing the gender gap in access. Approximately 36.4 per cent of households have access to the internet, with a gender gap in access to the internet at a rate of 25.6 per cent difference. In terms of infrastructure, the percentage of the population covered by at least a 3G or 4G mobile network is nearly 100 per cent (specifically, 98.5 per cent for 3G and 98.4 per cent for 4G), meaning that almost the entire population of the country is located within a range of at least a 3G and 4G mobile-cellular signal. Furthermore, the government has increased its efforts to guarantee the right to internet access to the entire population by providing public Wi-Fi access in the largest city of the country with free connectivity.[203] Finally, the latest data reveals that 83.6 per cent of Indian inhabitants have a mobile-cellular telephone subscription (i.e., subscriptions to a mobile telephone service), with 84 subscriptions per 100 inhabitants,[204] while the mobile access gap between the genders decreased to a rate of 14.3 per cent. However, India continues to perform below the global average for internet and mobile connectivity.

Internet access and usage, as well as mobile phone access and ownership, are essential parts of the new digitalized era in expansion since the onset of the COVID-19 pandemic. To prepare for and integrate this new wave of digital transformation, building digital skills is essential, as is creating digital infrastructure, starting with a progressive focus on digital literacy. In 2015, the Indian government launched the

'Digital India' flagship programme, with the goal of transforming India into a digitally empowered society and knowledge economy by investing in the development of three core areas: digital infrastructure; governance and services demand; and digital literacy for citizen's empowerment.[205] The programme has shown promising results, considering that the country has experienced a year-on-year average growth rate of 0.71 per cent in digital skills among the population during 2017 to 2019, and is ranked above the global average with 4.43 per cent.[206] Yet, challenges related to delayed infrastructure development, bandwidth availability, personal computer penetration and the capacity to scale up remain.[207] The latest available data reveals that less than half (43 per cent) of India's population was using the internet as of 2020[208] (measured by the number of individuals who have used the internet (from any location) in the last three months). Furthermore, India's score in the Gender Digital Divide Index (GDDI) is alarming (62.16 per cent), with the lack of female leadership among digital policymakers being a negative factor keeping the digital literacy gender gap high.[209] While 49 per cent of adult men own a smartphone device that allows access to mobile internet and other applications, the same is true for only 26 per cent of adult women in the country (35 per cent of women own basic or feature phones with limited or no access to internet and applications).[210] It is important to mention that India's greatest gender gap in the GDDI is in ensuring women's equal access to and use of digital payments, which constitute a "keystone to achieving women's full inclusion in the digital economy and society".[211]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in India. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[⊙] Technology-driven intervention/solution (tech is a core element)
[◑] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

NAUBAT BAJA / 2019 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPES OF TECH-NOLOGIES USED	FEMINIST LENSES
• Directorate of Women Empowerment, Government of Rajasthan • The Rural Electrification Corporation Foundation • UNFPA	Jeevan Ashram Sansthan (JAS)	Child marriage	Rajasthan	1. Individual-level empowerment 2. Family and community engagement	• Radio • Mobile technology	1. Consultation with experts and/or community leaders 2. Consultations with target group(s) 3. Women-led organization

Naubat Baja Missed Call Radio is a cloud telephone-based radio channel in the western Indian state of Rajasthan that addresses issues related to adolescents' well-being, empowerment and health ('Naubat Baja' means an ensemble of musical instruments that were played together in earlier times to catch the attention of people). The initiative became popular among youth in Rajhastan through multidistrict outreach activities at the community level. Content related to sexual and reproductive health and rights, as well as other well-being related questions, could be accessed through a telephone-based radio channel by calling a specific number. The user would be automatically disconnected, and then receive a call back from the operators with a 15-minute packaged capsule of free infotainment. The package provides information on government schemes particularly related to adolescents' sexual and reproductive health and rights (such as adolescent girls' reproductive health and menstrual hygiene), as well as child marriage, domestic violence, gender sensitization, financial awareness, COVID-19 protocols and precautions.[212] The capsule also includes popular songs, light-hearted humour, Radio Natak and Panchatantra stories.

The initiative has taken advantage of the fact that mobile phones are the main tool and accessory of the youth generation, and their favourite mode of communication, particularly in areas where people have little access to television, cable or the internet. As explained by a representative of the intervention, "most families even in rural areas own a mobile phone, even if it is not a smartphone. The missed-call strategy could therefore reach a large chunk of the rural as well as urban population [in India]."

Some of the key success factors of Naubata Baja range from the combination between information and entertainment, the simplicity with which the programme is operated, as well as linking the youth with the various schemes provided by government departments, thus supporting the uptake of such schemes and programmes.

♀ This intervention integrates an intersectional feminist approach by having carried out consultations with both target groups (youth and adolescents) and experts on sexual and reproductive health and rights as well as child marriage – particularly during the project's design and piloting phases – and by offering a service to the population from all age groups (although more highly concentrated among the youth), irrespective of gender, ethnicity, caste and class. Further, a technical agency is hired to specifically to monitor the progress of the intervention and its impact on the different groups of women making use of the service.

LOVE MATTERS INDIA / 2011 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• RNW Media • Bill & Melinda Gates Foundation • The David and Lucile Packard Foundation India • Amplify-Change • Ideas42	Development consortium	Child marriage & FGM	Delhi, Maharashtra, Uttar Pradesh, Madhya Pradesh, Gujarat, Rajasthan, West Bengal, Punjab, Bihar and Karnataka.	1. Service development and strengthening 2. Individual level empowerment 3. Family and community engagement	• Social media (including Facebook, WhatsApp YouTube, Instagram and Twitter) • Radio programmes • Television • Websites • Helpline • Podcasts • Videos, including animation and virtual reality, as well as augmented reality	1. Consultations with sexual and reproductive health rights (SRHR) experts 2. Consultations with survivors or target group (youth and adolescents) 3. Women-led organizations

Love Matters is a programme providing sexual and reproductive health and rights information in line with young people's needs. It provides open, honest, non-judgemental and science-based information on romantic relationships and sexual education using innovative media formats. By harnessing the power of technology in combination with storytelling approaches, Love Matters seeks to deconstruct taboos and judgemental walls that separate curious young people interested in gaining knowledge on sexual education, but who are too afraid to ask basic questions often considered immoral or deviant in the eyes of extremely religious and traditional communities. The website (https://lovematters.in/en) offers information in English and Hindi and constitutes main resource hub, with comprehensive information on love, sex and relationships, the programme also runs a 24/7 online helpline to provide unbiased, reliable information on romantic relationships and sex called 'Let's Talk', where users can post questions, doubts or queries in Hindi and English, without disclosing their identities, with sex education experts answering such questions (and providing solutions if necessary) within a period of 24 to 48 hours. They are also active on several social media platforms to spread awareness and "have fun conversations", including Facebook, WhatsApp, YouTube, Instagram and Twitter.

The programme initially started in India in 2011, and has been scaled out to five other regions in the world, including online platforms in Arabic, for countries located in Africa (such as Love Matters Nigeria), *Hablemos de Sexo y Amor* (Spanish) and *Amour Afrique* (French).

The initiative aims to empower young people who seek to make informed decisions about their sexual lives, as well as their sexual and reproductive rights. The initiative has also contributed to breaking down social barriers and challenging traditional views about women's rights and roles, as well as sex and romantic relationships.

♀ This intervention integrates an intersectional feminist approach by carrying out consultations with their main audience and target group (youth), as well as sexual and reproductive health and rights and sex education experts. The project's ideation, design and piloting phases sought to understand young people's needs and concerns, as well as looking at how to bridge existing communication gaps. The idea of creating an informative confidential platform was generated by connecting different ideas with college students and high school children.

KENYA
CASE
STUDY

KENYA

KENYA OVERVIEW

	Child marriage prevalence[213] (girls married before the age of 18 years, as a proportion of all girls)	23%
	FGM prevalence[214] (proportion of women and girls aged 15–49 years	21%
	Internet users[215] (proportions of the adult male and female populations)	61% of men 42% of women
	Mobile phone ownership[216] (proportions of the adult male and female populations)	94% of men 88% of women
	Level of government support for digital literacy[217] (scale 0–3)q	High: 3

q   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Kenya (2014 – 2022)
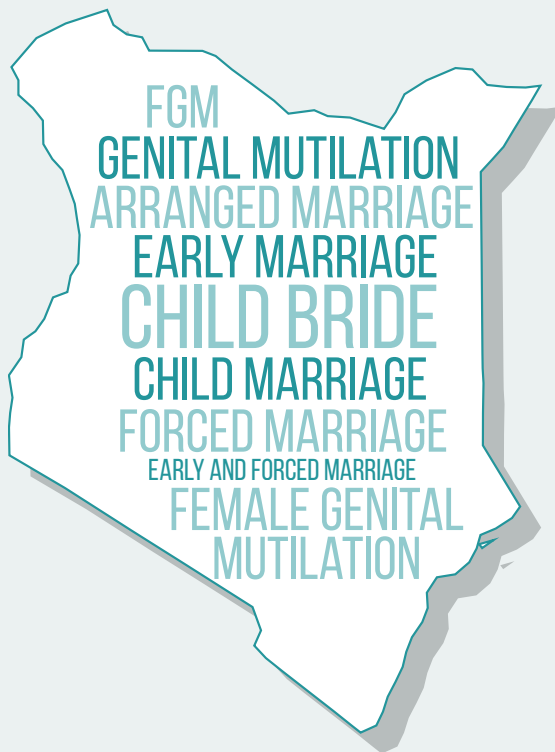
FGM
GENITAL MUTILATION
ARRANGED MARRIAGE
EARLY MARRIAGE
CHILD BRIDE
CHILD MARRIAGE
FORCED MARRIAGE
EARLY AND FORCED MARRIAGE
FEMALE GENITAL
MUTILATION

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Kenya, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Kenya, compared with other countries (2014–2022)

INDIA 4198, GHANA 1501, NEPAL 547, UGANDA 470, EGYPT 458, ETHIOPIA 425, KENYA 390, MOZAMBIQUE 317, SIERRA LEONE 227
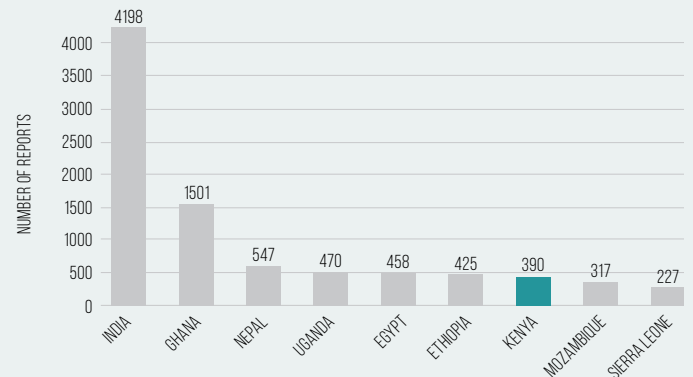
FIGURE 3. Number of reports covering the topic of FGM in Kenya, compared with other countries (2014–2022)
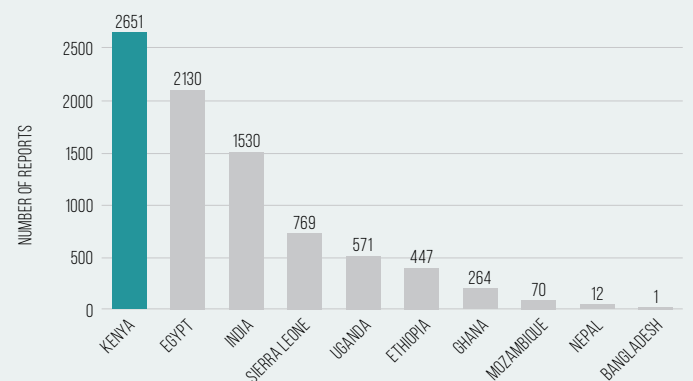
KENYA 2651, EGYPT 2130, INDIA 1530, SIERRA LEONE 769, UGANDA 571, ETHIOPIA 447, GHANA 264, MOZAMBIQUE 70, NEPAL 12, BANGLADESH 1

Note: After filtering the GDELT project database for the actors, actions and associated reports pertaining to FGM and/or child marriage in Ethiopia, it can be observed that there are a total of 425 reports corresponding to child marriage and 447 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

According to Demographic and Health Survey (DHS) data from 2014, 4.2 million girls and women alive in Kenya today wed before reaching 18 years of age, of which 1.1 million were married by the age of 15. Put differently, one in four young women in Kenya (23 per cent) marry during childhood. Vulnerability to this problem increases for populations in the lowest wealth quintiles, as it does for girls with no access to education or lower educational attainment levels, and for those living in rural areas. The phenomenon is further associated with a higher risk of gender-based violence; in fact, 39 per cent of girls who were married by age 18 have experienced intimate partner violence within the last 12 months, whereas 24 per cent of those married afterwards report the same experience.[218]

Regarding FGM, it is important to note that the Kenyan government has actively tried to mitigate the practice over the past few decades. For

example, FGM was legally banned in 2001,[219] and a few years ago the national government set the ambitious goal to eliminate it by 2022.[220] Despite these efforts, just over one in five girls (21 per cent) in Kenya have undergone FGM, a figure that varies based on ethnicity and region of the country. It is more common for FGM to occur among Muslim (51 per cent) and non-religious (33 per cent) communities.[221] Unfortunately, there are reasons for concern that demand quick intervention. On one hand, the average age to be subjected to FGM has dropped from 12 to 9 years old,[222] and on the other hand, the COVID-19 pandemic appears to have exacerbated both child marriage and FGM, at the same time as safe spaces for girls were decreasing and prevailing stigma increasing.[223] It is worth noting that while 10 per cent of girls and women in 2008 shared the opinion that FGM should continue, this percentage fell to 6 per cent in 2014.[224]

THE TECHNOLOGY ENVIRONMENT IN KENYA

All around the world, young people are accessing information through digital technologies like never before, which opens opportunities for greater civic participation, increased knowledge, and empowerment. However, what the technological landscape offers to youth is different in each country. In Kenya, this landscape has quickly evolved

in the last few decades. To give an example, while only 36 per cent of the total population had access to electricity in 2011, in 2020 this number rose to 71.4 per cent.[225] Even though it is estimated that, in 2020, 24.1 per cent of people had access to the internet (measured by the proportion of households that have access and that have used the internet in the past 12 months),[226] the internet gender gap was reportedly reduced significantly in the last few years, decreasing from 31.2 per cent in 2021 to 12.2 per cent in 2022, meaning that, currently, 74 per cent of men and 65 per cent of women are internet users.[227]

Despite low internet penetration and limited access to electricity, cell phone usage is notably high in Kenya: in 2020 there were 114.2 subscriptions to public mobile telephone services (post-paid or prepaid) per 100 inhabitants. Mobile internet usage is made possible by an extensive network coverage, even available in most rural areas. According to data from the International Telecommunications Union, 94 per cent of Kenyans could connect to at least 3G mobile networks in 2020, and 77 per cent had 4G coverage.[228] The presence of this infrastructure is reflected in the type of technology-driven and technology-enabled interventions addressing child

marriage and FGM in the country, some of which heavily rely on mobile phone messaging (SMS). Unfortunately, the GSMA Mobile Gender Gap Report 2022 notes that while 88 per cent of women and 94 per cent of men own a mobile phone or device, only 36 per cent of women and 59 per cent of men have access to mobile internet. Furthermore, in 2021 women were less likely to own a smartphone than men (34 per cent vs. 48 per cent)[229], which contributes to the significant gender gap in mobile internet usage (38 per cent).[230] This also suggests that it is harder for women to use applications and other advanced phone technologies.

Digital literacy is another area in which Kenya has made significant strides. One key indicator to measure it is 'support for digital literacy', understood as the existence and extent of government strategies aimed at enhancing related skills. Research conducted by the Economist Impact resulted in a score of 3 out of 3 in this regard for Kenya, considering that the government implemented the Digital Literacy Program in 2013, as well as the creation of other similar national initiatives.[231] The program is still ongoing and over 75,000 public primary schools have received the training. In addition, Kenya scored 2 out of 4 points in the National Female E-Inclusion Policies Indicator, which assesses the existence of strategies that address the gender digital divide. Despite progress, there is still a long way to go in terms of the adoption of digital skills. The study conducted by WEF in which citizens self-assessed their digital skills resulted in a national score of 4.5 out of 7 points in 2019.[232]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Kenya. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components))

♀ FEMINIST LENSES	
The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:	
1 Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2 Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3 Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4 Womenand/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a womenand/or girl-led organization(s).
Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.	

PASHA APP / 2022 — ONGOING / ◎

SUPPORTING ORGANIZATION[S	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	• Anti-FGM Board • Referral services	FGM	Launched in two counties, but the goal is to reach the whole country.	1. Service development and strengthening 2. Individual level empowerment	Mobile phone application	1. Consultations with target group(s) 2. M&E instruments

The Pasha[r] app, a recent initiative of the Joint Programme, is both a preventive and responsive tool. The app allows users to access information on violence against children (VAC) and FGM, as well as to anonymously report cases of FGM in real time.[233] Survivors are thereby referred to governmental or civil society service providers[234] (i.e., legal aid, psychosocial support, placement for temporary shelter, education). Monitoring of each case is also documented through the app. In an effort to improve accountability, user data on reporting and case monitoring is shared with relevant duty-bearers at the local and national levels to highlight bottlenecks from service providers, but also to ensure quick intervention as needed.[235] According to a representative from UNICEF Kenya, UNICEF and UNFPA were motivated to jump-start this intervention given the existing problem of the undercounting of several FGM cases in government databases, due to the lack of a proper classification system. The goal, however, is for the government (particularly the Anti-FGM Board in Kenya), to become the full owner and manager of the tool, and to achieve its implementation at the national level. Though it is too soon to measure the impact, the local authorities in other counties, beyond the two where the pilot was launched, have already enlisted to adopt the app in their area. Furthermore, this tool is already enabling young people to talk about FGM safely and making reporting more accessible than ever before in the country.[236]

♀ This intervention integrated an intersectional feminist approach by ensuring that young women's perspectives and feedback were closely considered during the design and development of the app during 2021. To do so, representatives from women-led organizations working in diverse communities of Kenya were involved in community discussions and training to disseminate the use of this tool.

I-CUT APP / 2017 — UNKNOWN / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• LakeHub Foundation • Technovation Challenge	The Restorers, a group of young women formed when still attending in high-school	FGM	Unknown	1. Service development and strengthening 2. Individual level empowerment	Mobile phone application	1. 1Women-led organization

i-Cut connects girls at risk of FGM with rescue agents and offers support for girls and women who have already been subjected to this practice.[237] A distress button has been integrated into the app to facilitate reporting, as well as information about cutting and its negative effects on girls. i-Cut was developed by a group of young women (The Restorers) led by Stacy Owino, computer science and mathematics student who, like her other four colleagues, was just 18 years old at the time the project was launched in 2017. The team is mentored by Dorcas Owino, the director of Lakehub Foundation, a hub for innovative projects. The project has been met with both detractors and supporters. On one hand, The Restorers won the innovation award granted by Technocation Challenge in 2018. On the other side, a few people have openly complained about the application, with a man saying the creators did not understand the culture of FGM.[238]

♀ This feminist approach is embedded into this intervention through the design, development and leadership of the group of young female creators.

r   "Pasha" means "to inform" in Swahili

CAMPAIGN "SPOT IT! STOP IT!" / 2020 – 2021 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • Joining Forces Alliance • Rotary Club • Safaricom • Airtel • Boda bodas (transportation system)	• Ministry of Labour and Social Protection, through the Department of Children Services • Local radio and television stations	Child marriage & FGM	Nationwide (initially launched in 3 counties)	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Traditional media (TV spots, radio dramas, radio call-ins, newspaper inserts, posters) • Community-based merchandise	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

In response to the significant experience and threat of violence faced by children in Kenya, UNICEF and the Ministry of Labour and Social Protection developed the 'Spot it! Stop it!' campaign, a communication intervention created within the framework of Kenya's VAC National Prevention and Response Plan 2019–2023.[239] The campaign, described as a communication for development initiative,[s] is guided by the 'Behavioural Drivers Model', which is used to understand what drives behaviour and behavioural change. The insights from this research and consultation process served to promote human rights, target leadership, influence social norms and transform communities. This specific campaign encouraged communities to take responsibility for every child's well-being by using storytelling; for example, animated heroes for young children are presented with particular calls for action: 'ALERT, REPORT, CALL 116'. While a formal evaluation has not yet been conducted, reporting of VAC cases was especially high (up 80 per cent in cases involving children between ages 6–10 and 15–17 years) during January 2021, when the campaign was active on national media.[240]

♀ This intervention integrated a feminist approach by ensuring the engagement of decisionand policymakers from diverse sectors and levels, including from government and civil society as well as community, cultural and religious leaders, to develop and increase the campaign's impact.[241] Monitoring of mass media outlets (e.g., radio, TV, newspapers) was also carried out to measure the campaign's reach.

SHUJAAZ / 2009 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
N/A	Shujaaz	Child marriage & FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Web platform • Social media • SMS messaging • Print media	N/A[t]

Shujaaz is a multimedia platform that uses comic books, social media and SMS messaging to engage with young adults, boys and girls in Kenya and the United Republic of Tanzania. The comic tells the story of a 19-year-old disc jockey and influencer living in the outskirts of Nairobi who faces issues in his community such as early pregnancy, child marriage and FGM.[242] In the digital environment, young people are encouraged to come together and talk about their experiences, as well as their vision for the future and the obstacles standing in their way.[243] According to the website, Shujaaz has "7.3 million comic book readers, 4.4 million social media followers, and receives over 60,000 SMS messages every month", which means it has managed to reach about 56 per cent of young Kenyans and 24 per cent of the youth of the United Republic of Tanzania. As a result of their "innovative approach to storytelling and audience engagement", Shujaaz has received two International Emmy Awards, among other accolades.[244]

s   The Communication for Development approach is no longer named as such, and instead UNICEF refers to social and behavioural change (SBC).
t   Organization/intervention not interviewed

CHILDLINE KENYA / 2006 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• Plan International • Kenya Alliance for the Advancement of Children – SOS Children's Villages • Child Helpline International	• Ministry of Labour and Social Protection, through the Department of Children • Childline Kenya	Child marriage & FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Helpline • Social media	N/A[u]

As the official website states, Childline Kenya was established to "create an enabling environment for children to voice their concerns, be listened to and be linked with essential services through a coordinated referral system nationwide" by harnessing the power of technology. The helpline was launched in 2006 as a non-profit initiative with support from Plan International, SOS Children's Villages and the Kenya Alliance for the Advancement of Children. In 2008, in collaboration with the Ministry of Labour and Social Protection, the service was made available on mobile devices for free after adopting the number 116. The toll-free service is now run by both Childline Kenya and the Government of Kenya, with the former being a technical partner for the latter. Response to cases is coordinated by children's officers at the county and sub-county levels, and case management data are input into the National Child Protection Information Management System. The referral services include child therapy, medical support, legal aid, mediation and family therapy, rescue services and temporary shelter.[245]

u   Organization/intervention not interviewed

MOZAMBIQUE
CASE
STUDY

MOZAMBIQUE

MOZAMBIQUE OVERVIEW

	Child marriage prevalence[246] (girls married before the age of 18 years, as a proportion of all girls)	53%
	FGM prevalence[247]	–
	Internet users[248] (proportions of the adult male and female populations)	30% of men 19% of women
	Mobile phone ownership[249] (proportions of the adult male and female populations)	37% of men 26% of women
	Level of government support for digital literacy[250] (scale 0–3)[a]	High: 3

a   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Mozambique (2014–2022)

FORCED MARRIAGE CHILD MARRIAGE GIRLS NOT BRIDES FGM EARLY MARRIAGE CHILD BRIDE

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print, and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures, and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Egypt, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Mozambique, compared with other countries (2014–2022)

INDIA 4198, GHANA 1501, NEPAL 547, UGANDA 470, EGYPT 458, ETHIOPIA 425, KENYA 390, MOZAMBIQUE 317, SIERRA LEONE 227

FIGURE 3. Number of reports covering the topic of FGM in Mozambique, compared with other countries (2014–2022)
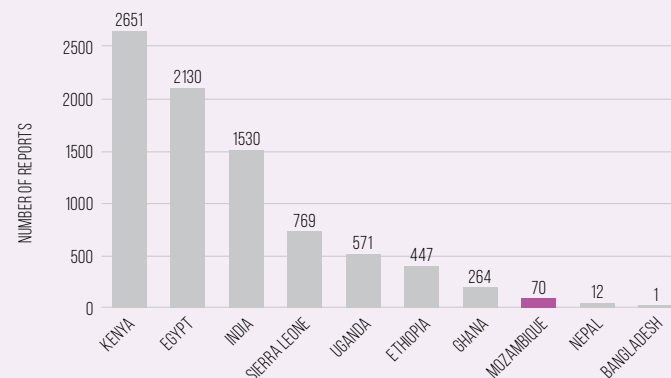
KENYA 2651, EGYPT 2130, INDIA 1530, SIERRA LEONE 769, UGANDA 571, ETHIOPIA 447, GHANA 264, MOZAMBIQUE 70, NEPAL 12, BANGLADESH 1

Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in Egypt, it can be observed that there are a total of 458 reports corresponding to child marriage and 2,130 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Mozambique has one of the highest rates of child marriage in the world, and the second highest rate in the Eastern and Southern African subregion, affecting one in two young women. In 2020, the country was home to 4.4 million child brides. Of these, 1.6 million were married before reaching the age of 15. Child marriage prevalence has not significantly changed in recent decades. On the contrary, the percentage of women aged 20 to 24 who were married before age 18 increased from 51 per cent in 1991 to 53 per cent in 2015.[251] In 2019, this practice was criminalized in Mozambique,[252] but necessary progress to stop child marriage is far from being achieved.

In contrast to urban regions, where 36 per cent of women aged 20 to 24 had married before the age of 18, child marriage is more common in rural areas, where 56 per cent of women have been affected. Other drivers of child marriage in Mozambique, as found in other countries around the globe, include extreme poverty, gender inequality, insufficient access to quality education, cultural norms, particularly those pertaining to initiation ceremonies, and a high rate of teenage pregnancy.[253]

FGM, on the other hand, is a much less prevalent issue in Mozambique. There is no national data on FGM prevalence and it is reportedly not widely practised in the country. The exception is elongation of the labia minora in central Mozambique, which is usually not counted as FGM.[254]

THE TECHNOLOGY ENVIRONMENT IN MOZAMBIQUE

Despite ongoing technology advancements that have seen an increasing number of people incorporate electronic devices in their lives, there are still significant access inequities between the Global North and Global South, as well as gender gaps, which cannot be ignored. This is also the case in Mozambique, where access to electricity is low, with only 30.6 per cent of the population having access as of 2020.[255] Still, some progress has been made since 2010, when the proportion was estimated at 18.8 per cent. Regarding internet use, the quality and breadth of available infrastructure is scarce. The percentage of internet users in the country (measured by the proportion of households that have access and that have used the internet in the past 12 months) is only 9 per cent, which represents a very low level of penetration. Moreover, there is a considerable gap between male and female access of 36.7 per cent.[256]

In comparison, mobile technology has a bigger presence. According to the International Telecommunication Union (ITU), 49 out of every 100 inhabitants have a mobile cellular telephone subscription to a post-paid or prepaid service.[257] In this same year, 85 per cent of the population had access to 3G network coverage and 50 per cent to 4G coverage.[258] Mobile ownership presents a gender gap once again. According to the National Institute of Statistics, in 2017, 31 per cent of the population owned a mobile phone; broken down by sex, only 26 per cent of women were cell phone owners, whereas 37 per cent of men owned one.[259] In 2020, the mobile gender gap registered was 18.3 per cent in the country.[260] Furthermore, Mozambique saw modest technological improvements in the past years and internet affordability has declined, due to an increase

in mobile phone post-paid tariffs along with a deterioration in the competitive environment, among other factors.[261]

An overview of the technological environment must not only consider statistics relevant to its access, but also to digital literacy. For the time-period 2017 to 2019, Mozambique experienced a year-on-year average growth rate of –3.58 per cent in the digital skills among its population, reaching a rate of 2.74 in a scale of 1 to 7.[262] Nonetheless, numbers of 2022 show that the literate population over 15 is around 60 per cent. In Mozambique, government support for digital literacy, measured in terms of number and quality of strategies aimed at enhancing this indicator, got a score of 3 in a scale of 0 to 3 based on research conducted by the Economist Impact.[263] This means that the government's strategy currently addresses digital literacy for students and teachers from the primary school level. Despite these efforts, the national female e-inclusion policies were rated 0 on a scale from 0 to 2. According to the criteria of Economist Impact, this indicates that the government does not have an active plan or strategy to promote internet access and e-inclusion for women, and that the gender gap in internet access is greater than 10 per cent. Women are excluded from the advantages of ICT to improve their well-being, as they are disproportionately impoverished and undereducated, and thus unable to find employment.[264]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Mozambique. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION
[◉] Technology-driven intervention/solution (tech is a core element)
[◑] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

LINHA FALA CRIANÇA / 2009 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA • Plan International • Save the Children • World Vision • Girls Not Brides • Telecommunication companies (Tmcel, Movitel, Vodacom) • Ministry of Health • Ministry of Education and Human Development • Ministry of Gender, Child and Social Action	Linha Fala Criança	Child marriage	Nationwide	1. Service development and strengthening 2. Individual level empowerment 3. Family and community engagement 4. Economic empowerment	• Helpline • SMS messaging • WhatsApp • Traditional media (TV, radio)	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

Linha Fala Criança (LFC) is a non-profit organization. Its mission is to respond to children in need of protection and to provide support to cases of VAC, including abuse, negligence, exploitation and traffic of minors, and child marriage.[265] The helpline was launched in 2009; since then, anyone can confidently call the toll-free number (116), or access this service via SMS messaging or WhatsApp. The call attendants are adequately trained to deal with different incoming cases. LFC receives an average of 14,000 calls a year; however, in 2020, they received over 200,000 calls. In fact, UNICEF provided resources to scale up the capacity of this service given increasing demand during the COVID-19 pandemic.[266] Users seeking information on SRH are channelled to SMS BIZ, and only about 350 calls a month are reports of VAC.[267] The data on VAC is computed into a database and disaggregated by province.[268] Such cases are referred to corresponding service providers in the areas of health, justice and social action.[269] The information gathered through this helpline is also shared with policy- and decision-makers to inform action plans around issues that impact children in the country. In addition, LFC conducts sensitizing workshops in schools as well as economic empowerment activities for youth, and collaborates with UNICEF and UNFPA in different capacity-building activities for mentors across the country, reaching almost 14,000 girls across various districts.[270]

♀ This intervention integrates an intersectional feminist approach by leveraging information collected through calls from users to inform decision- and policymaking. Moreover, the helpline provides attention in local languages, and dissemination campaigns in radio focused on VAC and COVID-19 prevention are also conducted in local languages.[271] As noted above, monitoring activities are also carried out regularly.

SMS BIZ / 2015 — ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA • Rapariga Biz • Telecommunication companies • Spotlight Initiative • Ministry of Gender, Child and Social Action	UNICEF	Child marriage	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Digital platform • SMS messaging • Chatbots • Live chats • Social media	1. Consultations with target group(s) 2. Women-led organization 3. M&E instruments

SMS BIZ, known as U-Report in other countries where the same platform is available, was launched as a pilot in 2015, as part of Geração Biz[272] – a multisectoral programme promoting SRH among the youth since 1999.[273] In a context in which speaking about SRH topics is taboo, SMS BIZ allows young people to voice their concerns while maintaining confidentiality and strengthening their human rights. Today, over 400,000 U-Reporters have subscribed to the platform, of which 41 per cent are girls.[274] Given its success, the initiative was scaled up to the national level in 2017, after reaching more than 50,000 users in the previous year. During the pilot stage, a partnership was established with Rapariga Biz (community dialogue groups) to implement a mentorship programme. This resulted in more than 3,000 Rapariga Biz mentors (i.e., young girls) being equipped with mobile access to an SMS-based peer counsel service to train them and address their questions and concerns regarding sensitive topics.[275] SMS BIZ also tested the girls' knowledge through polls, which helped to reinforce learning and identify knowledge gaps. Three innovative technologies are embedded in the SMS BIZ platform: (1) RapidPro (open software supported by UNICEF), on which the back-end functionality is built; (2) CasePro, which provides the interactive interface and dashboards; and (3) SMS messaging. To increase its reach, the service is also available via social media and WhatsApp, where young people can communicate more freely.

♀ This intervention integrates an intersectional feminist approach by regularly using polling and surveys to hear from young people directly about issues that matter to them. The feedback helps to craft new messages, and to improve the service in general. With the same purpose, all activity data are continuously monitored in the platform. SMS BIZ is available in four main local languages in addition to Portuguese and is easily available even in rural areas. The core collaboration with a women-led organization such as Rapariga Biz also enhances the feminist approach.

DIGITAL TECHNOLOGIES AND MASS MEDIA CAMPAIGNS DURING COVID-19 / 2020 – 2021 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA • Ministry of Gender, Child and Social Action • Regional Psychosocial Support Initiative	• UNICEF • UNFPA	Child marriage	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Mobile telephones • SMS messaging • Child helplines	1. Consultations with experts and/or community leaders 2. M&E instruments

During the COVID-19 pandemic, the Global Programme incorporated the use of digital technologies across several of its activities in Mozambique to bridge the gap brought about by mobility restrictions. For example, following the suspension of mentorship sessions in safe spaces, the Global Programme provided psychological support and coping strategies via phone to both mentors and mentees across the country.[276] Unfortunately, not all the 4,800 mentors have access to mobile phones, and sessions were sporadic rather than following the regular programme cycles. Additionally, laptops and modems were procured to maintain communication with and continue capacity-building of government officials and key partners. Furthermore, UNICEF and the Government of Mozambique, with support from the Regional Psychosocial Support Initiative, created a training package on case management services and psychosocial support for families and children that was delivered in face-to-face sessions or remotely.[277] Virtual meetings were also hosted to ensure that cross-sectoral child protection/case management committees continued to meet, which enhanced the participation from subnational and national partners.[278] UNFPA organized technical webinars on child marriage to share information and advocate for gender equity.[279] In terms of communication and visibility, mini radio drama series and radio spots were broadcast on local radio in Portuguese and local languages.[280] Mass media (traditional and social media) campaigns that included child marriage and COVID-19 messages reached over 1 million individuals.[281]

⚥ This intervention integrated an intersectional feminist approach by ensuring that both girls and boys (target groups) continued to have access to mentorship opportunities during the pandemic, and by ensuring that mass media messages were shared in local languages. The reach of these campaigns was also measured.

NEPAL
CASE
STUDY

NEPAL

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

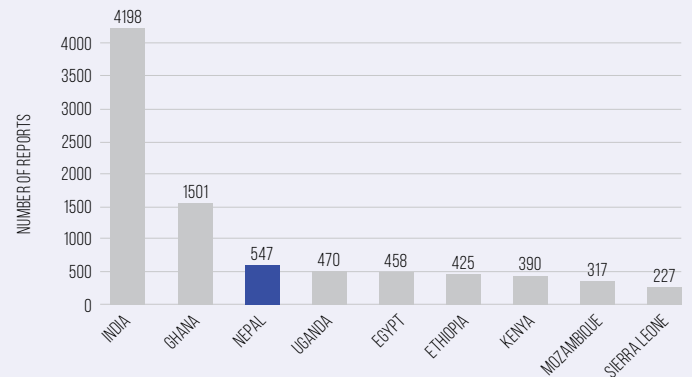| NEPAL OVERVIEW	
Child marriage prevalence[282] (girls married before the age of 18 years, as a proportion of all girls)	33%
FGM prevalence[283]	–
Internet users[284] (proportions of the male and female populations aged 15 to 49)	61% of men 41% of women
Mobile phone ownership[285] (proportions of the male and female populations aged 15 to 49)	91% of men 79% of women
Level of government support for digital literacy[286]	–

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Nepal (2014–2022)

EARLY MARRIAGE
EARLY AND FORCED MARRIAGE
FORCED MARRIAGE
ARRANGED MARRIAGE
CHILD BRIDE HONOR KILLING
CHILD MARRIAGE
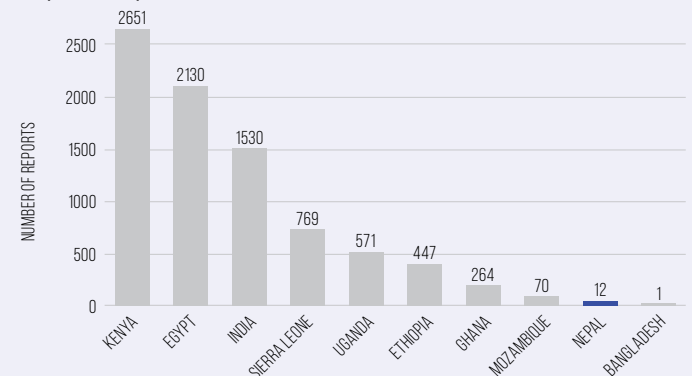GIRLS NOT BRIDES
UNDERAGE MARRIAGE

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Nepal, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Nepal compared with other countries (2014–2022)

NUMBER OF REPORTS

INDIA 4198
GHANA 1501
NEPAL 547
UGANDA 470
EGYPT 458
ETHIOPIA 425
KENYA 390
MOZAMBIQUE 317
SIERRA LEONE 227

FIGURE 3. Number of reports covering the topic of FGM in Nepal compared with other countries (2014–2022)

NUMBER OF REPORTS

KENYA 2651
EGYPT 2130
INDIA 1530
SIERRA LEONE 769
UGANDA 571
ETHIOPIA 447
GHANA 264
MOZAMBIQUE 70
NEPAL 12
BANGLADESH 1

Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in Nepal, it can be observed that there are a total of 547 reports corresponding to child marriage and 12 reports corresponding to FGM in the country.

Nepal is home to 4.1 million child brides (girls and women who were married before 18 years of age), or 33 per cent of young women (aged 20–24) who had married in childhood.[287] Of these, 1.2 million were married before reaching the age of 15 years. Child marriage prevalence has significantly changed in recent decades. The percentage of women aged 20 to 24 who were married before age 18 decreased from 58 per cent in 1994 to 33 per cent in 2019. In the past 10 years, the percentage of women aged 20 to 24 who had their first marriage or union before 18 has decreased on average by 4.3 per cent annually. However, to end child marriage globally by 2030, as stated in SDG 5, more work must be done.[288]

As in other nations, poverty, the low societal value placed on girls, and limited access to education are among the causes of child marriage in Nepal. Contributing factors include the caste system of social class and patriarchal society. In contrast to urban regions, where 34.7 per cent of women aged 20 to 24 have married before the age of 18, child marriage is more common in rural areas, where 52.1 per cent of such women have been affected. Regarding education, married girls are 10 times less likely than their unmarried counterparts to be in school, and more than a quarter of women with no formal education were married before the age of 15 years.[289] It is also known that adolescents may choose to be married in order to avoid being pushed into an undesired arranged marriage, or to flee from other problems at home. Humanitarian crises, like the severe earthquake in 2015 and the COVID-19 pandemic, depress the economic situation, which might encourage families to marry off their daughters for economic benefits.[290]

On the other hand, FGM is a much less prevalent issue in the country, and there is currently no reliable data available on the practice of FGM in Nepal.[291]

THE TECHNOLOGY ENVIRONMENT IN NEPAL

Exploring the technology context in Nepal, approximately 90.5 per cent of the population has access to electricity.[292] While the Nepal Telecommunications Authority states that 91 per cent of the country's population has access to the internet, ITU suggests the number is only 38 per cent[293] (measured by the number of individuals who have used the internet (from any location) in the last three months). The Nepal Telecommunications Authority states that in 2021, 27.76 million individuals could access the internet, mostly through their mobile devices (65.68 per cent). In the past decade, the country has seen notable improvements in the telecommunication landscape. Access to 3G mobile data is available to more than 12 million people, and access to 4G mobile data to 7.92 million, while the number of people with a mobile cellular telephone subscription (i.e., subscriptions to a mobile telephone service) stands at 131 per 100 inhabitants.[294] Likewise, fixed broadband internet is available to 25.27 per cent of consumers.[295] Since 2015, the Government of Nepal has been working to expand internet connectivity as part of its vision of a digital society that would connect 90 per cent of the population to broadband services by 2020.[296]

Mobile phone ownership is notably high in Nepal, with an equivalent of 153.5 per cent of the total population connected as of January 2022, 4 per cent higher than the previous year. This high figure is likely to be due to many individuals holding multiple mobile connections, while little information is available on what percentage of mobile phone owners own smartphones which allow access to applications and other features.[297] Approximately 72.6 per cent of females between

15 and 49 years of age own a mobile phone.[298] However, in comparison to males, girls aged 15 to 19 years are less likely to have used the internet and to own a mobile phone. Research indicates that rates of internet use among boys were double compared with girls in Nepal, and phone ownership was almost 30 per cent higher among boys, as well, weekly access to information media.[299]

Digital literacy is among the top priorities of the national government's Digital Nepal Framework policy launched in 2018. Digital education provided to children beginning in primary school has only recently begun (2019), however the Framework seeks to reduce and eventually eliminate the digital divide between economic classes. Gender parity in education is also included in the Framework's

goals, however little attention is paid to specifically targeting digital literacy gaps between male and female Nepalis, such as an e-inclusion strategy or STEM education encouragement. Government efforts such as the School Sector Development Programme and ICT implementation through Open Learning Exchange Nepal and OpenIDEO programmes have tried to close the gender and age gaps in education considerably.[300]

Common sources for data on these and other topics (the World Bank, the Gender Digital Divide Index, etc.) are noticeably lacking data for Nepal. Until this data collection and dissemination gap is addressed, it will be notably more difficult to confront the specific developmental needs of Nepal, including implications for women and girls.

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Nepal. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES	
The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:	
1 Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2 Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3 Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4 Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).
Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.	

BOJU BAJAI / 2016 — ONGOING / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Boju Bajai	Other: gender equality (e.g., gender-based violence and social justice)	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Podcast (Soundcloud) • Online videos (YouTube)	N/A[b]

Boju Bajai began as a project to address the way mainstream Nepali media was driving the discourse around gender and the politics of gender in both the country and South Asia as a whole. Through original podcasts, talk shows and series, Boju Bajai produces informative and engaging content to disrupt this status quo by highlighting the lived realities of Nepali women and starting critical conversations around women's issues. The podcast medium allows for independent voices to create a safe space to raise awareness on such topics as gender-based violence (GBV), social justice, inclusion and women's meaningful representation in an accessible format. The episodes are available on SoundCloud, YouTube, Spotify, Apple Podcasts and other social media channels such as Facebook. Boju Bajai also aims to encourage more female content creators by offering masterclasses and workshops on podcasting and content creation using feminist approaches to media and culture.[301]

RUPANTARAN / 2015 — ONGOING / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• Department of Women and Children • Ministry of Health and Population • Ministry of Education	• UNICEF • UNFPA	Child marriage	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Radio • SMS messaging • Mobile phones	1. Consultation with experts and/or community leaders 2. Consultations with target group(s) 3. Women-led organization

Rupantaran, which means 'transformation' in the Nepali language, is a comprehensive life skills package targeting 10- to 19-year-old adolescent girls and boys by informing them of their rights and empowering them to become change-makers in their local communities. The life skills package was developed by UNFPA and UNICEF in collaboration with the Government of Nepal, with the goal of imparting crucial social and financial knowledge and skills to participating adolescents. Together with strong support from the Nepali government, Rupantaran runs at different local, district and municipality levels. It aims to reach out to vulnerable youth, specifically out-of-school children and girls who are at risk of early and forced marriage, as well as other obstacles that undermine their agency and ability to reach their full potential. It is a holistic programme with the largest number of training hours (151 hours) in the country with activity-based modules focused on developing social and financial skills (e.g., how to handle money, how to open a bank account). The adolescent package runs for nine months where participants meet on the weekends for out-of-school activities, while the parental package is a seven-day programme.[302] Initially, Rupantaran sessions were in-person training to create a safe space for adolescent girls outside school structures and build their agency. When the COVID-19 pandemic hit, Rupantaran was converted into a radio-SMS delivery programme. The sessions have since then been delivered via local radio broadcasts in Nepali language in combination with personal follow-ups from peer leaders, either through phone or home visits. In 2020, Rupantaran had over 40,000 radio listeners and more than 5,800 adolescents enrolled in the programme.[303]

♀ This intervention integrates an intersectional feminist approach by involving gender experts, women-led organizations, and female adolescents at the district level since the earlier stages of the programme design and throughout the shift to radio-SMS delivery. Rupantaran is also led by the Nepali government's Department of Women and Children.

b   Organization/intervention not interviewed

SAATHI SANGA MANKA KURA (SSMK) / 2001–2020 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • Radio Nepal	Digital Broadcast Initiative Equal Access	Other: sexual and reproductive health, gender-based violence, among others	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Radio • Social media • SMS	N/A[c]

SSMK is a radio programme designed by and made for the youth in Nepal. Since its inception, SSMK has broadcasted over 900 episodes which focus on empowering, informing and inspiring young people and adolescents to take control of their own lives and make better informed decisions for their futures. It is a 45-minute radio programme that airs every Saturday and Sunday and the most listened-to radio programme by Nepali youth broadcasted in over 200 FM stations across the country, including the state-owned Radio Nepal.[304] SSMK content seeks to challenge issues and taboos that directly and indirectly affect the youth that are not addressed by their families, teachers or other media sources. It aims to equip them with life skills knowledge on issues ranging from adolescence and puberty, SRH, GBV, drug abuse and human trafficking, to other social and personal issues and concerns such as peer pressure, critical thinking, communication, education and career development. Listeners who previously sent letters to SSMK to talk about their struggles can reach them through social media channels as well, on top of the regular field visits conducted by the SSMK production team. SSMK has successfully retained its popularity with high engagement from its listeners: 91.4 per cent (7.8 million) of Nepali youth tuned in to the programme, of which 6.9 million were active listeners for more than two years and 5.4 million were regular listeners at least once a week. There were also over 1,400 self-organized listeners' clubs in almost all Nepali districts formed by the youth to hold discussions and raise awareness on the topics presented and every month SSMK received 800–1,000 letters, 200–250 emails, and 2,000–2,500 mobile text messages from its listeners.[305]

c   Organization/intervention not interviewed

SIERRA LEONE CASE STUDY

SIERRA LEONE

SIERRA LEONE OVERVIEW

|		
	Child marriage prevalence[306] (girls married before the age of 18 years, as a proportion of all girls)	30%
	FGM prevalence[307] (proportion of women and girls aged 15–49 years	83%
	Internet users[308]	–
	Mobile phone ownership[309]	–
	Level of government support for digital literacy[310]	–

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. GDELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Sierra Leone (2014–2022)


Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Sierra Leone, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Sierra Leone, compared with other countries (2014–2022)
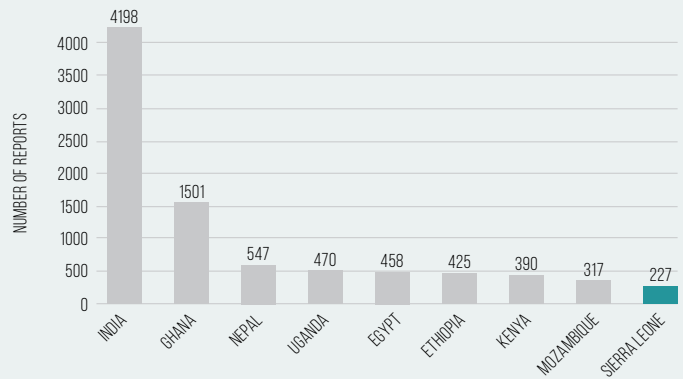
FIGURE 3. Number of reports covering the topic of FGM in Sierra Leone, compared with other countries (2014–2022)
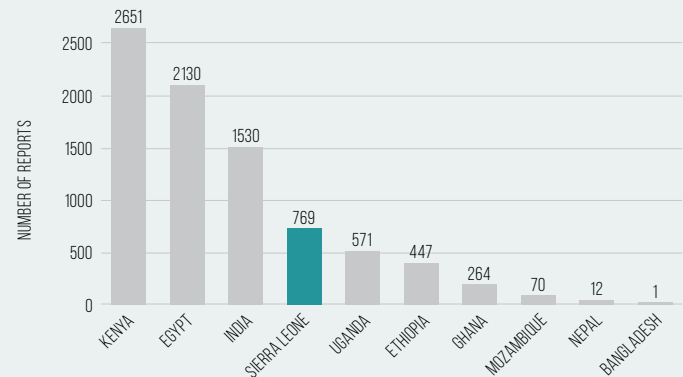
Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to child marriage and/or FGM in Sierra Leone, it can be observed that there are a total of 227 reports corresponding to child marriage and 769 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

In Sierra Leone, FGM is a widely accepted practice used to initiate girls around the age of puberty into womanhood.[311] According to the 2019 Sierra Leone Demographic and Health Survey, 83 per cent of women and girls aged between 15 and 49 years have undergone FGM, which represents a decrease from 90 per cent in 2013.[312] FGM is deeply entrenched in cultural and religious beliefs, with 68 per cent of women and girls who have heard about the practice believing that it should be continued.[313] Some of the reasons for performing FGM are that it is deemed as a way of curbing women's and girls' sexual appetites and preparing them for marriage. After undergoing FGM, girls are prepared for marriage by being taught about a woman's responsibilities within the home (e.g., domestic chores), as well as their roles and duties within the secret society to which they belong to.[314] The initiation ceremonies are led by these women secret societies in the country known as the Sande Society – located in the south of Sierra Leone – and the Bondo Society – located in the north.[315] These societies have such great influence on decision-makers that certain political actors are reluctant to abolish FGM, as they consider it to be deeply entrenched in the country's culture and identity.[316] These societies are also barriers to preventing and eliminating FGM, considering how they are inextricably linked to contemporary political life in Sierra Leone.

As for child marriage, an estimated 800,000 child brides reside in Sierra Leone, with half having been married before the age of 15 years.[317] Globally, Sierra Leone ranks as the 18th highest prevalence of child marriage, with 30 per cent of girls aged 20 to 24 years old married before age 18, and 13 per cent married before age 15.[318] Despite data showing that the practice of marrying young girls has been slightly declining over the past 25 years, child marriage continues to be a human rights concern. As UNICEF notes, if the current rate of progress persists, 27 per cent of all girls in the country will marry before turning 18 in 2030.[319] Among other factors, some of the causes contributing to the persistence of child marriage in Sierra Leone include high levels of poverty, lack of access to education, pervasive gender inequality, and discriminatory gender norms and beliefs.[320] Child marriage is also exacerbated by the high rate of adolescent pregnancy in the country, with 30 per cent of girls recorded to have given birth by the age of 18.[321]

THE TECHNOLOGY ENVIRONMENT IN SIERRA LEONE

It is critical to assess the technological landscape in Sierra Leone, considering that access to electricity and the internet, as well as digital literacy and skills retention, are pivotal in enabling the success of tech-based interventions to mitigate both child marriage and FGM. According to the World Bank, electricity is a precursor to technological interventions, but only 26.2 per cent of the population has access to electricity.[322] In 2020, only 18 per cent of Sierra Leone's nearly 8 million population were internet users (measured by the proportion of households that have access to the internet and that have used it in the past 12 months). Although this is a relative increase from 2017 where 13 per cent of individuals were internet

users, progress has been incremental and the country still ranks far below sub-Saharan Africa's regional average of 30 per cent.[323]

In terms of mobile device ownership and access, mobile cellular telephone subscriptions (i.e., subscriptions to a mobile telephone service) stands at 86 per cent, slightly higher than the regional average of 83 per cent across sub-Saharan Africa.[324] There has been a continued expansion in mobile broadband coverage, with 80 per cent of the population covered by at least a 3G network. Mobile phones are used by most people in Sierra Leone compared with other media platforms. Access to mobile phones in the country stands at 87 per cent and 80 per cent for men and women respectively. Mobile phone penetration is also widespread in rural areas at 78 per cent, where residents (including women) are more likely to have access to a mobile phone than to television, newspapers or the internet. However, these high figures do not translate into high levels of smartphone penetration. The majority (52 per cent) of adult Sierra Leoneans who are mobile phone owners own basic phones without features such as the internet and other applications.[325] Young men living in urban areas are also more likely to use social media applications and only a third of the total number of social media users in Sierra Leone are women. Thus, although mobile phones are the medium with the greatest potential to reach a significant portion of the population, calls, SMS and voice-based services are more suited to expanding the reach to include more marginalized groups.

In terms of digital literacy, Sierra Leone is ranked below the global average with a score of 3.15 on a scale of 1 to 7, the latter being the highest score. Although the country has experienced a year-on-year average growth rate of 6.88 per cent in digital skills among the population, progress has only been gradual. As in many other countries in sub-Saharan Africa, the gender digital divide still persists and is attributed to prevailing social and economic barriers such as illiteracy, disparities between

men and women in income and education, as well as restrictive gender roles and other forms of discrimination.[326] Despite the challenging circumstances in Sierra Leone, the government recognizes the importance of developing the technological landscape of the country in contributing to human capital and overall national progress. Over the years, there has been a growing competitive mobile market and the government is working to improve internet connectivity in the country. Through the passage of a new telecommunications law, the government has made it easier to access wholesale networks and facilitate an enabling environment for infrastructure expansion and ICT development.[327] Moreover, the government launched its own Digitization for All strategy to transform the country into an innovation and entrepreneurial hub, while the Ministry of Basic and Senior Secondary Education established a curriculum empowering students with foundation ICT skills.[328] In collaboration with Giga and UNICEF, greater internet connectivity will also be provided to public schools across the country to improve access to digital learning.

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNICEF and UNFPA, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Sierra Leone. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

ANTI-FGM DOCUMENTARIES / 2002 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Amazonian Initiative Movement	FGM	Matotoka Town	1. Individual level empowerment 2. Family and community engagement	• Film screen • and projector • YouTube	N/A[d]

Rugiatu Turay, one of Sierra Leone's most well-known anti-FGM campaigners and founder of the Amazonian Initiative Movement, has been using film screens and projectors to show documentaries about FGM in remote villages of the country and several of these documentaries are also available on media platforms such as YouTube. In one of the screenings, her audience reached 100 people, including men, women and even elderly women who perform circumcision as part of girls' initiation into the Bondo society. She uses the documentary to inform and raise awareness about the risks and harms of FGM to girls, and by speaking with care and respect with all of those involved in the practice, including *soweis* (senior women in Bondo societies), parents, girls and village chiefs. She proposes alternatives to continue Bondo rituals without performing genital mutilation.[329]

d   Organization/intervention not interviewed

ADOLESCENT SAFE SPACES FOR LIFE SKILLS TRAINING / 2018 – ONGOING / ◗

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA • Irish Aid	• Women in Crisis Movement • The National Secretariat for the Reduction of Teenage Pregnancy	Child marriage & FGM	Port Loko, Kambia, Bonthe, Tonkolili, Koinadugu, Pujehun	1. Individual level empowerment 2. Service development and strengthening 3. Family and community engagement	• Mobile phones • Radio • Tablets	N/A[e]

Through the Joint Programme, UNFPA supports the Women in Crisis Movement and empowers vulnerable women and girls through better reproductive health, skills training and safe spaces. One major achievement of the programme is the establishment of 160 safe spaces in districts where child marriage is most prevalent. Moreover, in 2017, with UNFPA support, 7,333 vulnerable girls received life skills mentoring and education on the pitfalls of child marriage, teenage pregnancy and other harmful practices, and 340 mentors were trained.[330] In addition to the efforts employed by UNICEF and UNFPA to end child marriage through the Global Programme, around 3.9 million mobile phone users received messages on sexual and gender-based violence (SGBV) and SRH, and 3.5 million people were reached through the radio programmes of the National Secretariat for the Reduction of Teenage Pregnancy.[331] Finally, with financial support from Irish Aid under the auspices of the Global Programme, 97 electronic tablets were donated to Women in Crisis and Restless Development. The tablets contained recorded sessions with information about quality health and life skills education. This was an innovative way to hold interactive sessions and reach out to adolescent girls with relevant information on child marriage and FGM.[332]

UNLEASHING THE POWER OF ADOLESCENT GIRL'S NETWORK THROUGH INFORMATION COMMUNICATION TECHNOLOGIES (UPAG/ICT) / 2007–2009 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
Internet Society (ISOC)	ChildHelp Sierra Leone	Child marriage	Freetown	1. Individual level empowerment 2. Service development and strengthening	• Computers • Internet facilities	N/A[f]

In partnership with ISOC, ChildHelp Sierra Leone has provided technology to schools aiming to keep female students enrolled and encouraging education to prevent child marriage. One of the organization's most successful projects was named 'Unleashing the Power of Adolescent Girls' Network through Information Communication Technologies' (UPAG/ICT). The project provided digital literacy training and technology to male and female students from different communities located in three districts. An evaluation of the UPAG/ICT programme for the 2008/09 academic year revealed that over 90 per cent of the young women interviewed after the project reported they had learned new information that empowers them. Additionally, ChildHelp has provided scholarships, computer training and access to the internet to approximately 600 young women per year. Between 2007 and 2008, the project serviced more than 450 students through ISOC funding. In 2009, the project reached 600 underprivileged females and 300 males.[333]

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e   Organization/intervention not interviewed
f   Organization/intervention not interviewed

DEVELOPING RIGHTS-BASED AND EMPOWERING APPROACHES TO MOBILIZE (DREAM) ACTION TO END FGM / 2014–2017 / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
Forward United Kingdom	• Girl2Girl Empowerment Movement • Advocacy Movement Network	Child marriage & FGM	Freetown	1. Individual level empowerment 2. Family and community engagement	• Computers • Radio	N/A[g]

DREAM Action to End FGM was a four-year project implemented through a partnership between advocacy Movement Network and Girl-to-Girl Empowerment Movement (G2G). The project aimed to build a protective environment for girls to be free from harmful traditional practices and SGBV. G2G supports and educates girls about their rights, as well as on SRH particularly through leadership and ICT training and through broadcasting awareness campaigns on local radio stations. The project reached 7,744 girls and women at risk of and affected by SGBV, 1,985 front-line workers and policymakers and 16,372 community members in four districts of Sierra Leone. In the period between November 2016 and April 2017, 14 child marriages were stopped in the communities where the project was implemented.[334]

PUBLIC EDUCATION INITIATIVES THROUGH THE MEDIA / 2016 — ONGOING / ◎

SUPPORTING ORGANIZATION (S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
N/A	Forum Against Harmful Practices (FAHP)	Child marriage & FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Legal and policy systems interventions	• Social media (Facebook, WhatsApp) • Internet • Radio programmes	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. Women-led organization

FAHP is a coalition that works towards mitigating harmful practices through culturally appropriate approaches such as dialogues, meetings, training and public education. Media is a key component of its interventions, and it conducts training with journalists to ensure that culturally friendly language is used to report on sensitive issues such as FGM. Given that radios are easily accessible in Sierra Leone, FAHP also airs anti-FGM radio jingles translated into local languages. In terms of social media, the use of Facebook and WhatsApp groups also help in the dissemination of information on FGM. These applications also facilitate the establishment of school clubs and help provide educational links for the teachers as mentors to guide their activities. Together with the Ministry of Health, FAHP aims to mainstream the issue of FGM as a health issue through these educational interventions that involve journalists, politicians and public schools. FAHP's community engagement in rural areas also includes FGM initiators themselves who have dropped their tools, though the funding needed to provide them with alternative sources of livelihoods proves to be a limiting challenge.

♀ This intervention integrates an intersectional feminist approach by involving FGM experts and gender specialists in the design and implementation, in addition to the organization itself being women-led. Moreover, the interventions are adapted to different profiles of women in terms of age and social class.

g   Organization/intervention not interviewed

SUPPORT TO ADOLESCENT GIRLS' EMPOWERMENT IN SIERRA LEONE (SAGE) / 2016 – 2023 / ◉

SUPPORTING ORGANIZATION (S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• KoBo Toolbox • Purposeful United Kingdom • United Kingdom Government • Community Action to Restore Lives • Daindemben Federation • Munafa M'Patie Federation	Purposeful Sierra Leone	FGM	Bonthe, Moyamba, Bombali, Karene, Falaba, Western rural districts	1. Individual level empowerment 2. Service development and strengthening	• Mobile applications • Mobile phones • Internet • Radio programmes	N/A[h]

SAGE aims to help adolescent girls in Sierra Leone by strengthening their livelihoods, improving their SRH, and creating a more enabling and empowering environment for them. The programme has two components. First, Karo Kura Girls' Circles aims to provide 15,450 vulnerable, out-of-school girls aged 10 to 19 with increased numeracy, literacy and social-emotional skills.[335] The second component called 'Reducing Sexual and Gender-Based Violence' aims to reduce the prevalence of SGBV, FGM and child marriage in targeted communities and build the evidence base in responding to these issues. Through an engaging radio programme and media platform called 'Karo Kura', the programmes reached girls, their communities and a wider audience across the country. The programme explored gender norms and specific challenges faced by girls. Based on the 2021 Annual Review, 618 mentors were recruited and had access to training videos and materials via their smartphones and six shows aired with information on pregnancy and contraception.[336] Due to limited access to electricity, solar-powered radios were used by the girls to listen to dramas and talk shows.

Additionally, since its inception, the Girls' Circle Programme has supported approximately 15,000 girls in Sierra Leone. For easy communication, the mentees were given 700 smartphones.[337] The Girls' Circle mentors and mentees have been able to communicate their feedback on the programme and content through the KoBoToolbox smartphone application. Also, through this application, the mentees were able to share stories on the issues of child marriage, FGM and other GBV-related topics. Purposeful continues to use KoBoCollect to gather data and feedback from mentors every week, ensuring that the programme remains girl-led and relevant.[338]

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h   Organization/intervention not interviewed

SUDAN
CASE
STUDY

SUDAN

THE SUDAN OVERVIEW

	Child marriage prevalence[339] (girls married before the age of 18 years, as a proportion of all girls)	34%
	FGM prevalence[340] (proportion of women and girls aged 15–49 years	87%
	Internet users[341] (proportions of the adult male and female populations)	17% of men 11% of women
	Mobile phone ownership[342] (proportions of the adult male and female populations)	75% of men 65% of women
	Level of government support for digital literacy[343] (scale 0–3)[i]	Low: 1

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Since 2019, the Sudan has had a transitional government that has begun to have nationwide effects not only on social and economic dimensions, but also on the issues of child marriage and FGM.[344] Nevertheless, both harmful practices are highly prevalent in the country. According to the most recent data, the total number of girls and women of all ages who were first married before age 18 is 4.7 million, meaning that approximately one in three young women were married before their 18th birthday.[345] The main drivers of the practice in the Sudan range from religious traditions and customs such as the control of a girl's chastity, avoiding the stigma of being unmarried, preserving family honour, to reasons such as poverty or low levels of education.[346,347,348] Girls that live in poor, rural households and whose vulnerability is further exacerbated by low education, are at the highest risk of child marriage.[349] Furthermore, the country lacks any law establishing the minimum age for marriage. According to the 1994 Personal Status Law of Muslims, girls can be granted permission by their guardians to marry if they have reached puberty or from the age of 10 with the permission of a judge.[350]

Government support to curb this practice has been low profile. It was not until late 2020 that the transitional government endorsed a national strategy on child marriage (2020–2030), and the strategy did not receive ministerial support because child marriage was not seen as a fundamental problem in the country.[351]

Regarding FGM, the country has one of the highest rates on the African continent.[352] The practice is widespread and prevalent across wealth quintiles, levels of education and area of residence (i.e., rural and urban), with 87 per cent of girls and women aged 15 to 49 having been subjected to FGM. Most cases (75 per cent) take place before the girl is aged 15 years. In contrast, more than 50 per cent of women and girls believe that the practice should end. The practice is highly medicalized in the Sudan, with more than 75 per cent of cases being conducted by health personnel.[353] As with child marriage, legal action on the matter has been underwhelming, and it was not until 2020 that the transitional government passed a law to criminalize FGM in the country.[354]

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

A GDELT word cloud and figures on reports for child marriage and FGM are not available for the Sudan. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology, there were no results returned for associated reports pertaining to child marriage and/or FGM in the country. Consequently, a country word cloud map representing the most common words portrayed in the reports is also unavailable.

i   See page 16 for an explanation of this government support score

THE TECHNOLOGY ENVIRONMENT IN THE SUDAN

Taking into account that most technological tools and interventions require a robust technology environment, it is crucial to understand the general state of digital and technological development in the country to adequately grasp the scope, reach and potential impact of interventions . In the Sudan, the technology environment is still in the early development stages. Overall, electricity access is low, with 55.4 per cent of the population having access to adequate electricity. This is seen in the urban-to-rural electrification disparities where electricity access is 81.5 per cent and 41.2 per cent, respectively.[355] There is also a low percentage of internet users (16.2 per cent) in the country, measured by the proportion of households that have access to the internet and that have used it in the past 12 months. As a consequence, access to the internet is low for both men and women, although the gender gap still favours men (16.9 per cent) over women (11.0 per cent).[356]

With regard to mobile services, 64 per cent of the population is covered by at least a 3G mobile network and only 35 per cent covered by 4G

technology.[357] Likewise, mobile cellular telephone subscriptions (i.e., subscriptions to a mobile telephone service) are low, with 80 subscriptions per 100 inhabitants, whereas the average for the MENA region is 111.[358] As with internet access, mobile phone ownership is not only low in the country but also presents a considerable gender gap between men (75 per cent) and women (65 per cent).[359] It is also important to note that, according to 2018 data, smartphone penetration in the Sudan is only 19.7 per cent, meaning that most phones used in the country are basic or feature phones that prevent the population from adequately using mobile internet and even downloading the most basic apps from an online app store.[360] Low levels of electricity access, household internet availability, network coverage and mobile phone ownership have affected the national access rates to mobile internet, which currently is 42 mobile broadband subscriptions per 100 inhabitants.[361]

The nascent technological environment of the country is further compounded by a lack of governmental support for digital literacy. As of 2020, the government of the Sudan has not developed a national policy or strategy to create and strengthen digital literacy among its students and/or teachers, either through curriculum reform or capacity-building activities.[362] There is also no publicly available data on the level of individual ICT skills in the country. This result underlines the scant digital learning resources at the disposal of Sudanese schools and students.[363] The country also has yet to develop gender-sensitive strategies to advocate for the differentiated e-inclusion of women in internet access, digital skills and STEM education.[364]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in the Sudan. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)

[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

AHFAD UNIVERSITY ONLINE GBV TRAINING COURSES / 2020 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Ahfad University	Child marriage and FGM	Nationwide	1. Individual-level empowerment 2. Service development and strengthening	● Virtual training	N/A[j]

Ahfad University in the Sudan has adapted GBV emergency training to different states nationwide, with some courses covering the topics of child marriage and reproductive rights. The materials developed for these training courses have been integrated into the university's Master's programme in Humanitarian Assistance and Post Development. The main objective is to disseminate the training module online and the target audience includes the university's 8,000 female students. Furthermore, the training course is also offered to practitioners. Currently the university is developing a platform with information on GBV, mental health support, child marriage and FGM to be accessed by partners in the Sudan.

j   Organization/intervention not interviewed

SALEEMA INITIATIVE / 2008 — ONGOING / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • The Sudanese Government	National Council for Child Welfare (NCCW)	FGM	Nationwide (All 18 the Sudanese States)	1. Individual-level empowerment 2. Family and community engagement	• Radio • TV shows • Mass media	1. M&E instruments (i.e., to assess the impact of the intervention in the target group) 2. Consultations with target group(s)

The Saleema Initiative is an innovative social marketing campaign that focuses on promoting the discontinuation of FGM by changing social norms and attitudes towards the practice. Specifically, the campaign tries to change the way Sudanese families and communities talk and express themselves about FGM by using more positive terminology (Saleema means 'whole, healthy in body and mind, unharmed, intact, pristine, untouched and in God-given condition').[365] The project uses a variety of communications tools such as posters, stickers, children's puzzles, multimedia kits, animated television spots, radio spaces and comic books, among others, that are presented in public gatherings in order to increase social acceptance of uncut girls and change beliefs around remaining uncut in local populations.[366] State-level and per capita exposure to the campaign was found to be associated with the reduction of FGM social norms.

In 2013, Saleema started using social media marketing, commercial marketing and banners to deliver the message and raise awareness regarding FGM and child marriage. Saleema started appearing in old and new media channels such as the radio, TV and social media. With the help of UNICEF, NCCW was able to air a radio drama, containing 50 episodes about Saleema, on Sudanese National Radio and some of the Sudanese states. In 2014, the Saleema website was launched and it is still active. In 2020, the website was a channel that beneficiaries used to file complaints or report FGM and child marriage incidents. Due to its success, in 2018 the African Union decided that it would adopt and replicate this project across the continent.[367]

♀ This intervention integrates an intersectional feminist approach in two ways. First, the role of Sudanese women in organizations and institutions has been prominent in the last 20 years especially in the NCCW. As such, in the NCCW and specifically in Saleema initiative, most facilitators in the community dialogues are women. Moreover, consultations with target groups are carried out as survivors also participate and share their stories with the community.

EFFECTS OF SCHOOL-BASED HEALTH EDUCATION ON ATTITUDES OF FEMALE STUDENTS TOWARDS FEMALE GENITAL MUTILATION IN THE SUDAN / 2019 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
N/A	Authors	FGM	Karary locality, Khartoum state	1. Individual-level empowerment	• Video screenings	N/A[k]

This study focused on providing health education sessions to 154 female second grade students from the Karary locality in Khartoum state in the Sudan. Given that secondary school education is a critical stage in which individuals shape their beliefs and attitudes, the authors sought to assess the impact of school-based health education on FGM knowledge and attitudes of female teenagers. The health sessions consisted of 80-minute sessions that used videos, visuals aids and brainstorming sessions to inform students on FGM definitions, types, causes and adverse effects. The study results showed an increase in FGM knowledge among participants and a decrease in supportive attitudes towards the practice.[368]

k   Organization/intervention not interviewed

CHANGING CULTURAL ATTITUDES TOWARDS FEMALE GENITAL MUTILATION / 2016 – 2016 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• Swiss National Committee for UNICEF • European Research Council	• Authors • Gezira State Government • National Council for Child Welfare • Gezira State Council for Child Welfare	FGM	122 communities in the Sudan	1. Family and community engagement	• Edutainment • Movies	N/A[l]

This intervention carried out by academics from the Sudan and Switzerland used four movies to promote changes in attitudes and cultural beliefs around FGM in the Sudan. The telenovela style movies dramatize the discordant views of a family around FGM and were screened for 122 Sudanese communities. The theory of change behind the project suggests that support for cutting varies within households even before interventions are launched, and as such this household-level heterogeneity in opinions can be leveraged to effect attitudinal change with the use of entertainment tools such as movies. The intervention results showed that these movies significantly improved attitudes towards girls who remain uncut, with especially positive effects for female participants, older participants and participants that have daughters.[369]

l   Organization/intervention not interviewed

UGANDA
CASE
STUDY

UGANDA

UGANDA OVERVIEW

👤	**Child marriage prevalence**[370] (girls married before the age of 18 years, as a proportion of all girls)	34%
🤰	**FGM prevalence**[371] (proportion of women and girls aged 15–49 years	0.3%
💻	**Internet users**[372] (proportions of the adult male and female populations)	46% of men 40% of women
📱	**Mobile phone ownership**[373] (proportions of the adult male and female populations)	84% of men 69% of women
🏛	**Level of government support for digital literacy**[374] (scale 0–3)[m]	High: 3

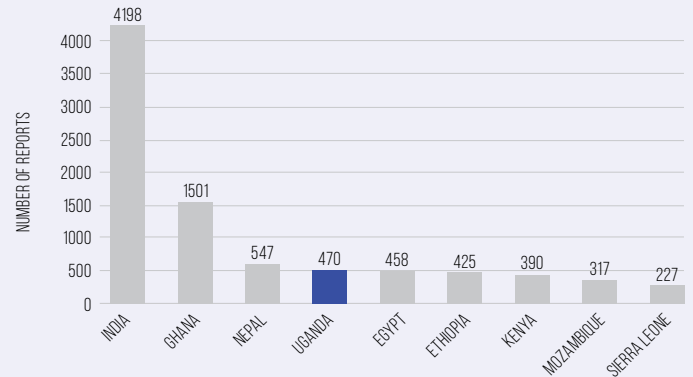m   See page 16 for an explanation of this government support score

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

FIGURE 1. DELT word cloud. Most common words portrayed in the reports of the global media for both FGM and child marriage in Uganda (2014 – 2022)

HONOR KILLING FGM
UNDERAGE MARRIAGE
CHILD BRIDE
CHILD MARRIAGE
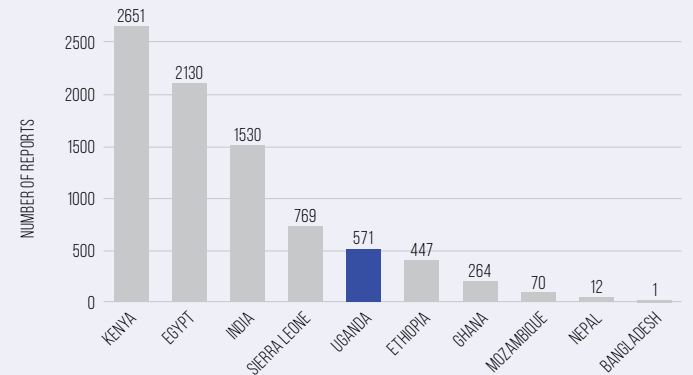EARLY MARRIAGE
GIRLS NOT BRIDES
FORCED MARRIAGE

Note: This word cloud map was produced with data from the Event Database of the GDELT project, which monitors the world's broadcast, print and web news in over 100 languages; identifying the people, locations, institutions, topics, publications, sentiments, numbers, quotations, pictures and occurrences linked to events worldwide. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology in Uganda, the most common words portrayed in the reports related to these issues are mapped in a country word cloud. The bigger the font size, the more frequently the word appears.

FIGURE 2. Number of reports covering the topic of child marriage in Uganda, compared with other countries (2014–2022)

Country	Number of reports
INDIA	4198
GHANA	1501
NEPAL	547
UGANDA	470
EGYPT	458
ETHIOPIA	425
KENYA	390
MOZAMBIQUE	317
SIERRA LEONE	227

FIGURE 3. Number of reports covering the topic of FGM in Uganda, compared with other countries (2014–2022)

Country	Number of reports
KENYA	2651
EGYPT	2130
INDIA	1530
SIERRA LEONE	769
UGANDA	571
ETHIOPIA	447
GHANA	264
MOZAMBIQUE	70
NEPAL	12
BANGLADESH	1

Note: After filtering the GDELT project database for the actors, actions, and associated reports pertaining to FGM and/or child marriage in Uganda, it can be observed that there are a total of 470 reports corresponding to child marriage and 571 reports corresponding to FGM in the country.

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

In 2021, an estimated 46 per cent of the Ugandan population was aged between 0 and 14 years,[375] which makes it one of the youngest countries in the world. Uganda is also home to 5 million child brides (girls and women alive today who were married before age 18), with 34 per cent of women aged 20 to 24 married before age 18. Of these, 1.3 million were married before reaching the age of 15 years.[376] Child marriage has become less prevalent in the last 25 years, with the percentage of women aged 20 to 24 who were married before age 18 dropping from 52 per cent in 1991 to 34 per cent in 2016.[377] However, the speed at which child marriage is falling will not be sufficient to reach the 14 per cent prevalence target set in Uganda's third National Development Plan by 2025. The midterm evaluation carried out in 2020 of Uganda's National Strategy to End Child Marriage and Teen Pregnancy highlighted the role of peer pressure and poor parenting as a risk factor in this phenomenon, and recommended greater focus and investment in programmes aimed at empowering adolescents and parents.[378]

FGM, on the other hand, is a much less prevalent issue in Uganda, with one of the lowest rates in Africa. According to Demographic and Health Survey data from 2016, only 0.3 per cent of girls aged 15 to 29 years have undergone FGM. This figure changes to 0.4 per cent and 0.2 per cent for young women in rural and urban areas, respectively.[379] Variances are more visible when looking at specific communities; for instance, about 95 per cent of girls and women in the Pokot community in the Amudat district[380] and 52 per cent of Tepeth girls in the Moroto district[381] have undergone FGM. Other communities practising FGM include the Sabiny in Kapchorwa, Kween and Bukwo districts, and the Kadama in Nakapiripirit. Despite the practice being officially banned in 2010, girls sometimes continue to see this practice as a 'rite of passage', leading to it continuing by going underground. In addition, some of these Ugandan girls are crossing the border into Kenya to undergo FGM, and did so even during the height of the COVID-19 pandemic.[382] On the positive side, in 2011, 82 per cent of girls and women at the national level, and up to 95 per cent of those in eastern Uganda,[383] stated that this practice should no longer exist in their country.

THE TECHNOLOGY ENVIRONMENT IN UGANDA

Young people are accessing information through digital technologies like never before, which opens opportunities for greater civic participation, increased knowledge and empowerment. However, every country offers a different technological landscape to its youth. In recent years, Uganda has made important strides in that regard. For starters, whereas 15.1 per cent of the total population had access to electricity in 2000, the number reached 71.4 per cent by 2020.[384] Internet access has also improved significantly, moving up from 4 per cent of the total population (measured by the proportion of individuals that have used the internet from any location in the last three months) in 2010 to 20 per cent in 2020.[385] This figure, however, still reflects a very low level of internet penetration in the country. Furthermore, the gender gap for this indicator stood at 23.5 per cent in 2020, which means that men (68 per cent) have more access to the internet than women (52 per cent).[386]

Mobile technology has had a higher level of adoption in the country. According to ITU, 60.5 out of every 100 inhabitants had a subscription to a post-paid or prepaid mobile cellular telephone service in 2020.[387] In the same year, 85 per cent of the population had access to 3G network coverage and 31 per cent to 4G coverage,[388] and 43.9 per cent were active mobile broadband subscribers.[389] Data from After Access shows that 49 per cent of

Ugandans own a mobile phone; however, the large majority (71 per cent) use a basic phone and only 16 per cent own a smartphone.[390] Yet, it should be noted that smartphone connections quadrupled over the four years previous to 2018.[391] The mobile ownership gender gap favours the men again, with 58 per cent of male versus 40 per cent of female owners in the country.[392]

Digital literacy plays a key role in enabling individuals to take advantage of different technologies available to them. In Uganda, government support for digital literacy, measured in terms of number and quality of strategies aimed at enhancing this indicator, got a score of 3 in a scale of 0 to 3 based on research by the Economist Impact. Uganda's government has not only implemented a digital literacy plan for students and teachers, but the Uganda Communications Commission also supports school technology infrastructure in hopes of helping to bridge the digital divide. Furthermore, in 2015 an investment plan on the ICT sector was announced to increase access to these technologies for the entire population.[393] National female e-inclusion policies, however, were only rated with 1 in a scale from 0 to 4, which suggests a low level of inclusivity in the country's legal framework for digital policies with a gender perspective. Digital skills are another area of improvement, as a self-assessment survey conducted by the World Economic Forum in 2019 resulted in a national score of 3.42 (below the global median of 4.2) out of 7 points in 2019 for Ugandan citizens.[394] Overall, and given the 23.4 per cent score obtained in the Gender Digital Divide Index (which only includes 10 countries), the country still has a long way to go to solidify the strength of its technological environment.

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage and/or FGM in Uganda. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)
[◐] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

SAUTI HELPLINE / 2014 — ONGOING / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• UNICEF • Plan International • Save the Children Uganda • World Vision Uganda • Uganda Child Rights NGO Network	• Ministry of Gender Labour and Social Development • Referral services	Child marriage & FGM	Nationwide	1. Service development and strengthening 2. Individual level empowerment 3. Legal and policy systems intervention 4. Family and community engagement	• Free telephone service • Social media • Traditional media (TV, radio)	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

The Uganda Child Rights NGO Network began the first toll-free Child Helpline service in 2005 in Uganda. In 2014, the Ministry of Gender, Labour and Social Development took over management of the 116 number as the Uganda Child Helpline, otherwise known as the Sauti[n] Helpline, to amplify the voices of children and encourage them (and adults) to report child rights violations, including child marriage and FGM. This telephone-based service operates 24/7, linking children at risk or in need of care and protection with resources and services through a case management process. Its staff work collaboratively with law enforcement agents, community development officers, probation and social welfare officers and other CSOs. Reports can be made via phone and through U-Report and SafePal (see more on these interventions below), social media, e-mail and walk-in centres. The Sauti helpline also conducts community sensitization campaigns in schools and communities, and on television and radio.[395] During the first half of 2022, over 6,200 cases of abuse were reported to the helpline, of which 1,145 included survivors between ages 14 and 17, and 57 per cent pertained to girls or women.[396] During the COVID-19 pandemic in 2020, 45 per cent more children used this service to seek help related to teenage-pregnancy.[397]

⚥ This intervention integrates an intersectional feminist approach by serving girls and women from all ages and across all country locations. Users can also request a counsellor that speaks in the local language of their choice. Monitoring and evaluation activities are conducted throughout the case management process and case updates, with outcomes being reflected in the annual reports.

SAUTIPLUS / 2019 — ONGOING / ◎

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
Rutgers Uganda	Reach a Hand Uganda	Child marriage & FGM	Nationwide	1. Individual level empowerment 2. Family and community engagement 3. Service development and strengthening	• Digital platform • Mobile phone application • Social media • Traditional media (TV and radio) • Print media	N/A[o]

The Sauti Plus campaign is a digital platform designed by the non-profit organization Reach A Hand Uganda with support from Rutgers Uganda. From its beginning, this initiative sough to embrace the growing and innovative technologies in social media, radio and TV, mobile phones, print and digital media to address a myriad of issues around SRHR that currently affect the youth in Uganda.[398] Some of these issues include child marriage, FGM, HIV/AIDS, menstruation, teenage pregnancy and gender-based violence. While the main goal is to educate through entertainment by offering visually engaging content on SRHR targeting young people, the SautiPlus platform also contains a list of referral centres to which their audience can turn when seeking specialized support. The radio show and SautiTVplus, along with other interactive resources, are available directly on their website or on the mobile app.

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n   "Sauti" means "voice" in Kiswahili

o   Organization/intervention not interviewed

U-REPORT UGANDA / 2011 – ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • Sauti Helpline • Ministry of Gender Labour and Social Development	UNICEF	Child marriage & FGM	Nationwide	1. Service development and strengthening 2. Individual level empowerment 3. Legal and policy systems intervention 4. Family and community engagement	• Digital platform • SMS messaging • Chatbots • Live chats • Social media	1. Consultations with target group(s) 2. M&E instruments

U-Report is a free SMS messaging tool for community participation with presence in 95 countries, which was originally developed in Uganda.[399] This initiative aims to empower individuals from any district in the country to voice their views on critical issues, access life-saving information and report issues in their communities, including VAC, and thus child marriage and FGM.[400] The national Sauti Helpline and UNICEF set up a U-Report dashboard in 2011 to receive and manage cases, which on one hand enables this and other key stakeholders from government and civil society to access reports and other information in real time. On the other hand, U-Report maintains engagement with parents and youth in Uganda, which was particularly crucial during the COVID-19 lockdowns. In fact, more than 46,000 received information about child marriage alternatives via SMS messages during this period.[401] According to a representative from UNICEF in Uganda, the messages are developed based on information collected through weekly polls and live chats. Currently, there are over 550,000 U-Reporters in Uganda. Starting in 2021, the platform incorporated chatbots that provide automated responses and referrals for users seeking GBV/VAC-related help, which also reduces waiting time, and 18,000 people have received key information through this tool.[402] Feedback received through U-Report has also been utilized to influence policymaking in Uganda, including during the drafting stage of the Third Peace Recovery and Development Programme.[403]

♀ This intervention integrates an intersectional feminist approach by targeting messages that are context specific according to topics of interest, area of residence by district, gender and/or age groups, but also by leveraging feedback from users (i.e., youth) collected via SMS polls and live chats. In addition, M&E insights are gained through constant review of the data created through platform use, reflected in reports, and used to adopt better practices for reach and engagement.

SAFEBODA / 2020 – 2020 / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	SafeBoda	Child marriage	Urban areas of the country, mainly Kampala	1. Individual level empowerment 2. Economic empowerment	• Mobile phone application • Delivery transportation service	N/A[p]

Through the Global Programme, UNICEF and UNFPA decided to partner with SafeBoda (a private transport and delivery motorcycle company in Uganda) to distribute over 1 million condoms to young people living in urban settings during the COVID-19 lockdown, and to set up an e-personal health shop within the SafeBoda App.[404] The latter not only enabled girls and boys to request sexual and reproductive health services online, which provided privacy and safety for users, but also to access to SRHR-related information directly on their mobile phones covering issues such as child marriage and teenage pregnancy.[405] According to data pulled from the app, 40 per cent of users were girls aged between 13 and 19 years in need of emergency contraception.[406]

p   Organization/intervention not interviewed

SAFEPAL / 2015 – ONGOING / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
UNFPA	Ministry of Gender Labour and Social Development	Child marriage & FGM	Nationwide	1. Service development and strengthening 2. Individual level empowerment 3. Legal and policy systems intervention 4. Family and community engagement	• Mobile phone application	1. Consultations with target group(s) 2. M&E instruments

SafePal was created in 2015 by a group of young innovators with support from UNFPA in an effort to improve response to high under-reporting levels of sexual violence in Uganda. In 2020, looking to bridge a gap and reach the Ugandan youth during the COVID-19 pandemic, this mobile application was adopted and re-launched by the government, following an upgrading process. The new SafePal aims to promote information exchange on GBV, SRH, HIV and malaria among young people.[407] This digital platform is also a reporting tool for cases of sexual and gender-based violence, including against children and young people. Reporting and referral to corresponding support services is made possible through the link between SafePal and the national Sauti Child Helpline.[408] When a case is submitted through a shared dashboard, service providers can review cases and contact the survivors.[409]

⚢ This intervention integrated an intersectional feminist approach in that UNFPA supported and ended up adopting a project that was originally created by young women and men in Uganda, who understood the issues at hand and had an innovative approach to address it. M&E activities are also part of this initiative, which conducts collects sex disaggregated data from users to implement needed changes.

MEDIA CAMPAIGNS AGAINST FGM / 2019 – ONGOING / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECHNOLOGIES USED	FEMINIST LENSES
• European Council • UNICEF • UNFPA • UN Women • UNDP • UNHCR • Ministry of Gender Labour and Social Development • Government of Sweden	• Uganda Law Society • Communication for Development Foundation Uganda (CDFU)	FGM	Seven districts of Kampala, Kamuli, Kitgum, Kaboong, Gulu, Padel and Moroto.	1. Family and community engagement 2. Individual level empowerment 3. Legal and policy systems intervention	• Traditional media (TV, radio) • Mobile legal aid clinics	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

The Spotlight Initiative, currently working in 26 countries, is a joint initiative between the European Council, United Nations agencies and the Government of Uganda to eliminate FGM in the country.[410] Although the programme encompasses different strategies to reach its goal, the inclusion of technological components via media campaigns has been made possible through collaboration with CSOs, amongst which are the Uganda Law Society and CDFU. The former has run outreach, media campaigns and mobile legal aid clinics in communities, specifically targeting women and girls experiencing violence, including those at risk of FGM. Its work has led to increased knowledge about the legal framework surrounding this practice, as well as to higher reporting rates. Furthermore, the work conducted by CDFU involves the implementation of the 'Make Happiness Not Violence' campaign, which has the primary objective to end all forms of violence against women and girls. Specifically, the campaign focuses on empowering local members to become activists against FGM, while also leveraging education through entertainment by designing radio messages aimed at creating greater awareness about the negative consequences of cutting.[411] The November 2021 media monitoring report for the Spotlight Initiative in Uganda showed that over 3.9 million out of 18.4 million radio listeners in the country were reached, with the majority (3.1 million) living in rural areas.[412]

♀ The intervention integrates an intersectional feminist approach by using alternative media to reach different population groups including children and youth, and different locations, both rural and urban. The process to craft each message tends to be quite complex, testing prior to launch among target groups to ensure that the campaigns are engaging for those that must be reached. Monitoring is then carried out to measure the campaign's reach.

WHATSAPP GROUP KENYA UGANDA ANTI-FGM FORUM / 2020 − ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNICEF • UNFPA	• Ministries of gender in both countries • Local authorities in border region (e.g., police, councils) • Referral services • Community leaders	FGM	Border communities in the border region between Uganda and Kenya	1. Legal and policy systems intervention 2. Service development and strengthening 3. Family and community engagement	• Mobile phone application • Virtual calls (Zoom) • Television broadcasting • Social media	1. Consultation with experts and/or community leaders

Ugandan girls living in communities along the border sometimes cross into Kenya to undergo FGM and avoid prosecution. As COVID-19 hit in 2020, and border control weakened, more girls were reportedly undertaking the trip into the neighbouring country.[413] Community leaders on both sides coordinated efforts to prevent the situation from escalating, leading them to create a WhatsApp group called the 'Kenya Uganda anti-FGM Forum' to report and respond to FGM cases in real time. Surveillance groups would inform local authorities of girls they suspected were trying to undergo FGM, and they were repatriated to Uganda when that was the case. After returning, girls were placed in temporary rescue centres, and offered the chance to attend nearby primary schools, receive psychosocial counselling, and access vocational and livelihood opportunities. As the group evolved, the use of the app continued to facilitate communication among stakeholders, and local border authorities in both countries became highly involved in the initiative. Between April and October 2020, 37 girls were intercepted in Kenya and returned, uncut, by the Kenyan authorities to Uganda. According to a representative from UNICEF in Uganda, this initiative contributed to enhancing accountability from government stakeholders, who were prompted to enact actions or become exposed for doing the opposite. To complement this work, UNICEF and UNFPA also utilized virtual meetings, video conferencing, face-to-face interactions, television broadcasting and social media channels to advocate against cross-border FGM in Uganda.[414]

♀ The intervention integrated an intersectional feminist approach by prioritizing the voices of community leaders in such a way that the local authorities ended up adopting and relying on this reporting mechanism to respond to FGM in the border region during the pandemic.

ZAMBIA
CASE
STUDY

ZAMBIA

ZAMBIA OVERVIEW

👪	**Child marriage prevalence**[415] (girls married before the age of 18 years, as a proportion of all girls)	29%
🤰	**FGM prevalence**[416]	–
💻	**Internet users**[417] (proportions of the adult male and female populations)	36% of men 36% of women
📱	**Mobile phone ownership**[418] (proportions of the adult male and female populations)	87% of men 81% of women
🏛	**Level of government support for digital literacy**[419] (scale 0–3)q	High: 3

THE CONTEXT OF CHILD MARRIAGE AND FGM IN THE COUNTRY

Zambia has one of the highest rates of child marriage in sub-Saharan Africa, with 1.7 million child brides living in the country (girls and women alive today who were married before age 18), of which 400,000 were married by age 15. Nevertheless, the national prevalence has decreased over the last three decades as, in 2018, 29 per cent of young women aged 20 to 24 years were married by 18 years old, and 5 per cent before turning 15, whereas the figures were 46 per cent and 10 per cent, respectively, in 1993.[420] One of the contributing drivers is that although the legal minimum age is set at 21 years in the Marriage Act, a person can marry at the age of 16 with consent from his or her legal guardian. The National Strategy on Ending Child Marriage in Zambia 2016–2021 highlights an accentuated prevalence of intergenerational marriage between men and young women, but notes that children also marry each other driven by customary practices.[421]

Unlike child marriage, the prevalence of FGM in Zambia is relatively low, and hence there is no national data on FGM prevalence. Although the practice is not common, the 2011 Anti-Gender Based Violence Act considers it a form of gender-based violence.[422] It is important to highlight that labia minora elongation, which consists of modifying the labia with oils, herbs and cream to enlarge it, is practised among young women in Zambia. The World Health Organization (WHO) has stated that this practice should be considered a form of FGM because it is a social convention and hence there is the social pressure for young girls to modify their genitalia. However, some scholars argue that the lack of long-term harm and the focus on eroticism do not classify it as a form of FGM.[423]

NEWS ABOUT HARMFUL PRACTICES: WORD CLOUD MAPS AND NUMBERS OF REPORTS

A GDELT word cloud and figures on reports for child marriage and FGM are not available for Zambia. After filtering the database for a comprehensive pool of keywords related to FGM and child marriage and technology, there were no results

returned for associated reports pertaining to child marriage and/or FGM in the country. Consequently, a country word cloud map representing the most common words portrayed in the reports is also unavailable.

THE TECHNOLOGY ENVIRONMENT IN ZAMBIA

The National Strategy on Ending Child Marriage in Zambia 2016–2021 acknowledges the need to optimize technological advancements and innovations in child marriage mitigation

interventions.[424] Generally, the country is characterized by its limited access to information, notwithstanding the adoption of relatively common technologies such as radio or television.[425]

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q   See <u>page 16</u> for an explanation of this government support score

In 2020, 44.5 per cent of the Zambian population had access to electricity which, despite the low figure, represents a 20.5 per cent increase from 2010.[426] In regard to access to the internet, Zambia was one of the first countries to receive internet connectivity in sub-Saharan Africa in 1994.[427] However, the growth has been slow, with only 20 per cent of internet penetration (measured as individuals who have used the internet from any location in the last three months) reached by 2020.[428] As noted by the Paradigm Initiative LONDA Zambia Digital Rights and Inclusion 2021 Report, the majority of the population access the internet through mobile broadband (56 per cent) as opposed to fixed line subscriptions (0.5 per cent).[429] Additionally, there were 96.4 mobile subscriptions per 100 inhabitants in 2019.[430]

Currently, the key actors in the technological landscape in Zambia include the Ministry of Technology and Science, which governs ICTs, and the Zambia Information Communications Technology Authority, which is responsible for regulating ICTs.[431] As noted by the United Nations Conference on Trade and Development (UNCTAD), the country has made significant progress in its digital infrastructure.[432] According to ITU, in 2019, 71.8 per cent of the population had access to 3G network coverage, and 49.1 per cent to 4G coverage.[433] This has contributed to the high number of mobile cellular subscriptions (i.e., subscriptions to a mobile pre- or post-paid

telephone service) in the country, which in 2020 reached 104 per 100 inhabitants.[434]

Access to technologies, however, is insufficient without digital literacy, which encompasses the necessary skills to find and use information through the use of technologies. The World Economic Forum Global Competitiveness Index 2019 ranked Zambia at 3.5 on a scale of 7 in terms of digital skills among the population. This suggests there is still a long way to go, especially as between 2017 and 2019 there was a negative growth rate in digital skills of –1.62 per cent.[435] In Zambia, government support for digital literacy is rated by the Economist Impact at 3 in a scale of 0 to 3. The score indicates that the government has put plans and strategies in place to address digital literacy among students and teachers. Despite these efforts, the national female e-inclusion policies of the country only obtained a score of 2 on a scale from 0 to 4.[436] According to the Economist Impact's criteria, the current plans to promote internet access and e-inclusion do not appropriately consider women or adopt a gender perspective.

Data from the internet Inclusive Index 2022 show that the gender gap in mobile phone access stood at 13.9 per cent in 2019, and at 27.8 per cent for internet access in the same year.[437] In 2021, 51 per cent of women and 57 per cent of men were active mobile phone users; while 87 per cent of men versus 81 per cent of women owned mobile phones.[438]

MAPPING OF TECH INTERVENTIONS

The interventions mapped in this section stem from an initial landscape exercise conducted jointly by UNFPA and UNICEF, followed by a systematic review of publicly available data and information on technology-driven and technology-enabled interventions addressing child marriage in Zambia. The compiled information was curated and complemented with insights emerging from key informant interviews conducted with local stakeholders.

CODING TYPE OF INTERVENTION

[◉] Technology-driven intervention/solution (tech is a core element)
[◑] Technology-enabled intervention/solution (tech is secondary to the intervention, there are other non-tech components)

♀ FEMINIST LENSES

The seventh column of the interventions table below identifies how organizations have included feminist lenses into the design and implementation of the interventions by highlighting four key aspects:

1	Consultation with experts and/or community leaders	Consultations with gender or thematic experts and/or local leaders were conducted during the development, implementation, and/or monitoring and evaluation of the interventions.
2	Consultations with target group(s)	The interventions incorporated, at any stage, consultations with the populations targeted, especially girls and women of different ethnicities, ages, sexual orientations, classes, and other social markers.
3	Monitoring and evaluation (M&E) instruments	Monitoring and evaluation activities were carried out to measure the intervention's progress and sustainability, and/or to generate disaggregated information, gender-sensitive/responsive indicators, and/or gender analysis frameworks.
4	Women- and/or girl-led organization(s)	The intervention was designed and/or implemented, partly or completely, by a women- and/or girl-led organization(s).

Additional descriptive information about the feminist lenses and potential intersectional approach (i.e., addressing ethnicity, language, class or other aspects of the target group's identity) is provided within the table, following the general description of each intervention, which can be identified by the use of this symbol [♀]. This analysis is based on information collected during semi-structured interviews with local stakeholders and/or publicly available information.

DIGITAL TECHNOLOGIES AND MASS MEDIA CAMPAIGNS DURING COVID-19 / 2020 − 2021 / ◐

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• UNFPA • UNICEF	• Ministry of Education • Ministry of Community Development and Social Services	Child marriage	Nationwide	1. Individual level empowerment 2. Family and community engagement	• Mass media (including TV and radio) • Online polls • Phone calls • Tablets • Virtual meetings	1. Consultations with experts and/or community leaders 2. Consultations with target group(s) 3. M&E instruments

Implemented in various countries, including Zambia, the Global Programme was designed as a 15-year programme (2016–2030) to contribute to achieving SDG 5.3 which aims to eliminate all harmful practices, including child, early and forced marriage, and FGM. Diverse interventions have been put in place through the Global Programme, for example, the U-Report (a SMS-based digital platform available in 95 countries) was used in Zambia to collect data related to sexual and reproductive health, education, and use of health digital services during the COVID-19 pandemic. The resulting data can be utilized as input for programmes combating child marriage. During this period, public service announcements on social issues, including child marriage, were broadcast through television and child journalism platforms. In addition, communities were reached through radio programmes to disseminate messages on child or adolescent well-being.[439] UNFPA and UNICEF country offices also organized individual follow-ups via phone calls with safe space mentors that were experiencing exacerbated vulnerability during this period, thus providing girls and boys with tablets to discuss sensitive topics around sexual and reproductive health, as well as themes impacting their lives, such as child marriage.[440] In terms of the impact, in 2020, 5,923 adolescent girls (aged 10–19) actively participated in life skills or comprehensive sexuality education interventions.[441]

♀ This intervention integrated an intersectional feminist approach by conducting consultations with young people from different parts of the country, particularly during the crafting of messages for media outlets, but also in leveraging the feedback from U-Report users fore decision-making and platform improvements. In addition, girls with disabilities were able to participate in safe space discussions by providing access to sign language packages for mentors. M&E activities were also adopted, which considered application across age groups, disabilities and other population characteristics.

NATWAMPANE, PREVENT! SEXUAL AND GENDER-BASED VIOLENCE (SGBV) PROJECT / 2019 — ONGOING / ◉

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
European Development Fund	• BBC Media Action • Lifeline/Childline Zambia • Norwegian Church Aid • World Vision Zambia • Other CSOs, including: Women for Change, LustChambers, Zambia Episcopal Conference (ZEC), Catholic Medical Mission Board, and others.	Child marriage	23 districts of the Luapula and Northern Provinces	1. Service development and strengthening 2. Individual level empowerment 3. Family and community engagement	• Radio • Helpline	1. Consultations with experts and/or community leaders 2. Consultations with target group(s)

One of the largest and most encompassing technology-based interventions in the country is the Natwampane, Prevent! Sexual and Gender-Based Violence (SGBV) project, launched in 2019. Funded through the European Development Fund, this initiative is led by four implementing organizations: BBC Media Action, Lifelife/Childline Zambia, Norwegian Church Aid and World Vision Zambia, who collaborate with other CSOs in bringing together all relevant stakeholders (from religious leaders to government and young people) to end SGBV, including child marriage, in Zambia.[442] The main goal was to challenge traditional beliefs and foster social norms and behavioural change.[443] At its onset, the programme sought to accomplish the following specific objectives: provide comprehensive sexuality education for 235,000 children; involve 335,000 children through clubs; engage faith leaders, traditional and civic leaders, traditional and marriage counsellors; and reach 200,000 young people through 392 radio programmes. The initiative supported the construction of One-Stop Centers with trained staff to inform and support survivors, and introduced a toll-free counselling helpline for children (Lifeline/Childline Zambia). Two key telephone lines were used on this project, 116 for children and 933 for adults. Through these services, SGBV survivors have been able to receive medical care, police support, legal aid and psychosocial assistance. BBC Media Action introduced another technological component to the project by working with 13 radio stations in the two provinces to engage young people to share, understand and discuss SGBV and the issues surrounding it, such as gender equality and SRHR.[444] From 2020 to 2021, 9,981 cases of SGBV, including child marriages of children aged 13 to 17 years, were supported through the Natwampane project.[445]

♀ This intervention integrates an intersectional feminist approach by promoting the active collaboration of different stakeholders in society, from government to religious and community leaders and target groups (i.e., young people), as well as by considering the context specific characteristics of the two provinces in which the project was implemented throughout the design and implementation.

STOP GENDER-BASED VIOLENCE / 2018 − 2023 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• USAID (funding partner) • Lifeline/ ChildLine Zambia • Women in Law and Development in Africa (WiLDAf) • Ministry of Health	Zambia Centre for Communication Programmes	Child marriage	Eastern, Lusaka, Central, Copperbelt, Southern, Western, and North-Western Provinces	1. Individual level empowerment 2. Family and community engagement	• Mobile videos • Traditional media (radio) • Database • Helpline	1. Consultations with target group(s) 2. M&E instruments

The main goal of this project is to strengthen the environment for the target populations (girls, women, boys and men, including people with disabilities) to live lives free of GBV and enjoy healthy-supportive, gender-equitable relationships.[446] The project commenced in 2018 in 16 districts of Zambia and is expected to end in 2023.[447] A multisectoral approach is used to prevent and respond to GBV, specifically by promoting gender norms change, strengthening the capacity of local systems to respond to GBV, and supporting one-stop GBV response care.[448] The 11 One-Stop Centres established under the prior project aim to standardize the quality of care and support provided to GBV survivors. One of the implementing sub-partners, WiLDAf, is leading advocacy interventions to enhance access to justice for survivors. Meanwhile, another sub-partner, Lifeline/Childline Zambia, is providing tele-counselling and referrals for GBV survivors while also ensuring anonymity.[449] The Zambia Centre for Communication Programmes, as the main implementing partner, is responsible for carrying out capacity-building activities. It is noteworthy that this project has a District Health Information Management System that is used as a reporting platform for the United States Agency for International Development (USAID).[450] The database has unique identifiers that help collect data and prevent duplication of reported cases, while also allowing capture of data on key performance indicators. In terms of impact, according to the USAID Stop Gender-Based Violence Project-Quarter 3, 2019 Report, approximately 5,701 people were engaged through mobile video shows followed by community dialogues.[451] Furthermore, almost 80 per cent of the beneficiaries are women and girls.[452]

♀ This intervention integrates an intersectional feminist approach by talking directly with the target audience, including young people, in all the communities where they work specifically seeking to understand how the project can be improved. The feedback is directed to each of the service providers, such as the Childline and the Ministry of Health. M&E activities are also incorporated into this initiative.

YES I DO ALLIANCE / 2016 — 2020 / ◑

SUPPORTING ORGANIZATION(S)	IMPLEMENTING ORGANIZATION(S)	HARMFUL PRACTICE(S)	LOCATION(S)	IMPACT AREA	TYPE OF TECH-NOLOGIES USED	FEMINIST LENSES
• Plan International the Netherlands • Rutgers • Amref • CHOICE for Youth and Sexuality • Royal Tropical Institute • Dutch Ministry of Foreign Affairs • Ministry of Education	• Plan International Zambia • Generation Alive • Afya Mzuri • Other CSOs	Child marriage	Chadiza and Petauke districts	1. Family and community engagement 2. Individual level empowerment 3. Legal and policy systems intervention 4. Economic empowerment	• Radio • Social media	1. Consultations with experts and/or community leaders 2. M&E instruments

This programme aimed to reduce child marriage, teenage pregnancies and FGM, and was implemented in seven countries including Zambia.[453] Some of the strategic goals included young women and men taking informed action on their sexual health and young women having alternatives beyond child marriage and teenage pregnancy through education and economic empowerment. Radios, loudspeakers and social media were some of the primary channels used to spread information about SRHR, especially during the COVID-19 lockdown. An assessment found that radio remains very popular and contributed to reach groups in otherwise difficult to reach areas.[454] The End Project report noted a "small but significant" decrease in the prevalence of child marriage among young women in the Petauke district over the programme's life span.[455] However, no change was recorded in Chadiza district. In addition, the programme was successful in establishing more awareness about gender equality and SRHR information and SRH services. It was noted that 23,775 adolescent boys and girls between 15 and 24 years have utilized SRHR services between 2016 and 2020.[456]

♀ This intervention integrated an intersectional feminist approach by using mixed methods to support with M&E activities, and to develop base, mid and end-line reports throughout the five years of the programme's implementation. In addition, consultations with evaluation and gender experts were carried out at different stages.

REFERENCES

After Access. (2018). *The Inside Internet Story of Africa, Asia and Latin America.* Retrieved from: https://atmosphere.co.za/after-access-infographic-the-inside-internet-story-of-africa-asia-and-latin-america/

Alhassan, A. R., and Anyinzaam-Adolipore, J. N. (2021). Female Genital Mutilation in Ghana: Prevalence and Socioeconomic Predictors. *BioMed research international.* https://doi.org/10.1155/2021/6675579

Amnesty International. (2012). *Accessing Justice Programme Sierra Leone: Impact Assessment Report Special Programme on Africa.* Retrieved from: www.amnesty.nl/content/uploads/2017/01/impact_assessment_report_sierra_leone_programme_2011-_25-20-2012.pdf?x32645

Asia Network to End FGM/C. (n.d.). *Bangladesh*. Retrieved from: https://endfgmcasia.org/fgm-c-in-asia/bangladesh.html

BBC Media Action. (2016). *Communication in Sierra Leone: An Analysis of Media and Mobile Audiences*. Retrieved from: https://assets.publishing.service.gov.uk/media/57a0896040f0b6497400004a/mobile-media-landscape-sierra-leone-report.pdf

Bhalla, N. (2019). Kenya pledges to end FGM by 2022 – ahead of global target. *Reuters*. Retrieved from: www.reuters.com/article/us-kenya-women-fgm-trfn-idUSKBN1XM2GN

Bhandari, M. (2011). Using technology to close the gender gap in Sierra Leone. *The Guardian*. Retrieved from: www.theguardian.com/global-development/poverty-matters/2011/aug/29/closing-gender-technology-gap-sierra-leone

Billow, Z., and Chang, B. (2017). *Empowering Girls Through SMS. "BIZ" girls of Mozambique are literally taking information into their own hands.* Retrieved from: www.unicef.org/innovation/U-Report/SMS-Biz-Girls-Mozambique

Bjälkander, O., Grant, D. S., Berggren, V., Bathija, H., and Almroth, L. (2013). Female Genital Mutilation in Sierra Leone: Forms, Reliability of Reported Status, and Accuracy of Related Demographic and Health Survey Questions. *Obstetrics and Gynecology International,* Special Issue: Female Genital Mutilation, Cutting, or Circumcision. Vol. 2013. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3800578/

Boju Bajai. (2022). *Boju Bajai: About Us*. Retrieved from: https://bojubajai.org/about/

BRAC. (n.d.). *Social Empowerment and Legal Protection.* Retrieved from: www.brac.net/program/social-empowerment-and-legal-protection/

BRAC. (2020). *Annual Report 2020.* Retrieved from: www.brac.net/downloads/BRAC-Annual-Report-2020e.pdf

Cappa, C., Baelen L.V., and Leye E. (2019). The practice of female genital mutilation across the world: Data availability and approaches to measurement. *Global Public Health*. doi: 10.1080/17441692.2019.1571091

Cappa, C., Thomson, C., and Murray, C. (2020). Understanding the association between parental attitudes and the practice of female genital mutilation among daughters. *PLoS ONE* 15(5) https://doi.org/10.1371/journal.pone.0233344

Child Helpline International. (n.d.). *Mozambique: Linha Fala Crianca – Child Helpline Mozambique*. Retrieved from: https://childhelplineinternational.org/mozambique-linha-fala-crianca-child-helpline-mozambique/

Childline Kenya. (n.d.). *Our Story*. Retrieved from: https://childlinekenya.co.ke/#story

Chikhungu, L. C. and Madise, N. J. (2015). Trends and protective factors of female genital mutilation in Burkina Faso: 1999 to 2010. *International Journal for Equity in Health*, 14(1), 42. https://doi.org/10.1186/s12939-015-0171-1

CMI. (2022). *ARUS research contributes to end child marriage in Sudan*. Retrieved from: www.cmi.no/news/2977-arus-research-contributes-to-end-child-marriage-in-sudan

Collaboration on International ICT Policy for East and Southern Africa (CIPESA). (2017). *Gender Digital Divide Persists in Africa*. Retrieved from: https://cipesa.org/2017/03/gender-digital-divide-persists-in-africa/

Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). (2014). *Joint general recommendation/general comment No. 31 of the Committee on the Elimination of Discrimination against Women and No. 18 of the Committee on the Rights of the Child on harmful practices*. Retrieved from: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CEDAW%2FC%2FGC%2F31%2F-CRC%2FC%2FGC%2F18&Lang=en

Dawson, A., Rashid, A., Shuib, R., Wickramage, K., Budiharsana, M., Hidayana, I. M., and Marranci, G. (2020). Addressing female genital mutilation in the Asia Pacific: the neglected sustainable development target. *Australian and New Zealand Journal of Public Health,* 44(1), 8–10. https://doi.org/10.1111/1753-6405.12956

Dawwie. (n.d.). *About Dawwie*. Retrieved from: www.dawwie.net/en/about-dawwie

Diop, N., Congo, Z., Ouedraogo, A., Sawadogo, A., Saloucou, L., and Tamini, I. (2006). *Analyse de l'evolution de la pratique de l'excision au Burkina Faso: L'environment institutionel, politique et programmatique de la lutte contre la pratique de l'excision.* Retrieved from: https://doi.org/10.31899/rh2.1097

Donthu, N., Kumar, S. & Mukherjee, D., Pandey, N. and Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*. Elsevier, 133(C), 285-296. https://doi.org/10.1016/j.jbusres.2021.04.070

Economist Impact. (2022). *The Inclusive Internet Index*. [Dataset]. Retrieved from: https://impact.economist.com/projects/inclusive-internet-index/

Equipop and RAES. (2017). *C'est La Vie Labs* Project Report. Retrieved from: https://equipop.org/wp-content/uploads/2018/11/Annual-Report-2017.pdf

Erulkar, A. (2022). Changes in the prevalence of child marriage in Ethiopia, 2005–2016. *Reproductive Health*, 19(S1), 195. https://doi.org/10.1186/s12978-021-01234-4

Erulkar, A., Medhin, G., Weissman, E., Kabore, G., and Ouedraogo, J. (2020). Designing and evaluating scalable child marriage prevention programs in Burkina Faso and Tanzania: A quasi-experiment and costing study. *Global Health: Science and Practice*, 8(1), 68–81. https://doi.org/10.9745/GHSP-D-19-00132

Esho, T., Matanda, D.J., Abuya, T., Abebe, S., Hailu, Y., Camara, K., Mouhammed, B., Kapsandui, T., Kamanzi, L., Wabwire, A., Kagurusu, P., Nankanja, M., Gitimu, A. Kawai, D., Kogada, J., Ondigo, M., and Osur, J. (2022). The perceived effects of COVID-19 pandemic on female genital mutilation/cutting and child or forced marriages in Kenya, Uganda, Ethiopia and Senegal. *BMC Public Health,* 26(601), https://doi.org/10.1186/s12889-022-13043-w

Ethiopian Statistics Service (ESS). (2021). *Statistical Report on the 2021 Labour Force and Migration Survey.* Retrieved from: www.statsethiopia.gov.et/wp-content/uploads/2022/01/Latest-STATISTICAL-REPORT-ON-THE-2021-LMS.-3FEB2022.2.pdf

European External Action Service (EEAS). (2019). *Launch of the Natwampane Programme "together to STOP sexual and gender-based violence".* Retrieved from: www.eeas.europa.eu/eeas/launch-natwampane-programme-%E2%80%9Ctogether-stop-sexual-and-gender-based-violence%E2%80%9D_en

European Institute for Gender Equality (EIGE). (2019). *Gender stakeholder consultation*. Retrieved from: https://eige.europa.eu/sites/default/files/mh0319274enn_002.pdf

Evans, W. D., Donahue, C., Snider, J., Bedri, N., Elhussein, T. A., and Elamin, S. A. (2019). The Saleema initiative in Sudan to abandon female genital mutilation: Outcomes and dose response effects. *PLOS ONE*, 14(3). https://doi.org/10.1371/journal.pone.0213380

Fahmy, A., Badr, A. and Vermandere, H. (2021). *Violence among young people in poor areas in Greater Cairo: Female genital mutilation.* Retrieved from: https://tadwein.org/violence-among-young-people-in-poor-areas-in-greater-cairo-female-genital-mutilation-fgm/

Fanthorpe, R. (2007). Sierra Leone: The influence of the Secret Societies, with special reference to Female Genital Mutilation. *Writenet*. Retrieved from: www.refworld.org/pdfid/46cee3152.pdf

FEMNET. (2022). *Policy Brief: Female genital mutilation, Early and Child Marriages – Mozambique*. Retrieved from: https://femnet.org/wp-content/uploads/2022/09/MOZAMBIQUE.pdf

Ferri, P. (2009). Children and computers. In A. Cartelli, and M. Palma (eds.), *Encyclopaedia of Information Communication Technology* (pp. 75–83).

Forward UK. (2022). *Sierra Leone - Past*. Retrieved from: www.forwarduk.org.uk/programmes/africa/past-programmes/sierra-leone/

Fosu M. O., Nyarko P. R., and Anokye M. (2014). Female genital mutilation/cutting among Ghanaian women: The determinants. *Research on Humanities and Social Sciences,* 18(4), 61–68. Retrieved from: https://core.ac.uk/download/pdf/234674097.pdf

Ghana Education Services. (2021a). *Technical and Vocational Education Division*. Retrieved from: https://ges.gov.gh/2019/07/15/technical-and-vocational-education-division/

Ghana Education Services. (2021b). *Basic Education Division*. Retrieved from: https://ges.gov.gh/2019/07/15/basic-education-division/

Ghana Ministry of Education. (2018). *Education Strategic Plan.* Retrieved from: www.globalpartnership.org/sites/default/files/2019-05-education-strategic-plan-2018-2030.pdf

Giga. (2021). *Sierra Leone joins Giga toward "Digitization for All".* Retrieved from: https://giga.global/sierra-leone-joins-giga-toward-digitization-for-all/

Gillwald, A., Mothobi, O., and Rademan, B. (2019). The state of ICT in Mozambique 2018 [Policy Paper No.6, Vol.5]. *Research in Africa.* Retrieved from: https://researchictafrica.net/wp/wp-content/uploads/2019/07/2019_After-Access_The-state-of-ICT-in-Mozambique.pdf

Girls Not Brides. (2020). *Child Marriage Atlas: Sudan.* Retrieved from: https://www.girlsnotbrides.org/learning-resources/child-marriage-atlas/atlas/sudan/

Government of Nepal. (2019). *Digital Nepal Framework. Unlocking Nepal's Growth Potential*. Retrieved from: https://nepalindata.com/media/resources/items/15/bEN_Digital_Nepal_Framework_V7.2March2019.pdf

GSMA. (2018). *Innovative Mobile Digital Identity Solutions Financial inclusion and Birth Registration: Burkina Faso Case Study*. Retrieved from: www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/07/DI-Companies-Case-Study_v5_WEB_Singles.pdf.

GSMA. (2019). *Uganda: Driving Inclusive Socio-economic Progress Through Mobile-enabled Digital Transformation*. Retrieved from: www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/03/GSMA_Connected_Society_Uganda_Overview.pdf

GSMA. (2020). *The Mobile Gender Gap Report 2020.* Retrieved from: www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf

GSMA. (2021a). *The State of Mobile Internet Connectivity Report.* Retrieved from: www.gsma.com/r/wp-content/uploads/2021/09/The-State-of-Mobile-Internet-Connectivity-Report-2021.pdf

GSMA. (2021b). *The State of Mobile Internet Connectivity in South Asia.* Retrieved from: www.gsma.com/mobilefordevelopment/blog/the-state-of-mobile-internet-connectivity-in-south-asia/

GSMA. (2022a). *The Mobile Gender Gap Report 2022.* Retrieved from: www.gsma.com/r/wp-content/uploads/2022/06/The-Mobile-Gender-Gap-Report-2022.pdf?utm_source=website&utm_medium=download-button&utm_campaign=gender-gap-2022

GSMA. (2022b). *Definitive Data and Analysis for the Mobile Industry.* Retrieved from: www.gsmaintelligence.com/data/

GSMA. (2022c). *The Mobile Economy Sub-Saharan Africa 2022.* Retrieved from: www.gsma.com/mobileeconomy/wp-content/uploads/2022/10/The-Mobile-Economy-Sub-Saharan-Africa-2022.pdf

Hairsine K., and Anthony C. (2021). Female genital mutilation: The woman fighting Sierra Leone's ritual. *Deutsche Welle.* Retrieved from: www.dw.com/en/female-genital-mutilation-sierra-leone-bloodless-bondo/a-56017226

India Brand Equity Foundation. (2022). *IT & BPM Industry in India.* Retrieved from: www.ibef.org/industry/information-technology-india

India Ministry of Electronics and Information Technology. (n.d.). *Digital India.* Retrieved from: www.digitalindia.gov.in/

Information and Communication Technology Division. (2020). *National Strategy for Artificial Intelligence – Bangladesh.* Retrieved from: https://ictd.portal.gov.bd/sites/default/files/files/ictd.portal.gov.bd/legislative_information/c2fafbbe_599c_48e2_bae7_bfa15e0d745d/National%20Strategy%20for%20Artificial%20Intellgence%20-%20Bangladesh%20.pdf

International Bank for Reconstruction and Development and The World Bank. (2020). *Accelerating Digital Transformation in Zambia: Digital Economy Diagnostic Report.* Retrieved from: https://openknowledge.worldbank.org/bitstream/handle/10986/33806/Accelerating%20Digital%20Transformation%20in%20Zambia.%20Chapter%203.pdf?sequence=8

International Finance Corporation (IFC). (2019). *Créer des marchés au Burkina Faso: Développer et mobiliser le secteur privé pour renforcer la résilience économique du Burkina Faso.* [Diagnostic secteur privé pays]. Retrieved from: www.ifc.org/wps/wcm/connect/f559446a-73de-423e-9b22-39160d023ed1/201907-CPSD-Burkina-Faso-FR.pdf?MOD=AJPERES&CVID=mNf5Hss.

International Institute for Population Sciences (IIPS) and ICF. (2022). *National Family Health Survey (NFHS-5), 2019–21: India: Volume I.* Mumbai: IIPS. Retrieved from: http://rchiips.org/nfhs/NFHS-5Reports/NFHS-5_INDIA_REPORT.pdf

International Telecommunications Union (ITU). (2017). *ICT Country Profile: Sierra Leone.* Retrieved from: www.itu.int/en/ITU-D/LDCs/Documents/2017/Country%20Profiles/Country%20Profile_Sierra-Leone.pdf

International Telecommunications Union (ITU). (2018). *Measuring the Information Society: Ethiopia.* Retrieved from: www.itu.int/en/ITU-D/LDCs/Documents/2017/Country%20Profiles/Country%20Profile_Ethiopia.pdf.

International Telecommunication Union (ITU). (2020a). *The Gender Digital Divide.* Retrieved from: www.itu.int/itu-d/reports/statistics/2021/11/15/the-gender-digital-divide/

International Telecommunications Union (ITU). (2020b). *Digital Development Dashboard: Ethiopia.* Retrieved from: www.itu.int/en/ITU-D/Statistics/Documents/DDD/ddd_ETH.pdf

International Telecommunications Union (ITU). (2020c). *Mobile Broadband Subscriptions 2007–2020* [Dataset].

International Telecommunications Union (ITU). (2021a). *Digital Trends in Africa 2021.* Retrieved from: www.itu.int/dms_pub/itu-d/opb/ind/D-IND-DIG_TRENDS_AFR.01-2021-PDF-E.pdf

International Telecommunications Union (ITU). (2021b). *Digital Trends in the Arab States Region 2021.* Retrieved from: www.itu.int/dms_pub/itu-d/md/18/rpmarb/c/D18-RPMARB-C-0002!R1!PDF-E.pdf

International Telecommunications Union (ITU). (2021c). *Digital trends in Asia and the Pacific 2021.* Retrieved from: www.itu.int/dms_pub/itu-d/opb/ind/D-IND-DIG_TRENDS_ASP.01-2021-PDF-E.pdf

International Telecommunications Union (ITU). (2022). *Proportion of individuals who own a mobile telephone, total and by sex (5).*

IPSOS Uganda. (2022). *Impact Assessment Survey of the Spotlight Initiative Media Campaign.*

Jjuuko, D., and Mbonye, P.N. (2020). *Uganda-Kenya cross-border partnership rescues girls from female genital mutilation during COVID-19.* Retrieved from: www.unicef.org/uganda/stories/uganda-kenya-cross-border-partnership-rescues-girls-female-genital-mutilation-during-covid

Khanal, G., Khatri, S., Pryor, S. and Yahner, M. (2021). *Adolescent and Youth Family Planning and Reproductive Health Landscape Analysis in Nepal.* Retrieved from: https://research4scalablesolutions.com/wp-content/uploads/2022/02/R4S-Adolescent-and-Youth-FPRH-Landscape-Analysis-in-Nepal_Final_12.2.2021.pdf

Kit RoyalTropical Institute. (n.d.). *Yes I Do: Reduce Child Marriage, Teenage Pregnancies and Female Genital Mutilation/Cutting.* Retrieved from: www.kit.nl/project/yes-i-do/

KoboToolbox. (2021). *How KoboToolbox and Purposeful's radio drama show support girls' resistance in Sierra Leone.* Retrieved from: www.kobotoolbox.org/blog/how-kobotoolbox-and-purposefuls-radio-drama-show-support-girls-resistance-in-sierra-leone.

Kumar, R. (2021). *In India's Bohra Community, a battle over genital mutilation*. Retrieved from: https://undark.org/2021/03/10/india-battle-over-female-genital-mutilation/

Kwatu. (2022). *USAID Stop GBV*. Retrieved from: https://zccpkwatu.org/2020/03/27/usaid-stop-gbv/

Letouzé, E., Spinardi, A., Yañez Soria, I., Ortiz, S., Fernandez Nieto, B., Maffioletti, E., Lana, A. D., Fuentes-Nieva, R., del Villar, Z., Sotolongo, A., Pérez Miriando, A., Antoniassi, Y. (2022). *Capturing the Socioeconomic and Cultural Drivers of Sexual and Gender-Based Violence in Sierra Leone.* Retrieved from: https://datapopalliance.org/wp-content/uploads/2022/07/Digital-P077-Report-Sierra-Leone.pdf

Linha Fala Criança. (2022). *Linha Fala Criança*. Retrieved from: https://linhafala.org.mz/

Mahgoub, E., Nimir, M., Abdalla, S., and Elhuda, D. A. (2019). Effects of school-based health education on attitudes of female students towards female genital mutilation in Sudan. *Eastern Mediterranean Health Journal*, 25(6), 406–412. https://doi.org/10.26719/emhj.18.053

MAIF. (2017). *Idée collaborative: Une année d'initiatives collaboratives décryptée par 12 médias.* Retrieved from: https://entreprise.maif.fr/files/pdf/publications-partenaires/idee-collaborative-2017.pdf

Mann, G., Quigley, P., and Fischer, R. (2015). *Qualitative Study of Child Marriage in Six Districts of Zambia.* Child Frontiers and UNICEF. Retrieved from: www.unicef.org/zambia/media/621/file/Zambia-child-marriage-research.pdf

Melvin, J. (2018). Digital tools, spaces and places – mediators of youth work practice. *Coyote Magazine*. Council of European Union, Vol. 26. Retrieved from: https://pjp-eu.coe.int/en/web/coyote-magazine/digital-tools-spaces-and-places

Metwally, A. M., El-Sonbaty, M., Elmosalami, D., Amer, H., Abuelela, M., Mohamed, H., Ahmed, M., Hasan, H., Mohsen, A., El Etreby, L., Abdel-Latif, G. A., Ibrahim, N. A., Emam, H., Abdelmohsen, A., Fouad, W., Salama, S. I., Salama, I., and Saleh, R. (2021). Assessing the effective communication channels to reduce child and adolescent marriage in rural communities of Egypt. *Open Access Macedonian Journal of Medical Sciences,* 9(E), 1288–1299. https://doi.org/10.3889/oamjms.2021.7620

Mitchell, D. (2017). Kenyan girls use technology to combat genital cutting. *Voa News.* Retrieved from: www.voanews.com/a/kenyan-girls-use-technology-combat-genital-cutting/3993018.html

Mlaba, K. (2021). *Meet the 21-year-old from Kenya who created an app to fight FGM*. Retrieved from: www.globalcitizen.org/en/content/stacy-owino-app-fight-fgm-kenya/

Mtonga, J. (2019). *USAID Stop Gender-Based Violence Project-Quarter 3, 2019 Report.* Retrieved from: http://pdf.usaid.gov/pdf_docs/PA00WJSW.pdf

National Communications Authority (2020). *Household survey on ICT in Ghana.* Retrieved from: https://statsghana.gov.gh/gssmain/fileUpload/pressrelease/Household%20Survey%20on%20ICT%20in%20Ghana%20(Abridged)%20new%20(1).pdf

Newzoo (2018). *Global Mobile Market Report.* Retrieved from: https://newzoo.com/insights/trend-reports/newzoo-global-mobile-market-report-2018-light-version

Norbakk, M., and Tønnessen L. (2020). Prevalence, drivers, and review of the literature on the effects of interventions to reduce the prevalence of female genital mutilation. *Bergen: Chr. Michelsen Institute (CMI Report R 2020:03).* Retrieved from: www.cmi.no/publications/7384-prevalence-drivers

Nkhowani, B. (2022). *LONDA Zambia Digital Rights Inclusion Report, 2021.* Retrieved from: https://paradigmhq.org/wp-content/uploads/2022/06/Londa-Zambia-Report-2021-lr.pdf

Open Data Nepal. (2016). *Ownership and use of bank accounts and mobile phones Women, NDHS 2016.* Retrieved from: https://opendatanepal.com/dataset/ownership-and-use-of-bank-accounts-and-mobile-phones-women-nepal-dhs-2016/resource/b810855f-79af-4400-9c50-aa674fc538d7

Pérez, G., Mubanga, M., Aznar, C., and Bagnol, B. (2015). Zambian women in South Africa: Insights into health experiences of labia elongation. *The Journal of Sex Research,* 52:8, 857–867, doi: 10.1080/00224499.2014.1003027

Plan International. (2020). *Yes I Do Alliance 2016–2020 End Report.* Retrieved from: https://iati.plannederland.nl/Yes+I+Do+Alliance+End+Report.pdf

Population Council. (2016). *Delaying child marriage through community-based skills-development programs for girls: Results from a randomized controlled study in rural Bangladesh*. Retrieved from: https://doi.org/10.31899/pgy9.1009

QG Jeune. (2021). *Accès aux services de santé sexuelle et reproductive*. Retrieved from: www.qgjeune.org

Radio Public. (2020). *Saathi Sanga Manka Kura.* Retrieved from: https://radiopublic.com/saathi-sanga-manka-kura-GyqeXJ

Reach a hand. (2022). *SautiPlus*. Retrieved from: https://reachahand.org/program/sauti-plus/

RSS. (2021). Nepal's 91% of the population have access to the internet: Regulator. *Online Khabar.* Retrieved from: https://english.onlinekhabar.com/nepals-91-of-the-population-have-access-to-the-internet-regulator.html

Sauti. (2022). *Report filters*. Retrieved from: https://sauti.mglsd.go.ug/sauti/reports/

SautiPlus. (n.d.). *Website home*. Retrieved from: https://sautiplus.org/

Save The Children. (2021). *Ending Child Marriage in Sierra Leone: A Bold Approach for Change.* Retrieved from: www.savethechildren.org/content/dam/usa/reports/ending-child-marriage-sierra-leone-2021.pdf

Sear, M. J. (2021). *The Digital Government of Bangladesh: A Step Closer to a Better Tomorrow.* Retrieved from: www. linkedin.com/pulse/digital-government-bangladesh-step-closer-better-tomorrow-sear/?trk=articles_directory

Sengupta, M. and Krishnakumar, P. (2018). *A look at India's deep digital literacy divide and why it needs to be bridged*. Retrieved from: www.financialexpress. com/education-2/a-look-at-indias-deep-digital-literacy-divide-and-why-it-needs-to-be-bridged/1323822/

Shujaaz Inc. (n.d.). *Shujaaz, our multimedia youth platform*. Retrieved from: www.shujaazinc.com/our-ventures/shujaaz/

Spadacini, B. and Nichols, P. (1998). Campaigning against female genital mutilation in Ethiopia using popular education. *Gender and Development*, 6(2), 44–52, www.jstor.org/stable/4030344

Spotlight Initiative. (2022). *How Spotlight Initiative is working to end female genital mutilation by 2030.* Retrieved from: www.spotlightinitiative.org/news/how-spotlight-initiative-working-end-female-genital-mutilation-2030

Statista. (2020). *Population in Africa 2020, by country.* Retrieved from: www.statista. com/statistics/1121246/population-in-africa-by-country/

Steinmetz, K. (2020). She coined the term 'intersectionality' over 30 years ago. Here's what it means to her today. *Time.* Retrieved from: https://time. com/5786710/kimberle-crenshaw-intersectionality/

Suzuki, C. and Meekers, D. (2008). Determinants of support for female genital cutting among ever-married women in Egypt, *Global Public Health*, 3:4, 383–398, https://doi. org/10.1080/17441690701437187

Taher, M. (2017). *Understanding female genital cutting in the Dawoodi Bohra community: An exploratory survey*. Retrieved from: https://sahiyo.org/ images/resource-pdf/sahiyo_report_final-5.21.19.pdf

Terre des hommes. (2020). *A remote self-guided curriculum to promote adolescents' well-being.* Retrieved from: https:// childhub.org/sites/default/files/library/attachments/RIDE_methodology%20 guidance_ENG-%20revised%202021.pdf

The GDELT Project. (2013). *GDELT – data format codebook v 1.03*. Retrieved from: http://data.gdeltproject.org/ documentation/GDELT-Data_Format_Codebook.pdf

The GDELT Project. (n.d.). *Querying, analyzing and downloading'*. Retrieved from: www.gdeltproject.org/data.html

The Indian Express. (2020). *Explained: What is female genital mutilation, and why is it practiced?.* Retrieved from: https:// indianexpress.com/article/explained/explained-what-is-female-genital-mutilation-6254573/

The Republic of Uganda. (2016). *The Uganda Child Helpline Service. Annual Report 2016*. Retrieved from: www.unicef. org/uganda/media/901/file

Tønnessen, L. and al-Nagar, S. (2018). Interventions for the abandonment of child marriage in Sudan. *Bergen: Chr. Michelsen Institute* (Sudan Brief 2018:03). Retrieved from: www.cmi.no/ publications/6634-interventions-for-the-abandonment-of-child

UK Department for International Development (DFID). (2021). *Support to Adolescent Girls Empowerment in Sierra Leone* (SAGE). Retrieved from: https://iati. fcdo.gov.uk/iati_documents/60949045. pdt

U-Report. (n.d.). *About us!*. Retrieved from: https://ureport.ug/about/

U-Report Uganda. (2022). *Progress Update Bulletin. Issue No. 4.* Retrieved from: https://ureport.ug/story/1206/

UN Women. (2011). *The Anti-Gender-Based Violence Act (FGM).* Retrieved from: https://evaw-global-database.unwomen. org/en/countries/africa/zambia/2011/the-antigender-based-violence-act-fgm

UN Women. (2018). *Gender equality and big data.* Retrieved from: https:// unsdg.un.org/sites/default/files/Gender-equality-and-big-data-en.pdf

UN Women. (2022). *Rooting out FGM in rural Uganda*. Retrieved from: www. unwomen.org/en/news-stories/feature-story/2022/02/rooting-out-fgm-in-rural-uganda

UN Women Nepal. (2021). *Gender Equality in Numbers: Progress and Challenges in Achieving Gender Equality in Nepal*. Retrieved from: https://nepal. un.org/sites/default/files/2021-10/GE%20 in%20numbers-final%20-16-09-24-%20 for%20web.pdf

United Nations. (2022). *Fighting child marriage in India, thanks to school and a mobile phone*. Retrieved from: https:// news.un.org/en/story/2022/03/1114752

United Nations Capital Development Fund (UNCDF). (2021). *Inclusive Digital Economy Scorecard Report: Burkina Faso 2020.* Retrieved from: www.uncdf.org/ article/6762/inclusive-digital-economy-scorecard-ides-report---burkina-faso

United Nations Children's Fund (UNICEF). (n.d.a). *Ending child marriage and adolescent empowerment*. Retrieved from: www.unicef.org/india/what-we-do/end-child-marriage

United Nations Children's Fund (UNICEF). (n.d.b). *U-Report Amplifying voices for young people*. Retrieved from: www. unicef.org/uganda/what-we-do/u-report.

United Nations Children's Fund (UNICEF). (n.d.c). *Partnering with Women- and Girl-led Organizations.* Retrieved from: www.unicef.org/documents/partnering-women-and-girl-led-organizations

United Nations Children's Fund (UNICEF). (2014). *No time to lose: New UNICEF data show need for urgent action on female genital mutilation and child marriage*. Retrieved from: www.unicef.org/turkiye/ en/press-releases/no-time-lose-new-unicef-data-show-need-urgent-action-female-genital-mutilation-and

United Nations Children's Fund (UNICEF). (2016). *Statistical Profile of FGM in Sierra Leone.* Retrieved from: https://data. unicef.org/wp-content/uploads/country_profiles/Sierra%20Leone/FGMC_SLE.pdf

United Nations Children's Fund (UNICEF). (2018). *Protecting Children from Violence, Abuse, Exploitation and Neglect*. Retrieved from: www.unicef.org/ghana/reports/protecting-children-violence-abuse-exploitation-and-neglect

United Nations Children's Fund (UNICEF). (2020a). *Female Genital Mutilation in the Middle East and North Africa.* Retrieved from: https://data.unicef.org/resources/female-genital-mutilation-in-the-middle-east-and-north-africa/

United Nations Children's Fund (UNICEF). (2020b). *Female Genital Mutilation: A new generation calls for ending an old practice.* Retrieved from: https://data.unicef.org/resources/female-genital-mutilation-a-new-generation-calls-for-ending-an-old-practice/

United Nations Children's Fund (UNICEF). (2020c). *Ending Child Marriage: A profile of progress in the Sahel.* Retrieved from: https://data.unicef.org/resources/child-marriage-in-the-sahel-brochure/

United Nations Children's Fund (UNICEF). (2020d). *Digital and Remote Approaches in Eliminating Female Genital Mutilation and Child Marriage.* Retrieved from: https://reliefweb.int/report/world/covid-19-digital-and-remote-approaches-eliminating-female-genital-mutilation-and-child

United Nations Children's Fund (UNICEF). (2020e). *Female Genital Mutilation Country Profiles.* Retrieved from: https://data.unicef.org/resources/fgm-country-profiles/

United Nations Children's Fund (UNICEF). (2020f). *In a journey of girl empowerment: The voice of girls from unheard to impactful.* Retrieved from: www.unicef.org/egypt/stories/journey-girl-empowerment

United Nations Children's Fund (UNICEF). (2020g). *A Profile of FGM in Ethiopia*. Retrieved from: https://data.unicef.org/resources/a-profile-of-female-genital-mutilation-in-ethiopia/

United Nations Children's Fund (UNICEF). (2020h). *Sudan enters new era for girl rights with criminalization of FGM*. Retrieved from: www.unicef.org/mena/press-releases/sudan-enters-new-era-girl-rights-criminalization-fgm

United Nations Children's Fund (UNICEF) (2021a). *The Sudan Gender Annual Report.* Retrieved from: www.unicef.org/sudan/media/6131/file/Gender%20.pdf

United Nations Children's Fund (UNICEF). (2021b). *What we Know about the Gender Digital Divide for Girls: A literature review.* Retrieved from: www.unicef.org/eap/media/8311/file/What%20we%20know%20about%20the%20gender%20digital%20divide%20for%20girls:%20A%20literature%20review.pdf

United Nations Children's Fund (UNICEF). (2021c). *Engaging communities to fight harmful practices and promote gender equality.* Retrieved from: www.unicef.org/egypt/stories/drama-behavioral-change

United Nations Children's Fund (UNICEF). (2021d). *C4D Works! Spot it! Stop it! Changing Attitudes and behaviours related to violence against children in Kenya*. Retrieved from: www.unicef.org/kenya/media/2271/file/C4D%20Works%202021.pdf

United Nations Children's Fund (UNICEF). (2021e). *Case Study on Ending Child Marriage in the Republic of Mozambique.* Retrieved from: www.unicef.org/esa/media/8931/file/Mozambique-Case-Study-Child-Marriage-2021.pdf

United Nations Children's Fund (UNICEF). (2021f). *Towards Ending Child Marriage: Global trends and profiles of progress*. Retrieved from: https://data.unicef.org/resources/towards-ending-child-marriage/

United Nations Children's Fund (UNICEF). (2022a). *Child marriage country profiles*. Retrieved from: https://data.unicef.org/resources/child-marriage-country-profiles

United Nations Children's Fund (UNICEF). (2022b). *Child marriage*. Last updated June 2022. Retrieved from: www.unicef.org/protection/child-marriage

United Nations Children's Fund (UNICEF). (2022c). *Towards Ending Harmful Practices in Africa.* Retrieved from: https://data.unicef.org/wp-content/uploads/2022/06/Towards-Ending-Harmful-Practices-in-Africa-UNICEF-2022.pdf

United Nations Children's Fund (UNICEF). (2022d). *The Power of Education to End Female Genital Mutilation.* Retrieved from: https://data.unicef.org/resources/the-power-of-education-to-end-female-genital-mutilation/

United Nations Children's Fund (UNICEF). (2022e). *Child Marriage in West and Central Africa.* Retrieved from: https://www.unicef.org/wca/media/2596/file

United Nations Children's Fund (UNICEF). (2022f). *Child Marriage in Eastern and Southern Africa.* Retrieved from: https://data.unicef.org/resources/child-marriage-in-eastern-and-southern-africa-a-statistical-overview-and-reflections-on-ending-the-practice/

United Nations Children's Fund (UNICEF). (2022g). *Facts and figures: Child marriage in the Middle East and North Africa.* Retrieved from: www.unicef.org/mena/reports/facts-and-figures-child-marriage-middle-east-and-north-africa

United Nations Children's Fund (UNICEF). (2022h). *UNFPA-UNICEF Joint Programme on the Elimination of Female Genital Mutilation*. Retrieved from: www.unicef.org/protection/unfpa-unicef-joint-programme-eliminating-fgm

United Nations Children's Fund (UNICEF). (2022i). *UNICEF 2021 Annual Report to the U.S. Department of State, Eliminating Female Genital Mutilation.* Retrieved from: www.unicef.org/media/122636/file/FGM-Annual-report-2021-USG.pdf

United Nations Children's Fund (UNICEF). (2023). *Female genital mutilation*. Last modified January 2023. Retrieved from: unicef.org/protection/female-genital-mutilation.

United Nations Children's Fund (UNICEF) and Uganda Bureau of Statistics. (2020). *Female Genital Mutilation (FGM) in Uganda.* Retrieved from: www.unicef.org/uganda/media/7996/file/FGM%20Evidence%20from%20Uganda_Policy%20Brief_29th%20Sept%202020.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2017). *Ending Child Marriage in Nepal.* Retrieved from: www.unicef.org/nepal/media/401/file/Ending%20Child%20Marriage%20in%20Nepal.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2019a). *Technical Note on Gender-Transformative Approaches in the Global Programme to End Child Marriage Phase II: A Summary for Practitioners.* Retrieved from: www.unicef.org/media/104806/file/Gender-transformation-technical-note-2019.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2019b). *Child Marriage in South Asia: An Evidence Review.* Retrieved from: www.unicef.org/rosa/media/4251/file/Child%20Marriage%20Evidence%20Review_Web.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2019c). *Accelerating Change: Annual Report 2018.* Retrieved from: www.unfpa.org/sites/default/files/pub-pdf/19-152-UNJP-FGM-AR2018-Aug2019.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2020a). *Global Programme to End Child Marriage: Country Profile – Burkina Faso.* Retrieved from: www.unicef.org/media/111366/file/Child-marriage-country-profile-Burkina-Faso-2021.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2020b). *FGM elimination and COVID-19: Sustaining the Momentum. Country Case Studies. Annual Report 2020.* Retrieved from: www.unicef.org/media/107636/file/FGM%20case%20studies%202020.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2020c). *Global Programme to End Child Marriage: Country Profile – Uganda.* Retrieved from: www.unicef.org/media/111406/file/Child-marriage-country-profile-Uganda-2021.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2020d). *Global Programme to End Child Marriage: Country Profile – Zambia*. Retrieved from: www.unicef.org/media/111416/file/Child-marriage-country-profile-Zambia-2021.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2021a). *Technical Guidance: A Comprehensive Approach to Accelerating the Elimination of Female Genital Mutilation.* Retrieved from: www.unicef.org/media/114111/file/FGM-Technical-Guidance-2022.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2021b). *Child Marriage in the Context of Covid-19. Analysis of trends, programming and alternative approaches in the Middle East and North Africa.* Retrieved from: www.nolostgeneration.org/media/3561/file/Child%20marriage%20in%20the%20context%20of%20COVID-19%20-%20MENA%20regional%20analysis.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2021c). *Global Programme to End Child Marriage: Country Profile – Ethiopia.* Retrieved from: www.unicef.org/media/111371/file/Child-marriage-country-profile-Ethiopia-2021.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2021d). *Joint Assessment of Adaptations to the UNFPA-UNICEF Global Programme to End Child Marriage in light of COVID-19.* Retrieved from: www.unicef.org/media/111236/file/Child-marriage-COVID-19-assessment.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2021e). *Act Now: Accelerating gender equality by eliminating child marriage in a pandemic*. Retrieved from: www.unicef.org/media/108461/file/Act%20now.pdf

United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA). (2022a). *Beyond Marriage and Motherhood: Empowering girls by addressing adolescent pregnancies, child marriages and early unions – Patterns and Trends in Southeast Asia and the Pacific.* Retrieved from: www.unicef.org/eap/reports/beyond-marriage-and-motherhood-1

United Nations Development Programme (UNDP). (2019). *Access to Information (a2i-II) Programme: Final Project Review Report.* Retrieved from: https://info.undp.org/docs/pdc/Documents/BGD/UNDP%20a2i-II%20closing%20report_Final.pdf

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2021). *Education for Women and Girls in Ghana.* Retrieved from: https://en.unesco.org/fieldoffice/abuja/educationforgirls

United Nations Population Fund (UNFPA). (2008). *O programa geração biz*. Retrieved from: https://socialprotection.org/discover/publications/o-programa-gera%C3%A7%C3%A3o-biz

United Nations Population Fund (UNFPA). (2018). *Analysis of Legal Frameworks on Female Genital Mutilation in Selected Countries in West Africa*. Retrieved from: https://wcaro.unfpa.org/sites/default/files/pub-pdf/EN-UNFPA-ANALYSIS-ON-FGM-WEB.pdf.

United Nations Population Fund (UNFPA) Sierra Leone. (2018). *Empowering adolescents through girls' clubs*. Retrieved from: https://sierraleone.unfpa.org/en/news/empowering-adolescents-through-girls%E2%80%99-clubs#:~:text=PUJEHUN%2C%20Sierra%20Leone%2C%2020%20August,years%20(DHS%2C%202013)

United Nations Population Fund (UNFPA). (2020a). *Ministry of Gender launches mobile app to strengthen reporting of sexual violence and dissemination of reproductive health information.* Retrieved from: https://uganda.unfpa.org/en/news/ministry-gender-launches-mobile-app-strengthen-reporting-sexual-violence-and-dissemination

United Nations Population Fund (UNFPA). (2020b). *A simple solution to fend off child marriage amid COVID-19 in Nepal*. Retrieved from: https://nepal.unfpa.org/en/news/simple-solution-fend-child-marriage-amid-covid-19-nepal

United Nations Population Fund (UNFPA). (2021a). *Counseling youth amidst COVID-19*. Retrieved from: https://bangladesh.unfpa.org/en/news/counseling-youth-amidst-covid-19

United Nations Population Fund (UNFPA). (2021b). *My Body is My Own: Annual Report of Burkina Faso*. Retrieved from: www.unfpa.org/sites/default/files/pub-pdf/SoWP2021_Report_-_EN_web.3.21_0.pdf

United Nations Population Fund (UNFPA). (2021c). *Ensuring human rights in Burkina Faso, one baby at time*. Retrieved from: www.unfpa.org/updates/ensuring-human-rights-burkina-faso-one-baby-time

United Nations Population Fund (UNFPA). (2021d). *Leaving No One Behind*. Retrieved from: https://brazil.unfpa.org/sites/default/files/pub-pdf/final_report_-_pad_2020_-_multimedia_-_eng_1_0_0.pdf

United States Agency for International Development (USAID). (2020). *Mozambique Preventing Child Marriage in Cabo Delgado.* Retrieved from: www.usaid.gov/sites/default/files/documents/Fact_Sheet_Preventing_Early_Child_Marriage_Mar_2021_0.pdf

United States Agency for International Development (USAID). (2022). *USAID/Zambia HEALTH Stop GBV.* Retrieved from: www.usaid.gov/sites/default/files/2022-07/FINAL_Stop_GBV_Fact_Sheet_JUNE_2022.pdf

University of Ghana Centre for Social Policy Studies and World Vision Ghana. (2017). *A Study on Child Marriage in Selected World Vision Ghana Operational Areas*. Ghana: WVG & UG-CSPS. Retrieved from: http://csps.ug.edu.gh/content/study-child-marriage-selected-world-vision-ghana-operational-areas

VIAMO. (2022). *UNICEF [ET] Harmful Practices Final Report: February – September 2021.*

Vogt, S., Mohmmed Zaid, N. A., El Fadil Ahmed, H., Fehr, E., and Efferson, C. (2016). Changing cultural attitudes towards female genital cutting. *Nature*, 538(7626), 506–509. https://doi.org/10.1038/nature20100

Women in Digital Transformation and DAKA Advisory. (2022). *Gender Digital Divide Index Report.* Retrieved from: https://gddindex.com/wp-content/uploads/2022/02/GDDI-Report-2022.pdf

World Bank. (2019a). GCI 4.0: Digital skills among the population. *World Economic Forum Global Competitiveness Index.* Retrieved from: https://tcdata360.worldbank.org/indicators/hb0649ed2?country=BFA&indicator=41400&viz=line_chart&years=2017,2019.

World Bank. (2019b). GovData360: Individuals with standard ICT skills (%). *World Economic Forum Global Competitiveness Index.* Retrieved from: https://tcdata360.worldbank.org/indicators/hb0649ed2?country=EGY&indicator=41400&viz=bar_chart&years=2019&compareBy=region

World Bank. (2019c). TC360: Global Competitiveness Index. *World Economic Forum Global Competitiveness Index.* Retrieved from: https://tcdata360.worldbank.org/indicators/hb0649ed2?country=GHA&indicator=41400&viz=bar_chart&years=2019&compareBy=region

World Bank. (2020a). Access to electricity (% of population) – Bangladesh. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=BD

World Bank. (2020b). Individuals using the Internet (% of population) – Bangladesh. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=BD

World Bank. (2020c). Access to electricity (% of population) – Burkina Faso. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=BF

World Bank. (2020d). Access to electricity (% of population) – Egypt. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS

World Bank. (2020e). Mobile cellular subscriptions (per 100 people). *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=ZQ

World Bank. (2020f). Access to electricity (% of population) – Ethiopia. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=ET

World Bank. (2020g). Access to electricity (% of population) – Ghana. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS

World Bank. (2020h). Access to electricity (% of population) – India. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=IN

World Bank. (2020i). Access to electricity (% of population) – Kenya. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KE

World Bank. (2020j). Access to electricity (% of population) – Mozambique. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=MZ

World Bank. (2020k). *Mobile cellular subscriptions (per 100 people) – Mozambique.* Retrieved from: www.gsma.com/r/wp-content/uploads/2022/06/The-Mobile-Gender-Gap-Report-2022.pdf?utm_source=website&utm_medium=download-button&utm_campaign=gender-gap-2022

World Bank. (2020m). Access to electricity (% of population) – Uganda. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=KE

World Bank. (2020n). *Mobile cellular subscriptions (per 100 people) – Sierra Leone.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=SL

World Bank. (2020p). Access to electricity (% of population) – Sierra Leone. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=SL

World Bank. (2020q). Access to electricity (% of population) – Nepal. *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=NP

World Bank. (2020r) *Mobile cellular subscriptions (per 100 people) – Nepal.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=NP

World Bank. (2020t). *Mobile cellular subscriptions (per 100 people) – Bangladesh.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=BD

World Bank. (2020u). *Mobile cellular subscriptions (per 100 people) – India.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=IN

World Bank. (2020v). *Individuals using the Internet (% of population) – India.* International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database. Retrieved from: https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=IN

World Bank Data. (2020w). *Mobile cellular subscriptions (per 100 people) – Zambia.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=ZM

World Bank. (2020y). *Individuals using the Internet (% of population) – Nepal.* Retrieved from: https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=NP

World Bank. (2021a). Population, female – Bangladesh. *United Nations Population Division's World Population Prospects: 2019 Revision.* Retrieved from: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=BD

World Bank. (2021b). *GDP growth (annual %) – Bangladesh.* Retrieved from: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=BD

World Bank. (2021c). *Population, ages 0–14 (% of total population) – Uganda.* Retrieved from: https://data.worldbank.org/indicator/SP.POP.0014.TO.ZS?locations=UG

World Bank. (2022a). Mobile cellular subscriptions (per 100 people). *International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database.* Retrieved from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=SL

World Bank. (2022b). *GCI 4.0: Digital skills among population.* https://tcdata360.worldbank.org/indicators/hb0649ed2?country=KEN&indicator=41400&viz=line_chart&years=2017,2019

World Bank. (2022c). *Bangladesh: Enhancing Digital Government & Economy Project.* Retrieved from: https://projects.worldbank.org/en/projects-operations/project-detail/P161086

World Economic Forum. (2019). *The Global Competitiveness Report 2017–2018.* Retrieved from: https://reports.weforum.org/global-competitiveness-index-2017-2018/?doing_wp_cron=1664825962.4699449539184570312500

World Vision. (2022). *Policy Brief Ending Violence Against Children in Zambia.* Retrieved from: www.wvi.org/sites/default/files/2022-03/Ending%20Violence%20Against%20Children%20in%20Zambia%20Policy%20Brief%2007.03.2022.pdf

Wouango, J., Ostermann, S., and Mwanga, D. (2020). *When and how the law is effective in reducing the practice of FGM/C: A cross-border study in Burkina Faso and Mali.* https://doi.org/10.31899/rh12.1025

Zambia Ministry of Gender. (2016). *National Strategy on Ending Child Marriage in Zambia 2016–2021.* Retrieved from: www.girlsnotbrides.org/documents/1073/Zambia-National-Strategy-on-Child-Marriage-2016-2021.compressed.pdf

1 World Connected. (2020). *ChildHelp Sierra Leone.* Retrieved from: https://1worldconnected.org/project/africa_digitalskills_childhelpsierraleone/

28 Too Many. (2019). *Ghana: FGM Prevalence.* Retrieved from: www.28toomany.org/country/ghana/

APPENDIX

MAPPING OF TECH INTERVENTIONS IN AFRICA AND ASIA: BIBLIOMETRIC ANALYSIS

METHODOLOGICAL CONSIDERATIONS: BIBLIOMETRIC ANALYSIS

A bibliometric analysis is a rigorous method for exploring and analysing large volumes of scientific publications, such as books, papers and conferences, and it is an effective way to understand trends and measure the influence of certain topics or publications in the scientific community (e.g., to uncover emerging subtopics, collaboration patterns and research constituents, and to explore the intellectual structure of a specific domain).[457] In this study, the authors used the *Bibliometrix R Package* to carry out an exploratory analysis in order to gain a better understanding of how scientific research focused on the issues of child marriage and FGM has evolved throughout the years, specifically in the regions of interest for this study. The bibliometric analysis presented below allowed the authors to identify the volume of scientific research to mitigate child marriage and FGM,[r] as well as publication patterns, countries of publication, sub-research areas, trends, scientific institutions working in the subject area and other relevant information.

The database used for the bibliometric analysis is the Scopus abstract and citation database, launched in 2004 (scopus.com). Scopus uniquely combines a comprehensive, expertly curated abstract and citation database with enriched data and linked scholarly literature across a wide variety of disciplines. Scopus delivers the broadest coverage of any interdisciplinary abstract and citation database with over 82 million documents available.

It is important to note that, for some of the analysis of the graphs presented in this section, the countries of focus of this study were grouped by regions to provide a relevant interpretation of the results. Hence, when referring to **Africa**, these countries were grouped as follows:

Sub-Saharan Africa (SSA): Ethiopia, Kenya, Mozambique, Uganda and Zambia.

West Africa and Middle East and North Africa (MENA):[s] Burkina Faso, Egypt, Ghana, Sierra Leone, and the Sudan.

The countries of **Asia** are those located in South Asia, and they were grouped as follows: Bangladesh, India and Nepal.

The grouping of countries arranged on the visualization maps created in this analysis does not reflect a position by UNFPA and UNICEF on the legal status of any country or territory or the delimitation of any frontiers.

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r   For example, specified search query using the keywords "FGM" + "solutions" + "technology".
s   Although some countries classified as part of West Africa are also part of SSA, they were grouped in this manner only for a better interpretation of the results emerging from the bibliometric analysis.

BIBLIOMETRIC ANALYSIS RESULTS FOR AFRICA AND THE MIDDLE EAST

FIGURE A1. Country scientific production map: FGM in sub-Saharan Africa
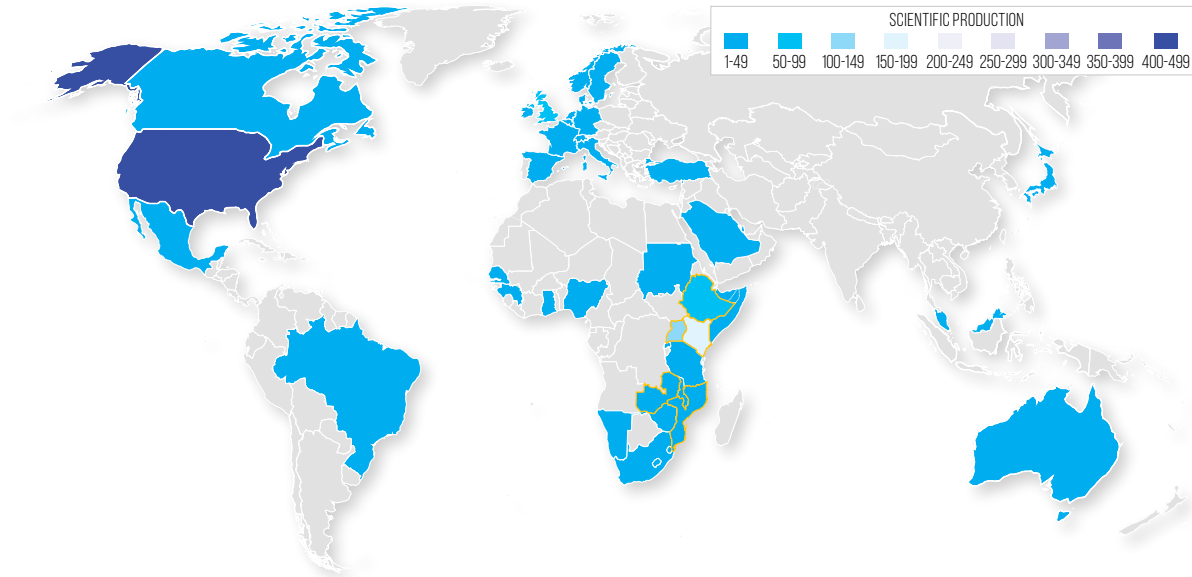
Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

Country scientific production figures, as presented in the following bibliometric analyses, refer to an author's place of work/research, also known as an author's country of affiliation. In this sense, the scientific production of a determined country reflects the total scientific output (i.e., publications) of the authors that are affiliated to research centres within the country and that investigate on a specific subject. It is important to note that an author may be associated with more than one research institution and thus have his or her work counted for different countries in the production of the map. It is also important to point out that an author's country of affiliation does not necessarily coincide with his or her nationality/place of birth. For example, an author that is originally from Brazil, but whose latest research on FGM is under a research centre in Egypt, will have his or her work counted as a scientific product from Egypt. Hence, the correspondence in the maps is not necessarily one to one, but it serves as a proxy measurement to understand which countries are at the forefront of supporting scientific production related to interventions that tackle FGM and/or child marriage.

As can be observed in Figure A1, the majority of authors that are affiliated with research centres in SSA, and that are carrying out scientific research on interventions to combat and mitigate FGM, have produced **a significantly lower volume of academic publications** (less than 150 publications per country) when compared with countries in the northern hemisphere (e.g., the United States, with approximately 400 publications). Except for Kenya and Uganda, the majority of authors affiliated to research centres in SSA have produced less than 50 papers on FGM per country. A striking fact that is further compounded when considering that a large number of those papers are published in collaboration with external institutions or, in other words, with authors from countries outside of the SSA region.

FIGURE A2. Country scientific production map: FGM in West Africa and MENA regions

SCIENTIFIC PRODUCTION
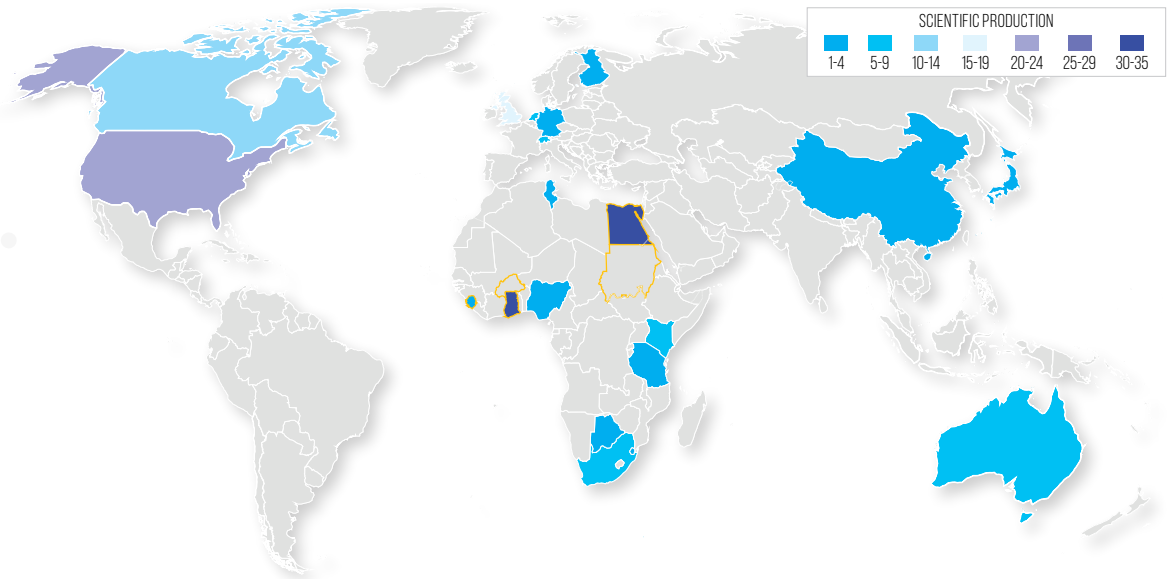
| 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-35 |

Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

According to Figure A2, the majority of authors that are affiliated with research centres in **West Africa and the MENA regions** and that are carrying out scientific research on interventions to combat and mitigate FGM, have produced **a significantly lower volume of academic publications**, except Ghana and Egypt, when compared with countries in the northern hemisphere, as well as in SSA. As can be noted, some countries located in this region have not produced any scientific research that covers FGM, which represents a major obstacle for the advancement of research on the matter in this geographical scope. In general, the number of publications that have been produced per country is less than 35 scientific documents, which is very low even in comparison to, for example, the number of publications in SSA countries.

FIGURE A3. Country scientific production map: child marriage in sub-Saharan Africa

SCIENTIFIC PRODUCTION

| 1-29 | 30-59 | 60-89 | 90-119 | 120-149 | 150-179 | 180-209 | 210-249 |

Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

Now, when the production of scientific research related to child marriage is analysed, it can be observed that both the volume of scientific production as well as the countries that the authors are affiliated to differ slightly from the previous figures. For example, the maximum number of publications for child marriage for any country is, at best, a maximum of 250. Although the volume of academic publications for the SSA region remains low when compared with countries in the northern hemisphere (e.g., the United States), there are a few more countries that are investigating child marriage in the region as compared with FGM. Specifically, authors affiliated to research centres in Ethiopia, Kenya and Uganda have produced over 100 papers covering the topic. Also, although the number of publications is, at a maximum, less than half that of the amount of publications on FGM for SSA, it is worth nothing that the variety of countries involved is wider, which could imply more collaborations, and hence more points of view on the issue.
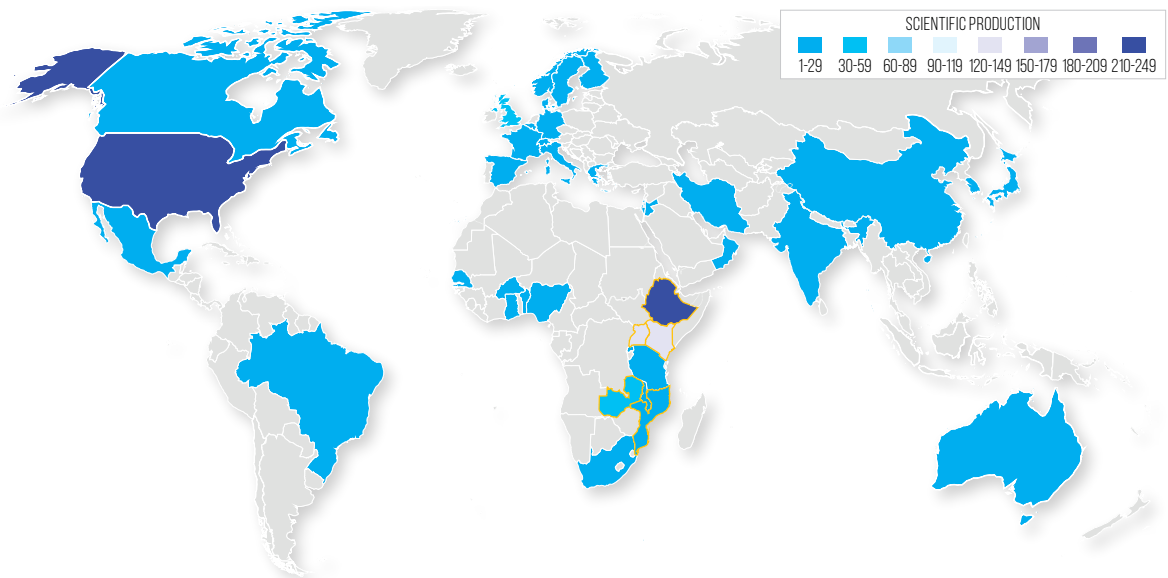
FIGURE A4. Country scientific production map: child marriage in West Africa and MENA regions

Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

For the case of **the West Africa and the MENA regions,** Figure A4 presents similar trends in the scientific production on child marriage for this region. However, the volume of publications does differ, and it is duplicated from a maximum level of 35 publications to a maximum of more than 70. Although Ghana and Egypt remain the leading research countries in the region, new countries are seen joining these two, such as the Sudan and Burkina Faso. Nevertheless, as is the case with the previous figures, **the volume of academic publications of authors affiliated to research institutions in the region remains much lower** when compared with countries in the northern hemisphere. A fact that can be used to infer that the increase in the volume of publications on these topics is very influenced by researchers from the United States and not necessarily by the target countries.

BIBLIOMETRIC ANALYSIS RESULTS FOR ASIA
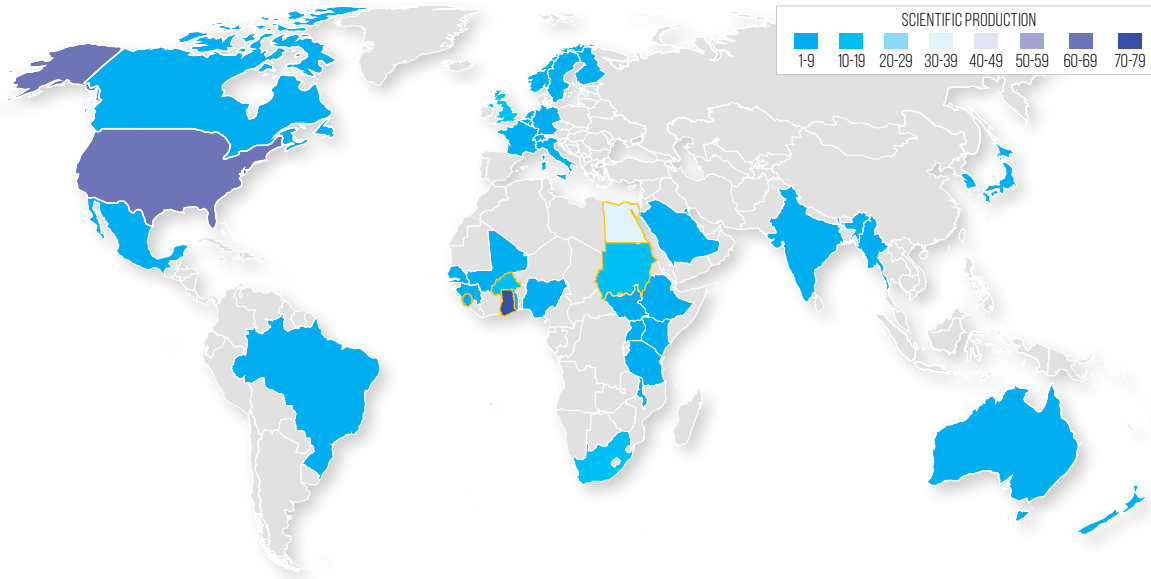
FIGURE A5. Country scientific production map: FGM in Asia

Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

Figure A5 replicates the previous analyses on FGM publication but for the **Asian countries** of focus of this report. In this case, the volume of academic publications for authors affiliated to institutions in the Asian region still lags behind, as is the case for **SSA**, **West Africa and MENA regions,** when compared with countries in the global north. Furthermore, scientific output for FGM in the region is among the lowest analysed with no more than 14 documents per country. India is the only country with 14 papers in the region, a worrisome result especially when compared with the number of publications being released in SSA. This may be related to the fact that the topic of FGM in Asia is observed in less depth when compared with the topic of child marriage, a trend previously recorded by previous data and academic research.

FIGURE A6. Country scientific production map: child marriage in Asia
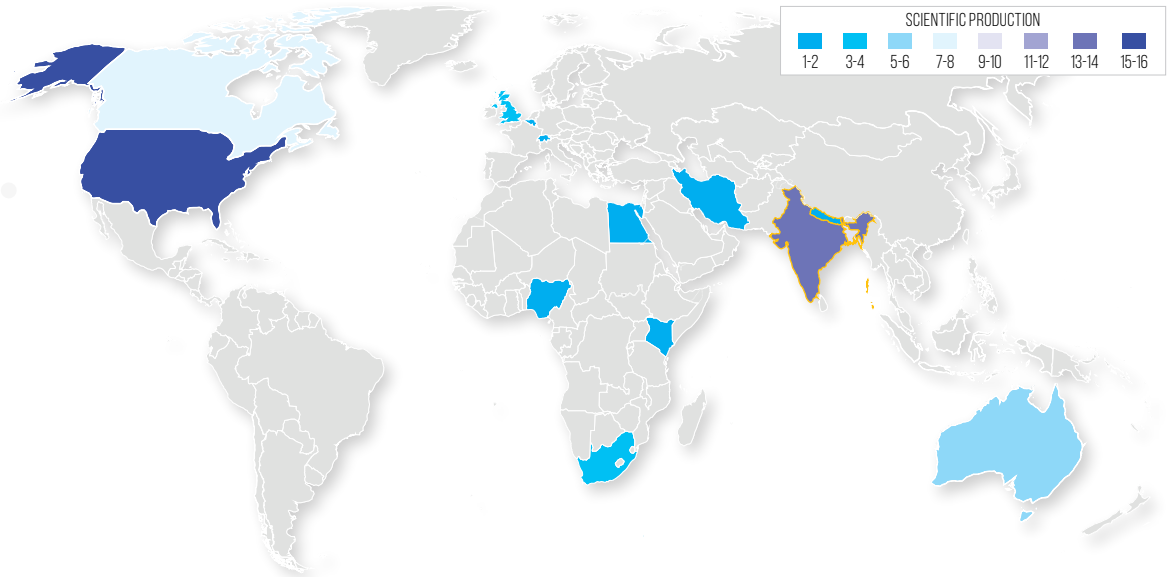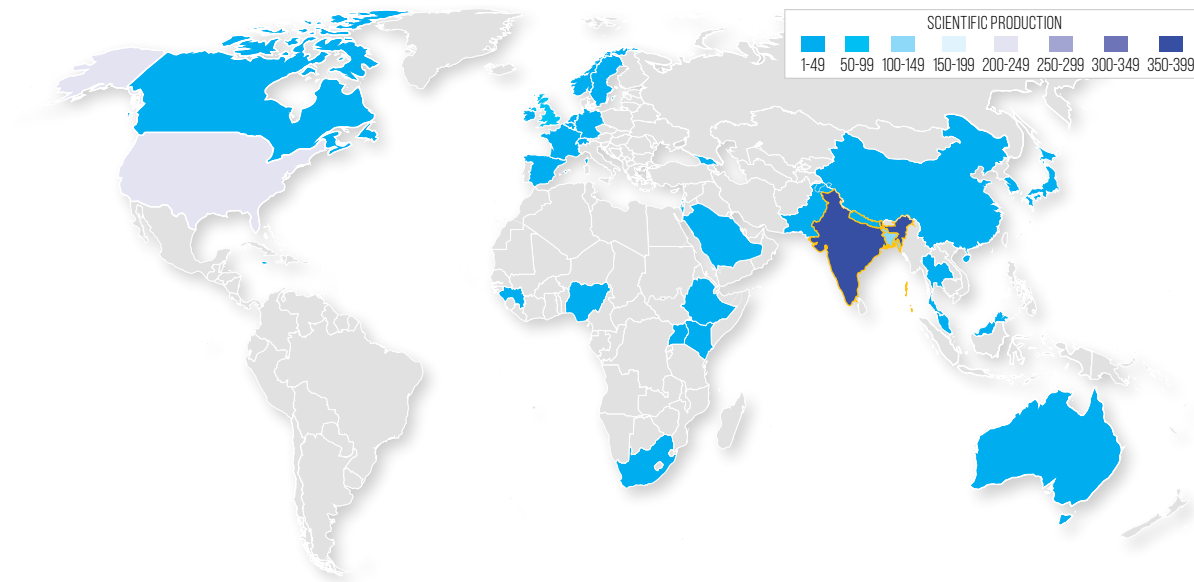

Note: The countries circled in yellow are part of the group of countries specifically looked at for the information search and analysis.

Finally, in what relates to child marriage scientific output, a considerable increase is observed in the region. Figure A6 showcases a larger number of publications for all countries, with India returning somewhere close to 350 academic papers on the matter. This number even surpasses the volume of publications from countries in the northern hemisphere, such as the United States or Canada. The figure presented here echoes to some extent a hypothesis previously underscored in the main report: the issue of child marriage is more relevant (and more prevalent) in countries located in **South-East and South Asia**, in comparison to FGM.

ENDNOTES

1. UNICEF (2021f)
2. Cappa, Thomson and Murray (2020)
3. UNICEF (2023)
4. CEDAW (2014)
5. UNICEF (2022b)
6. CEDAW (2014)
7. Ferri (2009)
8. Melvin (2018); UNICEF (2021b; c)
9. ITU (2020a)
10. UNICEF and UNFPA (2021a)
11. UNICEF and UNFPA (2019a)
12. The GDELT Project (2013; n.d.)
13. Steinmetz (2020)
14. European Institute for Gender Equality (2019)
15. UNFPA (2021d)
16. UN Women (2018)
17. UNICEF (n.d.c)
18. UNICEF (2020a)
19. UNICEF (2022c)
20. UNICEF (2020a)
21. UNICEF (2022d)
22. UNICEF (2020a)
23. UNICEF (2022a)
24. UNICEF (2022e)
25. UNICEF (2020c)
26. UNICEF (2022f)
27. UNICEF (2022g)
28. Economist Impact (2022)
29. Ibid.
30. Ibid.
31. ITU as cited in Economist Impact (2022)
32. GSMA (2021a)
33. ITU (2021a)
34. Ibid.
35. ITU (2021a)
36. Economist Impact (2022)
37. Ibid.
38. ITU as cited in Economist Impact (2022)
39. ITU (2021b)

40. Dawson, et al. (2020)
41. Cappa, Baelen, and Leye (2019)
42. Ibid.
43. UNICEF and UNFPA (2022a)
44. UNICEF (2021f)
45. UNICEF and UNFPA (2019b)
46. UNICEF and UNFPA (2022a)
47. ITU (2021c)
48. GSMA (2022a)
49. Economist Impact (2022)
50. ITU as cited in Economist Impact (2022)
51. ITU (2020a)
52. GSMA (2021b)
53. ITU (2020a)
54. ITU (2021c)
55. Multiple Indicator Cluster Survey (2019), as cited in UNICEF (2022a)
56. Statistical data not available
57. Economist Impact (2022)
58. Ibid.
59. Ibid.
60. Dawson et al. (2020)
61. Asia Network to End FGM/C (n.d.)
62. Multiple Indicator Cluster Survey (2019), as cited in UNICEF (2022a)
63. United Nations Population Division, as cited in the World Bank (2021a)
64. Multiple Indicator Cluster Survey (2019), as cited in UNICEF (2022a)
65. World Bank (2021b)
66. World Bank (2020t)
67. Economist Impact (2022)
68. World Bank (2020a)
69. World Bank (2020b)
70. Economist Impact (2022)
71. Sear (2021)
72. UNDP (2019)
73. World Bank (2022c)
74. Information and Communication Technology Division (2020)
75. Economist Impact (2022)
76. UNICEF (2021b)

77. GSMA (2022a)
78. Economist Impact (2022)
79. BRAC (n.d.)
80. BRAC (2020)
81. UNFPA (2021a)
82. DHS (2010), as cited in UNICEF (2022a), Burkina Faso country profile
83. DHS (2010), as cited in UNICEF (2020e), Burkina Faso country profile
84. Gallup (2020), as cited in Economist Impact (2022)
85. Ibid.
86. Economist Impact (2022)
87. UNICEF (2021d)
88. UNICEF and UNFPA (2020a)
89. Erulkar et al. (2020)
90. UNICEF and UNFPA (2020a)
91. Chikhungu and Madise (2015)
92. UNICEF and UNFPA (2020a)
93. Wouango et al. (2020)
94. World Bank (2020c)
95. Gallup (2020), as cited in Economist Impact (2022)
96. ITU as cited in Economist Impact (2022)
97. International Finance Corporation (IFC, 2019)
98. ITU as cited in Economist Impact (2022)
99. Gallup (2020), as cited in Economist Impact (2022)
100. United Nations Capital Development Fund (UNCDF, 2021)
101. World Bank (2019a)
102. Economist Impact country research (2021), as cited in the Economist Impact (2022)
103. UNCDF (2021)
104. Information obtained from an interview with a UNFPA Burkina Faso representative
105. QG Jeune (2021)
106. UNFPA (2021b)
107. QG Jeune (2021)
108. Information obtained from an interview with a UNFPA Burkina Faso representative

109. MAIF (2017)

110. UNFPA (2021c)

111. GSMA (2018)

112. UNICEF and UNFPA (2020a); Diop et al. (2006)

113. UNFPA (2018)

114. Equipop and RAES (2017)

115. Demographic and Health Survey (2014), as cited in UNICEF (2022a), *Egypt country profi*le

116. Demographic and Health Survey (2014), as cited in UNICEF (2020e), *Egypt country profi*le

117. Gallup (2020), as cited in Economist Impact (2022)

118. GSMA (2022a)

119. Economist Impact (2022)

120. Statista (2020)

121. Demographic and Health Survey (2014), as cited in UNICEF (2022a)

122. UNICEF and UNFPA (2021b)

123. Metwally et al. (2021)

124. Demographic and Health Survey (2014), as cited in UNICEF (2020e)

125. Norbakk and Tønnessen (2020)

126. Suzuki and Meekers (2008)

127. Demographic and Health Survey (2014), as cited in UNICEF (2020e)

128. Demographic and Health Survey (2014), as cited in UNICEF (2020e); Fahmy, Badr and Vermandere (2021)

129. World Bank (2020d)

130. Gallup (2020), as cited in the Economist Impact (2022)

131. ITU as cited in the Economist Impact (2022)

132. ITU as cited in the Economist Impact (2022); World Bank (2020e)

133. GSMA (2022a)

134. Gallup (2020), as cited in the Economist Impact (2022)

135. GSMA (2022a)

136. Ibid.

137. Metwally *et al.* (2021)

138. Economist Impact country research (2021), as cited in the Economist Impact (2022)

139. World Bank (2019b)

140. World Bank (2019a)

141. GSMA (2022a)

142. Economist Impact country research (2021), as cited in the Economist Impact (2022)

143. UNICEF and UNFPA (2021b)

144. UNICEF and UNFPA (2019c)

145. UNICEF (2021c)

146. UNICEF (2020f)

147. Dawwie (n.d.)

148. UNICEF and UNFPA (2021b)

149. Terre des hommes (2020)

150. UNICEF and UNFPA (2021b)

151. Demographic and Health Survey (2016), as cited in UNICEF (2022a), *Ethiopia country profi*le

152. Demographic and Health Survey (2016), as cited in UNICEF (2020g)

153. Gallup (2020), as cited in Economist Impact (2022)

154. Ibid.

155. Economist Impact (2022)

156. UNICEF and UNFPA (2021c)

157. Erulkar (2022)

158. UNICEF (2020g)

159. World Bank (2020f)

160. ITU (2018)

161. ITU (2020b)

162. Gallup (2020), as cited in Economist Impact (2022)

163. GSMA (2022c)

164. ITU (2020b)

165. Economist Impact (2022)

166. Ibid.

167. ESS (2021)

168. CIPESA (2017)

169. Population Council (2016)

170. VIAMO (2022)

171. Spadacini and Nichols (1998)

172. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2022a), *Ghana country profi*le

173. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2020e), *Ghana country profi*le

174. Gallup (2020), as cited in Economist Impact (2022)

175. Ibid.

176. Economist Impact (2022)

177. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2020c)

178. Fosu, Nyarko, and Anokye (2014); Alhassan and Anyinzaam-Adolipore (2021)

179. 28 Too Many (2019)

180. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2022a), *Ghana country profile*

181. University of Ghana Centre for Social Policy Studies and World Vision Ghana (2017)

182. World Bank (2020g)

183. Gallup, as cited in Economist Impact (2022)

184. National Communications Authority (2020)

185. Economist Impact (2022)

186. Ghana Education Services (2021a); Ghana Ministry of Education (2018)

187. World Bank (2019c)

188. Ghana Education Services (2021b); UNESCO (2021)

189. UNICEF Ghana (2018)

190. India National Family and Health Survey (2021-2022), as cited in UNICEF (2022a), *India country profi*le

191. Statistical data not available

192. Economist Impact (2022)

193. Ibid.

194. Ibid.

195. Kumar (2021)

196. The Indian Express (2020)

197. Taher (2017)

198. IIPS and ICF (2022)

199. UNICEF (n.d.a)

200. International Institute for Population Sciences and ICF (2022)

201. India Brand Equity Foundation (2022)

202. World Bank (2020h)

203. Economist Impact (2022)

204. World Bank (2020u)

205. India Ministry of Electronics and Information Technology (n.d.)

206. World Economic Forum (2019)

207. Sengupta and Krishnakumar (2018)

208. World Bank (2020v)

209. Women in Digital Transformation and DAKA Advisory (2022)

210. GSMA (2022a)

211. Women in Digital Transformation and DAKA Advisory (2022)

212. United Nations (2022)

213. Demographic and Health Survey (2014), as cited in UNICEF (2022a), *Kenya country profi*le

214. Demographic and Health Survey (2014), as cited in UNICEF (2020e), *Kenya country profi*le

215. Gallup (2019), as cited in Economist Impact (2022)

216. GSMA (2022a)

217. Economist Impact (2022)

218. UNICEF (2020e)

219. Ibid.

220. Bhalla (2019)

221. UNICEF (2020e)

222. UNICEF (2022i)

223. Esho et al. (2022)

224. UNICEF (2022a)

225. IEA, IRENA, UNSD, the World Bank and WHO, as cited in the World Bank (2020i)

226. ITU as cited in Economist Impact (2022)

227. Gallup (2022), as cited in Economist Impact (2022)

228. ITU as cited in Economist Impact (2022)

229. GSMA (2022a)

230. ITU as cited in Economist Impact (2022)

231. Economist Impact (2022)

232. As cited in the World Bank Data (2019a)

233. Anti FGM Board (2021)

234. UNICEF and UNFPA (2020b)

235. Anti FGM Board (2021)

236. Information obtained from an interview with a UNICEF Kenya representative

237. Mitchell (2017)

238. Mlaba (2021)

239. UNICEF (2021d)

240. UNICEF (2021f)

241. Ibid.

242. Shujaaz Inc. (n.d)

243. UNICEF (2020d)

244. Shujaaz Inc. (n.d)

245. Childline Kenya (n.d.)

246. AIDS indicator Survey, as cited in UNICEF (2021e)

247. Statistical data not available

248. Gallup (2019), as cited in Economist Impact (2022)

249. INE (2017), as cited in ITU (2022)

250. Economist Impact (2022)

251. UNICEF (2022a)

252. USAID (2020)

253. UNICEF (2021g)

254. FEMNET (2022)

255. World Bank Data (2020j)

256. ITU as cited in Economist Impact (2022)

257. ITU, as cited in World Bank Data (2020k)

258. ITU as cited in Economist Impact (2022)

259. INE (2017), as cited in ITU (2022)

260. ITU as cited in Economist Impact (2022)

261. Economist Impact (2022)

262. World Economic Forum (2019)

263. Economist Impact (2022)

264. Gillwald et al. (2019)

265. Linha Fala Criança (2022)

266. UNICEF and UNFPA (2021d)

267. Linha Fala Criança (2022)

268. Information obtained from an interview with representatives from Linha Fala Criança

269. Child Helpline International (n.d.)

270. Information obtained from an interview with representatives from Linha Fala Criança

271. Ibid.

272. Interview with UNICEF Mozambique representative

273. UNFPA (2008)

274. Interview with UNICEF Mozambique representative

275. Billow and Chang (2017)

276. UNICEF and UNFPA (2021d)

277. UNICEF and UNFPA (2021e)

278. UNICEF and UNFPA (2021d)

279. UNICEF and UNFPA (2021e)

280. UNICEF and UNFPA (2021d)

281. UNICEF and UNFPA (2021e)

282. Multiple Indicator Cluster Survey (2019), as cited in UNICEF (2022a)

283. Statistical data not available

284. UN Women Nepal (2021)

285. Ibid.

286. Statistical data not available

287. UNICEF (2022a)

288. Ibid.

289. UNICEF and UNFPA (2017)

290. UNICEF (2022a)

291. UNICEF (2021d)

292. World Bank (2020q)

293. World Bank (2020y)

294. World Bank (2020r)

295. RSS (2021)

296. Government of Nepal (2019)

297. GSMA (2022b)

298. Open Data Nepal (2016)

299. UNICEF (2021b)

300. Government of Nepal (2019)

301. Boju Bajai (2022)

302. Information obtained from an interview with a UNFPA Nepal representative

303. UNFPA (2020b)

304. Radio Public (2020)

305. Khanal et al. (2021)

306. DHS (2019), as cited in UNICEF (2022a), *Sierra Leone country profi*le

307. DHS (2019), as cited in UNICEF (2020e), *Sierra Leone country profi*le

308. Statistical data not available

309. Statistical data not available

310. Statistical data not available

311. Amnesty International (2012)

312. DHS (2013), as cited in UNICEF (2016)

313. DHS (2019), as cited in UNICEF (2020e), *Sierra Leone country profile*

314. Bjälkander et al. (2013)

315. Fanthorpe (2007)

316. Fanthorpe (2007); Letouzé et al. (2022)

317. UNICEF (2022a)

318. DHS (2013), as cited in UNFPA Sierra Leone (2018)

319. UNICEF (2022h)

320. Save the Children (2021)

321. MICS (2017), as cited in UNICEF (2022h)

322. World Bank Data (2020p)

323. World Bank Data (2020n)

324. ITU as cited in World Bank Data (2022a)

325. BBC Media Action (2016)

326. Bhandari (2011)

327. ITU (2017)

328. Giga (2021)

329. Hairsine and Anthony (2021)

330. UNFPA Sierra Leone (2018)

331. UNICEF (2022h)

332. UNFPA Sierra Leone (2018)

333. Forward UK (2022)

334. 1 World Connected (2020)

335. UK DFID (2021)

336. Ibid.

337. Ibid.

338. KoBoToolbox (2021)

339. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2022a), *The Sudan country profi*le

340. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2020e), *The Sudan country profi*le

341. ITU as cited in Economist Impact (2022)

342. Economist Impact Estimate (2019), as cited in Economist Impact (2022)

343. Economist Impact (2022)

344. UNICEF (2021a)

345. UNICEF (2022a)

346. Tønnessen and al-Nagar (2018)

347. CMI (2022)

348. UNICEF and UNFPA (2021b)

349. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2020e), *The Sudan country profile*; UNICEF and UNFPA (2021b)

350. UNICEF and UNFPA (2021b)

351. Girls Not Brides (2020); UNICEF Sudan (2021a)

352. Norbakk and Tønnessen (2020)

353. Multiple Indicator Cluster Survey (2014), as cited in UNICEF (2020l)

354. UNICEF (2020h)

355. World Bank Data (2020m)

356. ITU as cited in Economist Impact (2022)

357. Ibid.

358. World Bank Data (2020e)

359. Economist Impact (2022)

360. Newzoo (2018)

361. ITU as cited in Economist Impact (2022)

362. Economist Impact (2022)

363. Tairab and Rong-huai (2017)

364. Economist Impact (2022)

365. Evans et al. (2019)

366. Norbakk and Tonnessen (2020)

367. UNICEF and UNFPA (2019c)

368. Mahgoub et al. (2019)

369. Vogt et al. (2016)

370. DHS (2016) as cited in UNICEF (2022a), *Uganda country profi*le

371. DHS (2016) as cited in UNICEF (2020*e), Uganda country profi*le

372. Gallup (2019), as cited in Economist Impact (2022)

373. GSMA (2020)

374. Economist Impact (2022)

375. United Nations Population Division, as cited in the World Bank (2021c)

376. DHS (2016), as cited in UNICEF (2022a)

377. DHS (1991) and DHS (2016) as cited in UNICEF and UNFPA (2020c)

378. UNICEF and UNFPA (2021e)

379. DHS (2016) as cited in UNICEF (2020e)

380. UN Women (2022)

381. Spotlight Initiative (2022)

382. Jjuuko and Mbonye (2020)

383. DHS (2016) as cited in UNICEF and Uganda Bureau of Statistics (2020)

384. IEA, IRENA, UNSD, the World Bank and WHO, as cited in the World Bank (2020m)

385. ITU, as cited in World Bank (2020m)

386. Gallup, as cited in Economist Impact (2022)

387. Economist Impact (2022)

388. ITU, as cited in Economist Impact (2022)

389. ITU (2020c)

390. After Access (2018)

391. GSMA (2019)

392. After Access (2018)

393. Economist Impact (2022)

394. As cited in the World Bank (2022b)

395. The Republic of Uganda (2016)

396. Sauti (2022)

397. UNICEF and UNFPA (2021d)

398. Reach a Hand (2022)

399. U-Report (n.d)

400. UNICEF (n.d.b)

401. UNICEF and UNFPA (2021e)

402. U-Report Uganda (2022)

403. UNICEF (n.d.b)

404. UNFPA and UNICEF (2020c)

405. Information provided by UNFPA and UNICEF Uganda representatives

406. UNICEF and UNFPA (2020c)

407. UNFPA (2020a)

408. Information provided by UNFPA and UNICEF Uganda representatives

409. UNFPA (2020a)

410. UNICEF and UNFPA (2020b)

411. Spotlight Initiative (2022)

412. IPSOS Uganda (2022)

413. Jjuuko and Mbonye (2020)

414. UNICEF and UNFPA (2020b)

415. Demographic and Health Survey (2018), as cited in UNICEF (2022a), *Zambia country profi*le

416. Statistical data not available

417. Gallup (2019), as cited in Economist Impact (2022)

418. ZICTA (2018), as cited in Nkhowani (2022)

419. Economist Impact (2022)

420. Demographic and Health Survey (2018), as cited in UNICEF and UNFPA (2020d)

421. Zambia Ministry of Gender (2016)

422. UN Women (2011)

423. Perez et al. (2015)

424. The Ministry of Gender (2016)

425. Mann et al. (2015)

426. World Bank (2020s)

427. Nkhowani (2022)

428. ITU, as cited in World Bank (2020s)

429. Nkhowani (2022)

430. ITU as cited in Economist Impact (2022)

431. Nkhowani (2022)

432. International Bank for Reconstruction and Development and The World Bank (2020)

433. ITU as cited in Economist Impact (2022)

434. World Bank (2020w)

435. World Bank (2022b)

436. Economist Impact (2022)

437. Gallup (2019), as cited in Economist Impact (2022)

438. ZICTA (2018), as cited in Nkhowani (2022)

439. UNICEF and UNFPA (2021d)

440. Information by a UNFPA Zambia representative

441. UNICEF and UNFPA (2021d)

442. EEAS (2019)

443. World Vision (2022)

444. EEAS (2019)

445. World Vision (2022)

446. Kwatu (2022)

447. Mtonga (2019)

448. USAID (2022)

449. Mtonga (2019)

450. Kwatu (2022)

451. Mtonga (2019)

452. Interview with USAID official

453. Kit RoyalTropical Institute (n.d.)

454. Plan International (2020)

455. Ibid., p. 61 (2020)

456. Plan International (2020)

457. Donthu et al. (2021)

REVIEW OF

TECHNOLOGY-BASED INTERVENTIONS

TO ADDRESS CHILD MARRIAGE AND FEMALE GENITAL MUTILATION