

THE LINK BETWEEN CLIMATE CHANGE AND SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

AN EVIDENCE REVIEW

January 2021



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EXECUTIVE SUMMARY



Image taken over South America by NASA's Galileo
Photo by NASA

We know that a gender-equal world would be wealthier, healthier, more peaceful, and more productive.¹ We also know that to realize that vision and reap the benefits of a gender-equal world, we need to identify and address how interconnected climate change issues and the health and rights of girls and women are. **Gender equality, sexual and reproductive health and rights (SRHR),**

and climate change issues are inextricably linked. Climate change risks increasing social, including gender, inequalities. In addition, as global temperatures rise, extreme weather events like floods, droughts, and heatwaves particularly threaten the health and rights of girls and women.^{2,3,4,5,6} In turn, gender, sexuality, age, wealth, indigeneity, and race are all determining factors in the vulnerability to climate change.^{7,8}

While growing evidence proves that climate change issues are not gender neutral, there remain considerable gaps in related gender-disaggregated data and gender analyses in this space.⁹ More specifically, the linkages between climate change and SRHR have received little attention to-date. However, recognizing these links is key to creating an effective adaptive response to climate change, while also improving gender equality and access to SRHR services.

This evidence review is designed to be used by decision-makers and climate change, humanitarian, and gender equality advocates to better understand the linkages between sectors and align efforts to generate effective policies and programs. Drawing on published literature as well as key informant interviews, this evidence review explores: (i) the impact of climate change on SRHR and (ii) the linkages between climate action, including adaptation and mitigation, and SRHR. The evidence review also explores the evidence through an intersectional lens. Girls and women have numerous identities in addition to their gender, and systemic discrimination on the basis of these is often multiple and intersecting. Understanding how compounding crises and intersecting identities shape vulnerability and resilience to climate change and SRHR is necessary to make sure climate actions do not exacerbate inequalities.

KEY FINDINGS

<p>The impacts of climate change have detrimental effects on individuals' SRHR</p>	<ul style="list-style-type: none"> • Climate change issues have negative impacts on maternal health and create conditions that result in increases in gender-based violence, including harmful practices such as child marriage. • Climate-related disasters may strain the capacity of health systems and hinder access to SRHR services. • The drivers of conflict and of vulnerability to climate change are multiple, complex, and, oftentimes, cyclical, making it difficult to analyze their differentiated impacts on SRHR in isolation. However, it is expected that the impacts of climate change on SRHR are exacerbated in humanitarian settings.
<p>Climate action efforts may indirectly and directly impact SRHR, but more evidence and analysis is needed</p>	<ul style="list-style-type: none"> • Climate change adaptation efforts that improve health systems, girls' education, and women's economic empowerment can indirectly provide benefits to SRHR. • Most mitigation efforts tackle the key contributors to climate change, such as consumption patterns. These efforts may have indirect impacts on individuals' SRHR, which require further attention. • There are quantifiable linkages between population growth and climate change. However, population growth is not a main contributor to climate change. Any efforts related to reducing the unmet need for family planning for climate change mitigation purposes require a social justice and rights-based approach.
<p>There is emerging evidence of the benefits of realizing SRHR as a basis for climate action</p>	<ul style="list-style-type: none"> • Investments in SRHR, including by building more resilient health systems, improving health, and delivering SRHR services in the aftermath of climate change disasters, can reduce the impacts of climate change on people. • The realization of SRHR, by increasing girls and women's resilience and adaptive capacity to climate change and improving their engagement in climate action, is key to ensure people can better deal with the impacts of climate change.
<p>Efforts to address climate change that do not pay attention to existing inequalities in access to SRHR and gender equality run the risk of exacerbating them</p>	<ul style="list-style-type: none"> • There is a significant overlap between populations who have an increased vulnerability to climate change and populations who face socioeconomic, cultural, and political barriers to the realization of their SRHR. This overlap needs to be recognized to address existing inequalities. Adaptation needs to include SRHR because without addressing these issues vulnerable populations' adaptive capacity will be reduced.



Greenland Ocean Sunset
Photo by William Bossen on Unsplash

CONCLUSIONS

Though there are considerable gaps in research and evidence that link climate change and SRHR, it is clear that climate change, its impacts, and subsequent efforts to address them, negatively affect SRHR both directly and indirectly. These negative impacts are felt most by girls and women, and individuals who already experience multiple barriers to the realization of their SRHR. In particular, adolescents; sex workers; people living with disabilities; or those of underrepresented sexual orientation, gender identity, gender expression, and sex characteristics (SOGIESC) face significant barriers in accessing SRHR information and services, including in humanitarian settings.

Applying a social justice framework to climate action recognizes that the responsibility for reducing global greenhouse gas emissions should not be placed on people, particularly women, in low-emitting countries who contribute very little to the causes of climate change but are highly vulnerable to its effects. With this lens, opportunities to strengthen SRHR can be focused on improving resilience to climate change, and thereby helping achieve the dual goals of gender equality and climate change relief.

This evidence review aims to compel the international community towards more integrated, systemic approaches to achieve the inter-related objectives of achieving gender equality, addressing the impacts of climate change, and realizing SRHR.

RECOMMENDATIONS

In order to fully capture the linkages between SRHR and climate change, minimize the impact of climate change on the population, and improve efforts to fight climate change by addressing the SRHR needs of populations, **governments, international organizations, civil society organizations (CSOs), donors, researchers, and advocates must work together to:**

<p>Enhance collaboration between the climate change, health, and women’s rights advocacy communities</p>	<p>The establishment of a dedicated network of actors focusing on SRHR and climate change could improve dialogue, collaboration, approaches, and processes among diverse stakeholders, including women-focused CSOs and those working on climate change, health, and women’s rights.</p>
<p>Promote gender-transformative climate action by addressing the linkages between climate change and SRHR across climate action processes</p>	<p>There are numerous opportunities to further strengthen gender-responsive climate action by considering the linkages with SRHR, including in the Gender Action Plan under the United Nations Framework Convention on Climate Change (UNFCCC), the Women and Gender Constituency (of the UNFCCC), and through the climate National Adaptation Plans development process.</p>
<p>Set targets for inclusive, gender-balanced, multi-sectoral stakeholder participation in climate policy</p>	<p>Gender-responsive climate action can be used as the starting point for addressing SRHR, and participatory processes that include women-focused CSOs and people in all their diversity are fundamental in ensuring that all needs are recognized and addressed.</p>
<p>Invest in research to address evidence gaps and integrate the analysis of SRHR and climate data</p>	<p>More investment in research, with an intersectional lens, on the social and gender dimensions of climate change and action is needed so that the evidence base and argument can be strengthened and incorporated in global policies, plans, and programs. Climate-related sex-disaggregated data need to be systematically collected and analyzed.</p>
<p>Realize the full range of SRHR in order to prepare for, respond to, and recover from climate-related disasters</p>	<p>More attention to SRHR in disaster risk management (DRM) processes is needed. This includes addressing both the process of DRM planning and the practicalities of preparing for, responding to, and recovering from disasters.</p>
<p>Invest in health systems to address the underlying causes of vulnerability to climate change</p>	<p>Investments in resilient health systems, with a focus on SRHR, provide opportunities to address persistent barriers to the realization of the right to health while addressing underlying causes of vulnerability to climate change.</p>

KEY CONCEPTS & ACRONYMS

KEY CONCEPTS

**Adaptation
(to climate change)**

“Process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.”¹⁰

Climate action

Efforts to address both the causes (mitigation) and the effects (adaptation) of climate change in relation to SRHR.

Climate change

“A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”¹¹ This evidence review focuses on impacts of changes in climate, including floods, droughts, heat waves, and extreme weather events, among others.

Disaster risk management

“The application of disaster risk reduction policies, processes, and actions to prevent new risk, reduce existing disaster risk, and manage residual risk, contributing to the strengthening of resilience.”¹²

**Gender-responsive
climate action**

Recognition of gender differences in adaptation needs and capacities; gender-equitable participation and influence in adaptation decision-making processes; and gender-equitable access to finance and other benefits resulting from investments in adaptation.¹³

Intersectionality

Intersectionality is a framework to understand how particular forms of interconnected identities work together to create one’s lived experience. Intersectional paradigms remind us that discrimination cannot be reduced to one fundamental aspect of an individual’s life. Rather we must critically consider the combinations of factors that make up one’s entire identity. Intersectional feminism examines the overlapping systems that create unique modes of discrimination or privilege that women experience, based not just on gender but on race, ethnicity, sexuality, economic background, ability, nationality, citizenship, and a number of other axes.

Mitigation (to climate change)	Actions to address the causes of climate change by reducing emissions or enhancing sinks of greenhouse gases. ¹⁴
Sinks	Processes, activities, or mechanisms that remove greenhouse gas emissions from the atmosphere. ¹⁵
Resilience (to climate change)	“The capacity of social, economic, and environmental systems to cope with a hazardous event, or trend, or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.” ¹⁶
Vulnerability (to climate change)	“The propensity or predisposition to be adversely affected” ¹⁷ by the impacts of climate change. Vulnerability is determined by sensitivity and susceptibility to harm and by adaptive capacity, among other factors. ¹⁸
Sexual and reproductive health and rights (SRHR)	The Guttmacher-Lancet Commission on Sexual and Reproductive Health and Rights ¹⁹ defines SRHR as “the state of physical, emotional, mental, and social well-being in relation to sexuality and reproduction, not merely the absence of disease, dysfunction, or infirmity.” ²⁰ This SRHR definition is grounded in human rights, and more specifically, the right to health as defined by the World Health Organization. ²¹

ACRONYMS

ARROW	The Asian-Pacific Resource and Research Centre for Women	IASG	Inter-Agency Support Group on Indigenous People’s Issues
CIFOR	Centre for International Forestry Research	ICPD	International Conference on Population and Development
CSE	Comprehensive Sexuality Education	ICRW	International Centre for Research on Women
DRM	Disaster risk management	IISD	International Institute for Sustainable Development
GAP	Gender Action Plan (of the UNFCCC)	IPCC	Intergovernmental Panel on Climate Change
GBV	Gender-based violence	IPPF	International Planned Parenthood Federation
HIV/AIDS	Human immunodeficiency virus/Acquired immune deficiency syndrome	IUD	Intrauterine device
HPV	Human papillomavirus		

LGBTQIA+	Lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other diverse sexual orientations and gender identities	STI	Sexually transmitted infection
MISP	Minimum Initial Service Package	UN	United Nations
NAP	National Adaptation Plan	UNDESA	United Nations Department of Economic and Social Affairs
PRB	Population Reference Bureau	UNFCCC	United Nations Framework Convention on Climate Change
SDG	Sustainable Development Goal	UNFPA	United Nations Population Fund
SOGIESC	Sexual orientation, gender identity and expression, and sex characteristics	UNISDR	United Nations International Strategy for Disaster Reduction (now the United Nations Office for Disaster Risk Reduction)
SRHR	Sexual and reproductive health and rights	WHO	World Health Organization

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1. INTRODUCTION

A gender-equal world would be wealthier, healthier, more peaceful, and more productive. To realize that vision and reap the benefits of a gender-equal world, we need to identify and address how interconnected climate change issues and the health and rights of women and girls are. Gender equality, sexual and reproductive health and rights (SRHR), and climate change issues are inextricably linked. Climate change, including extreme weather events, rising temperatures, and rainfall variability, poses a significant challenge to the basic determinants of physical and mental health: clean air, safe drinking water, food security, and shelter.^{22, 23, 24, 25, 26} An individual's gender, along with their age, race, economic status, education, and other social characteristics, are all factors in determining their climate change vulnerability and adaptive capacity.^{27, 28}

While climate change impacts all genders, girls and women face heightened vulnerability to the effects of climate change, in large part due to gender inequality. Gender inequality impacts and is impacted by social and economic factors. This bi-directional influence leads to unequal access to basic social goods and natural and financial resources, reduction in food security, unequal decision-making power, and barriers in building capacity to increase individuals' resilience to extreme weather events.^{29, 30, 31} Evidence shows that climate change exacerbates these inequalities.³² Populations that suffer from social injustices are disproportionately affected by climate change, and as a result, have more difficulties coping with and responding to climate change.³³ Understanding how compounding crises and intersecting identities shape vulnerability and resilience to climate change and SRHR

is necessary to make sure climate actions do not exacerbate inequalities. Therefore, climate action must be gender-responsive, which means it recognizes gender differences in adaptation needs and capacities; promotes gender-equitable participation and influence in adaptation decision-making processes; and supports gender-equitable access to finance and other benefits resulting from investments in adaptation.³⁴ This is enshrined in recent decisions made by the United Nations Framework Convention on Climate Change (UNFCCC). In fact, the Paris Climate Agreement includes specific provisions to ensure women receive support to cope with the hazards of climate change.³⁵

While the evidence base for gender, health, and climate change interlinkages is growing, there remain considerable gaps in related gender-disaggregated data and gender analyses to inform decision-making.³⁶ More specifically, the linkages between climate change and sexual and reproductive health and rights (SRHR) have received little attention to date. This could be due to a lack of governmental prioritization of SRHR in climate action in many countries, debates on the links between SRHR and climate change that are sensitive in nature, and historical siloes *within* and *between* the gender equality and climate change sectors.³⁷ However, SRHR is foundational to gender equality; when individuals have the right to bodily autonomy and access to sexual and reproductive health services, they are better able to participate and contribute across all aspects of society.

Therefore, full realization of SRHR will be imperative in ensuring that climate action plans devised with a gender lens meet their goals.

This review examines the impact of climate change issues on SRHR, the impact of climate action on SRHR, and the potential role SRHR plays in climate action. In doing so, this evidence can be used by decision-makers and climate change, humanitarian, and gender equality advocates to help to raise awareness of these linkages, highlight opportunities to promote SRHR as a basis for climate action, and ensure climate related policies and practices employ a rights-based approach that protects and promotes individuals' rights to bodily autonomy.

Haze in San Francisco from wildfire smoke

Photo by Tegan Mierle on Unsplash

A note on intersectionality:

Many of the factors that inhibit the realization of SRHR also exacerbate vulnerability to climate change and vice-versa. Beyond gender, a person's vulnerability to climate change may also be informed by sexual orientation, race, indigeneity, ethnicity, age, citizenship status, socioeconomic status, and disability or mobility, among others.^{38, 39} While limited, studies with intersectional data are presented in the findings (section 3) to highlight how diverse identities come together to impact both vulnerability and adaptability to the impacts of climate change. Further information on why applying an intersectional lens to climate change and SRHR work is necessary to advance both gender equality and create sustainable societies can be found in section 3.4.

The analysis in this review adopts a social justice and rights-based approach (see box on pages 17–18).



Air pollution over Bangkok, Thailand

Photo by Nick van den Berg on Unsplash

2. METHODS

2.1 SCOPE

To the extent of the evidence available, this review details the impacts of climate change on SRHR, with a focus on the effects of rising temperatures, sea level rise, extreme weather events, and changing weather patterns. The review discusses climate action and addresses both the causes (mitigation) and the effects (adaptation) of climate change in relation to SRHR. Climate-related impacts and efforts that are not linked to SRHR are not explored in depth. The review covers the following components of SRHR in line with the [2018 Guttmacher-](#)

[Lancet commission on SRHR](#): HIV/AIDS and other sexually transmitted infections (STIs); contraceptive services; maternal and newborn health; abortion, including safe abortion services and post-abortion care; infertility; and gender-based violence (GBV), with a focus on those dimensions that are most closely linked to SRHR, including forced marriage and sex trafficking. Where possible, the review also looks at the availability of SRHR information, as well as the accessibility and delivery of SRHR services.

Key research questionsⁱ:

KEY TOPIC	GUIDING QUESTIONS
The impact of climate change on SRHR	<ul style="list-style-type: none"> How does climate change, and the increased risk and uncertainty associated with it, affect the different components of SRHR?
The impact of climate action on SRHR	<ul style="list-style-type: none"> What types of adaptation and mitigation actions have been shown to positively affect SRHR? Which ones have been shown to negatively affect SRHR?
The importance of SRHR for climate change resilience and climate action	<ul style="list-style-type: none"> How do gaps in the realization of SRHR increase individuals' vulnerability to climate change? How do they create barriers for people, particularly women, to participate in adaptation and mitigation actions? How does the realization of SRHR increase individuals' resilience to climate change and/or create opportunities for people, particularly women, to engage in climate action?

2.2 COMPILING THE EVIDENCE

Evidence was gathered through a literature review and key informant interviews. The literature review focused on quantitative and qualitative peer-reviewed literature, including grey literature, to present a robust and evidence-based analysis of the issues. All reviewed literature was published after 2015, with the exception of documents considered to be foundational research, important synthesis reports, or useful case examples. Relevant literature was identified through web searches, key word searches in academic databases,ⁱⁱ review of references in key papers, and discussions with four key informants from CSOs, NGOs, and academics working at the intersection of climate change and SRHR.ⁱⁱⁱ The literature review incorporated references with global and regional perspectives, as well as those based on case studies in one or more countries. Key informant interviews gathered evidence from professional experiences related to the linkages between SRHR and climate change and climate action. Consent to include interview findings in this document was secured.

2.3 ANALYZING THE EVIDENCE

Literature was reviewed to answer the key research questions noted above. The evidence review presents findings supported by a strong body of evidence, combining multiple academic sources with anecdotal evidence and the opinions of key informants where relevant. The review also notes which linkages remain unclear and where more evidence is needed.

ⁱ The full guiding questions for both the literature review and the interviews, and topics used for word searches are presented in Annex 1.

ⁱⁱ Searches were conducted in ResearchGate, Google Scholar, and JSTOR.

ⁱⁱⁱ Key informant interviews were conducted in English with members from ARROW, PATH, UN WOMEN, and University College London.

3. FINDINGS

3.1 THE IMPACTS OF CLIMATE CHANGE HAVE DETRIMENTAL EFFECTS ON INDIVIDUALS' SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

Sexual and reproductive health and rights are at risk in a changing climate. The disproportionate impact of climate change on girls' and women's broader health, social, and economic well-being is well documented. While many countries still do not collect comprehensive climate-related gender-disaggregated data, some research shows that women and children are up to 14 times more likely than men to die in the aftermath of disasters, including extreme weather events such as hurricanes, wildfires, and flooding.^{40, 41, 42, 43} Though the literature review widely supports this claim, it is important to note that comparative mortality rates may differ depending on the specific context. There are specific incidences of climate-

related disasters in which more men than women died,⁴⁴ and men's vulnerability may be exacerbated due to gender norms that promote risk-taking.⁴⁵ Female survivors of climate-related disasters are more likely to face decreased life expectancy, mental health disorders, GBV, exploitation and risk for trafficking, and increased complications in childbirth.⁴⁶ The impacts of climate change appear to be linked to some components of SRHR more than others. There is strong evidence linking climate change to negative maternal health outcomes, an increased prevalence of GBV, and, generally, a lack of access to SRHR services which in turn negatively impact family planning, abortion, and STI outcomes.

Maternal Health

Dehydration during pregnancy can be especially devastating to both mother and child, as it can affect fetal growth, release labor-inducing hormones, cause preterm births, and increase the maternal risk of anemia and eclampsia.⁴⁷ Rising temperatures, incidents of heat waves and droughts, and rainfall variability can affect food and water security and impede women's access to safe and reliable drinking water.⁴⁸ Similarly, macro- and micronutrient deficiencies caused by food insecurity and undernutrition among pregnant women can affect pregnancy, nursing, and newborn outcomes and lead to low-weight births, miscarriages, and perinatal mortality.^{49, 50, 51}

Climate change is also associated with the increased spread of vector-borne diseases, as temperature and precipitation rates affect the survival and spread of these diseases.^{52, 53, 54, 55, 56, 57, 58} Significant evidence shows that vector-borne diseases can increase the risk of spontaneous abortion, premature delivery, stillbirth, low-weight births,

eclampsia, and cesarean delivery for pregnant women.^{59, 60, 61} Malaria, for example, can exacerbate anemia, which increases the risk of postpartum hemorrhage and birth complications.⁶² Pregnant women are disproportionately susceptible to mosquito-borne diseases, including Zika virus, dengue, and malaria. This is in part due to their closer proximity to standing water as they spend time in the house and performing domestic tasks, such as cooking and those related to water, sanitation, and hygiene.^{63, 64, 65}

Further, some evidence notes that pregnant women may also be more susceptible to the harmful health effects of wildfire and poor air quality. Exposure to air pollutants can be associated with negative birth outcomes and respiratory illnesses in pregnant women.^{66, 67} Evidence from the United States suggests that women with asthma and Black women could be at a greater risk for preterm births and low-weight births due to higher exposure to air pollution.⁶⁸

Gender-Based Violence and Early Marriage

Significant evidence points to how climate change, and particularly climate-related disasters, can be linked to increased vulnerability to GBV, including sexual violence, transactional sex, and sex trafficking. In turn, these are linked to increased risk of STIs and unintended pregnancies.⁶⁹ Vulnerability to GBV, including sexual violence, is exacerbated for girls and women living in socially or geographically isolated places and those who are migrants, refugees, asylum seekers, internally displaced persons, LGBTQIA+ individuals, girls and women with disabilities, and girls and women living in

poverty.^{70, 71, 72, 73} Similarly, there is a significant body of research demonstrating that in humanitarian and emergency settings, women and children are at higher risk of experiencing GBV and encounter additional barriers to accessing SRHR services.^{74, 75, 76} Research shows that:

- When natural resources become scarce due to climate change, girls and women travel farther distances to secure food and water, which can increase their risk of exposure to sexual abuse, physical abuse, and harm.^{77, 78, 79}

- After the 2009 bushfires in Australia, there was an increase in domestic violence against women and children. Stressors related to the bushfires, such as financial instability and loss of possessions, were found to exacerbate existing violence in the home.⁸⁰
- In Malawi, it is estimated that 1.5 million girls are at risk of becoming child brides due to the impacts of extreme weather events caused by climate change, making it harder for families to afford to feed and house their own children.⁸¹
- In Uganda, rates of domestic violence, sexual abuse, and female genital mutilation (FGM) increased during periods of drought from 2014 to 2018.⁸²
- In Myanmar, sex work reportedly increased as a survival mechanism following Cyclone Nargis in 2008.⁸³
- In Indonesia, climate-related impacts on farming led to an increase in women's migration for work, placing them at a higher risk of sexual violence and/or trafficking.⁸⁴
- A study predicted that climate change may lead to between 11.6 and 16 million additional cases of HIV by 2050 across 25 countries in Sub-Saharan Africa. This modeled prediction is based on the findings that as temperature increases in these countries, male migration and use of sex markets increases.⁸⁵

Further, in low- and middle-income countries and crisis-affected countries, child and forced marriage are seen to increase during economic difficulties associated with climate-related shocks and stresses.^{86, 87, 88} Early marriage and pregnancy can have serious adverse SRH impacts. Girls who become pregnant before the age of 15 are more susceptible to placental tears, obstruction at the time of delivery, and maternal mortality.^{89, 90, 91} In Nepal and Bangladesh, research found that young girls may be pulled out of school and into a marriage to alleviate financial hardship caused by extreme weather events.^{92, 93} In Myanmar, dropout rates were 34.7 percent for boys and 42.3 percent for girls after Cyclone Nargis in 2008.⁹⁴



ONE WORLD. Global climate change protest, Germany.
Photo by Markus Spiske on Unsplash

Climate change disasters disrupt access to sexual and reproductive health services and products

Without adequate disaster-risk management (DRM), climate-related disasters directly result in disruptions that limit access to SRH services and supplies. Extreme weather events — including storms, floods, and wildfires — can cause physical damage to health facilities and infrastructure, causing cutoffs in medical supply chains and result in the loss of medical records.^{95,96}

When health facilities and supply chains are compromised, there is a direct and immediate negative impact on access to and quality of SRH services, such as post-exposure prophylaxis for HIV, HIV treatment, emergency contraception, and safe abortion services.^{97,98}

For example:

- In Bangladesh, increasing incidences of flooding have led to low stocks of contraceptives at health facilities in rural and remote areas.⁹⁹
- A lack of female doctors in temporary camps in Pakistan prevented women from seeking health services post-flooding, due to the social stigma of engaging with, and a fear of sexual harassment from, male doctors.¹⁰⁰
- In Thailand, pregnant women who were displaced due to flooding delivered infants with significant lower birth weights than infants born to women who were not displaced by a natural disaster. The study also found birth weight increased with perceived social support, which may be lost during displacement.¹⁰¹
- The Black community in New Orleans, United States experienced decreased fertility rates following Hurricane Katrina in 2005, likely brought on by effects such as financial instability and displacement.¹⁰²
- In the Philippines, Typhoon Haiyan destroyed many health facilities in 2013, which left pregnant women without access to antenatal care for a month, with many women having to walk longer distances to regain access to services.¹⁰³
- In the aftermath of Hurricane Maria in 2017, Puerto Rican health specialists reported not having the necessary water supply and sanitized surgical instruments needed for deliveries.¹⁰⁴
- During Hurricane Mitch, women in rural regions of Nicaragua lacked comprehensive pregnancy and post-partum care, and the economic damage from crop loss indirectly influenced couples to delay childbearing.^{105,106}
- The El Niño-induced drought has limited water supply for personal hygiene and limited supply of the traditionally used absorbent plant for menstrual blood for girls and women in Mozambique.¹⁰⁷

There is some evidence of the ways in which the impacts of climate change interact with discriminatory gender and sexuality related stereotypes or norms and exacerbate gaps in the realization of SRHR.^{108,109} For example, LGBTQIA+ people face the risk of losing their limited safe physical spaces and support services, including healthcare, in the immediate aftermath of natural

disasters and other climate-related events.¹¹⁰ Due to prejudice, LGBTQIA+ people can often be excluded from disaster preparedness, response, recovery, and relief efforts in the short- and long-term, including their access to emergency housing, medical care, and food.¹¹¹ For example, in the aftermath of the floods in the Sindh province of Pakistan over various years, it was reported that transgender people were not allowed to enter relief camps because people were not comfortable sharing the space with them.¹¹²

It is clear from the research that additional factors, such as poverty, also interact with climate-related shocks and stresses to exacerbate vulnerability and further disrupt access to SRH services and products. For example, when girls' and women's local health infrastructure is damaged, those who live far from functioning health centers and those with limited financial resources are more heavily affected, as people experience loss in income when their livelihoods are affected by rising temperatures, sea-level rise, erratic rainfall, or extreme weather events. Consequently, their investments in SRH services and products may take a backseat to more immediate priorities, such as obtaining food for their families and the community.¹¹³ Additionally, they may need financial resources and time to gain access to health services during and after climate-related stresses. It has also been documented that disasters that push people into poverty make it difficult for girls and women to afford basic health and hygiene products, leading to poor menstrual hygiene, which is correlated with reproductive and urinary track infections.¹¹⁴

There are further **long-lasting impacts** on SRHR after a climate event takes place. Disruptions in health services can compromise access to contraceptives, maternal and child care,

treatments and testing for HIV infections and other STIs, counselling, psychosocial support, abortion services, and post-abortion care for crisis-affected communities.^{115, 116, 117} Increases in STIs can cause negative long-term health implications for women if left untreated — including infertility, tubal or ectopic pregnancy, cervical cancer, and perinatal or congenital infections in infants born to affected mothers.^{118, 119} Reduced access to contraception can result in higher cases of unintended pregnancy, pregnancy complications, and death during childbirth.¹²⁰ Unsafe abortion is the cause for at least nine percent of maternal deaths worldwide. The literature suggests that this rate is likely to be much higher in emergency settings.¹²¹ Therefore, DRM efforts must consider the immediate, short-term, and long-term impacts of climate related stresses and anticipate how the unexpected impacts of disasters impact access to health services and recovery.

The impacts of climate change on sexual and reproductive health and rights may be exacerbated in humanitarian settings

The drivers of conflict and vulnerability to climate change are multiple, complex, and, oftentimes, cyclical, making it difficult to analyze their differentiated impacts on SRHR in isolation. As such, evidence related to the impacts of climate change on SRHR is often discussed more broadly in the context of these drivers of vulnerability, without distinguishing between, for example, post-disaster and conflict-affected settings. However, it is clear that settings of conflict and fragility are areas of high vulnerability in relation to SRHR, and it is expected that climate change is further exacerbating barriers to accessing SRH care in these settings.

During any natural or man-made crisis, there is typically a breakdown of governance, support systems, and services that impact girls' and women's SRHR. Crises such as conflict, natural disasters, and global pandemics that produce weaknesses in health systems increase vulnerability to climate change.^{122, 123} In turn, these weaknesses lead to gaps in access, availability, acceptability, and quality of SRHR information and services.^{124, 125} This, together with fear, stigma, and harmful social norms that may be heightened in post-disaster settings, can result in worsened SRH outcomes. In humanitarian crises, evidence shows that institutional medical priorities often do not consider sexual and reproductive health as essential emergency relief, and therefore shift


away from this lifesaving intervention.^{126, 127, 128}

Further, in places where abortion services are legal, they may be defunded or under-resourced due to a number of reasons: abortion may be considered too complicated to provide in a crisis; donors may not be willing to provide emergency funding towards this end; or abortion may be believed to be illegal.¹²⁹ For example:

- The COVID-19 pandemic has created a double burden in humanitarian settings. A qualitative study interviewing women from refugee, displaced, and post-conflict settings across 15 African countries found that 73 percent of respondents experienced an increase in intimate partner violence and 51 percent experienced sexual violence due to lockdowns and economic stresses caused by the pandemic.¹³⁰
- During the 2010 earthquake in Haiti, women reported having less access to contraceptives, even though emergency aid did include some SRHR funding.¹³¹
- Evidence found that after the floods in the Sindh region in Pakistan, due to cultural norms, women were not allowed to leave temporary shelters to seek health services unless accompanied by a male relative, which, in turn, increased their difficulty in exercising their rights related to SRH.¹³²

While some efforts have been made to address SRHR in disaster response and recovery, including through the development and implementation of the Minimum Initial Service Package (MISP) for Sexual and Reproductive Health,^v progress has been variable.¹³³ In particular, adolescents; sex workers; people living with disabilities; or those of underrepresented sexual orientation,

gender identity, gender expression, and sex characteristics (SOGIESC) face significant barriers in accessing SRHR information and services in humanitarian settings.¹³⁴ This reduced access to SRHR services is a threat to the health and well-being of girls and women, in addition to impeding disaster recovery and longer-term development.¹³⁵



A desolate dusty brown riverbed, Namibia

Photo by Grant Durr on Unsplash

^v The Minimum Initial Service Package (MISP) is a series of crucial actions required to respond to reproductive health needs at the onset of every humanitarian crisis. The five objectives of the MISP are to: 1) ensure an organization is identified to lead the implementation; 2) prevent and manage the consequences of sexual violence; 3) reduce HIV transmission; 4) prevent maternal and newborn death and illness; and 5) plan for comprehensive sexual and reproductive health care, integrated into primary health care. (UNFPA, 2015c).

3.2 IMPACT OF CLIMATE ACTION AND SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

There is limited evidence available to assess the impact of climate action on the realization of SRHR. However, the literature does yield some insights that are relevant to ensure that SRHR receives the appropriate level of attention in the planning and implementation of global and national climate change adaptation and mitigation actions.

Adaptation efforts can indirectly impact sexual and reproductive health and rights

There is an inadequate foundation of information, guidance, and experience available for governments and other actors to pursue SRHR-related interventions as a basis for adaptation to climate change. There is no agreed-upon definition of gender-responsive climate action at the international level, let alone SRHR specific guidelines. However, a recent document produced by the Least Developed Countries Expert Group and the Adaptation Committee under the UNFCCC (in collaboration with the NAP Global Network) highlights three key elements of gender-responsive adaptation to climate change: (1) recognition of gender differences in adaptation needs and capacities; (2) gender-equitable participation and influence in adaptation decision-making processes; and (3) gender-equitable access to finance and other benefits resulting from investments in adaptation.¹³⁶ Though the current WHO guidance for adaptation planning in the health sector does integrate gender considerations to a certain extent, it does not explicitly address SRHR issues beyond recognizing that pregnant women are vulnerable to malnutrition.¹³⁷

The literature on climate change and health, including the *Lancet Countdown on health and climate change*,¹³⁸ primarily focuses on climate-sensitive diseases, heat stress, and, to a certain extent, issues related to malnutrition and hunger.

It is therefore unsurprising that the adaptation responses focus on addressing these issues rather than explicitly focusing on SRHR. However, as noted in the section above, climate-related diseases, heat stress, and food insecurity can all impact everything from maternal health and vulnerability to GBV. Similarly, despite some research highlighting that weaknesses in health systems and gaps in health services are a drivers of vulnerability to climate change,^{139, 140, 141, 142} these issues have received relatively limited attention in discussions about adaptation and they rarely cover SRHR issues.

'Population, Health, and the Environment' efforts can support climate adaptation and sexual and reproductive health and rights

Community-based efforts linked to environmental sustainability, while not explicitly climate change adaptation programs, can have indirect impacts on both climate change and SRHR. However, evidence surrounding their efficacy as a high impact practice is still needed. Localized examples of adaptation efforts that support SRHR goals, both directly and indirectly, are described below:

- In a recent project in Kenya and Uganda in the Lake Victoria Basin, Pathfinder International's Population Health and Environment program packaged information about conservation and reproductive health together.¹⁴³ Government leaders were encouraged to highlight the linkages between environmental projects and SRHR projects.¹⁴⁴ The project (2011–2019) yielded positive results: over 118,000 visits for contraception, a 214 percent increase in deliveries in facilities supported by Pathfinder, 204 fish breeding zones protected, and over 856,000 trees planted.¹⁴⁵
- Blue Ventures, an oceanic conservation organization, prioritizes the importance of girls and women's SRHR in the fight for a livable planet.¹⁴⁶ Their holistic approach integrates reproductive health services into its conservation programs.¹⁴⁷ By training and supporting local women to offer community-based family planning services, Blue Ventures has increased the proportion of women using contraceptives by 10 percent, served 45,000+ people, and averted 4,500 unintended pregnancies in Madagascar.¹⁴⁸

SRHR Training at Sindh University in Pakistan

Photo courtesy of Muhammad Khalid Rao



Mitigation efforts are often unrelated to sexual and reproductive health and rights, but when linked, they must employ a social justice and rights-based approach

While there is some evidence linking the reduction of greenhouse gases to voluntary family planning that is rooted in a rights-based approach (see page 16), additional research is needed to inform practice. Though the most recent assessment report from the Intergovernmental Panel on Climate Change (IPCC) report did identify the health benefits of other mitigation strategies (for example, in relation to decreased meat consumption and increases in urban green space), the report did not link other mitigation strategies to SRHR.¹⁴⁹

Non-SRHR related mitigation strategies — such as the adoption of new technologies that reduce emissions, improve forest conservation and management, and efforts to promote renewable energy — are front and center in efforts to address climate change because they tackle the bigger causes of climate change, such as consumption patterns and large emissions from developed countries. However, even when interventions do not explicitly target or integrate SRHR, actors carrying out climate change mitigation strategies should acknowledge

potential SRHR-related impacts on vulnerable populations to prevent unintentional harm.

For example:

- Dams can be useful for regional water management and provide hydroelectric power; however, mismanagement can contribute to potentially catastrophic floods. For example, the 2018 floods in Kerala, Bangladesh were a result of dam gates being suddenly opened after heavy rains, devastating communities living downstream and leading to increased risk from infection of water-borne and vector-borne diseases.¹⁵⁰ As noted in section 3.1, vector-borne diseases have detrimental impacts on maternal health.
- The introduction of rural solar electrification projects creates opportunities for job growth and increased access to clean energy. However, not enough research is available to determine whether interventions targeting women's economic empowerment may have adverse consequences, such as GBV as a result of shifting decision-making power in the home.¹⁵¹



Windmills in Mölsheim, Germany

Photo by Karsten Würth on Unsplash

Protecting sexual and reproductive health and rights in climate change mitigation efforts

Mitigation strategies that hinge on decreasing emissions through the slowing of population growth have rightfully received relatively little attention among the different mitigation strategies for various reasons (see pages 17–18).¹⁵² However, researchers, including the IPCC, have highlighted that voluntary family planning to slow population growth, following a rights-based approach and implemented in culturally appropriate ways, is a cost-effective solution to reduce greenhouse gases.^{153, 154, 155} For example:

- It has been estimated that substantial reductions in global emissions, up to 15 percent by 2050 and 40 percent by 2100, could be achieved if the United Nation’s low population growth path was achieved, alongside moderate economic growth, technology change, and energy shifts.¹⁵⁶
- Voluntary efforts, rooted in a rights-based approach, to slow population growth can increase access to SRH services and advance sexual and reproductive rights. This in turn leads to improved maternal and child health by extending the interval between pregnancies and reducing pregnancies among those who are at highest risk of complications.¹⁵⁷
- Project Drawdown, a nonprofit organization that aims to uncover the solutions to stop climate change, estimated that a combination of voluntary reproductive health resources and universal, gender-equitable access to quality education could lead to a reduction over 85 giga-tons of greenhouse gas emissions between 2020 and 2050.¹⁵⁸

It is important to note that mitigation strategies that hinge on increasing SRHR and education through rights-based approaches will only reap benefits in the long-term, as it may take decades and generations for them to have a proper effect. This stands in stark contrast to other mitigation strategies that promote the reduction of consumption and the production of fossil fuels.

Despite there being clear and quantifiable linkages between population growth and climate change, some efforts to slow population growth have violated human rights and placed SRHR at risk in the past when they have not been voluntary. Even when voluntary, rights-based approaches to family planning for climate change may not be holistic, as they fail to recognize that the impacts of climate change are not evenly distributed and already affect the most vulnerable — namely women, children, older people, people with chronic diseases and disabilities, Indigenous peoples, those living in small island states, and workers exposed to increased weather variability.¹⁵⁹ Consequently, a social justice framework must be applied to climate change action (see pages 17–18).

The importance of adopting a social justice framework for climate change mitigation

A social justice framework for climate action should protect human rights, especially for the most vulnerable populations,¹⁶⁰ and promote justice, equity, and fairness.¹⁶¹ Such a framework recognizes that the responsibility for reducing global greenhouse gas emissions should not be placed on people, particularly women, in low emitting countries who contribute relatively little to the causes of climate change but are highly vulnerable to its effects.^{162, 163}

Placing the burden of climate change mitigation efforts on women's bodies diverts responsibility from governments and the private sector, particularly those with financial investments in fossil fuels. Data show that the richest half of countries emit 86 percent of global carbon dioxide emissions, despite having the lowest fertility rates.¹⁶⁴ As such, a justice approach to climate action necessitates broad systemic change by holding governments and businesses accountable for reducing their reliance on fossil fuels and mitigating the disproportionate impact felt globally by people with the fewest resources.¹⁶⁵

Emerging attention to climate justice calls upon countries who have contributed the most to climate change to support the countries most affected by climate change, without over-emphasizing, family planning for climate change mitigation.¹⁶⁶ A number of organizations and networks have gathered in recent years to put forth principles for achieving climate justice. For example, the People's Demands for Climate Justice, endorsed by 403 civil society organizations, outlined six demands for government delegates at the 2018 United Nations Climate Change Conference. The People's Demands stipulate that countries and industries driving the most greenhouse gas emissions should thereby be most responsible for climate finance obligations.¹⁶⁷

Additionally, to adopt a social justice framework for climate action, it is also necessary to examine social inequalities perpetuated through policymaking. There is a lack of representation of women and women-focused CSOs across climate change policy and decision-making, which means that policies that center population growth as a contributor to climate change are often not developed by women, while impacting women the most. For example, only seven national determined contributions (NCDs) mention SRHR even though over 30 percent of them mention the link between climate change and population growth.¹⁶⁸ Women's greater burden of care work, including gathering food, collecting water, and sourcing fuel for cooking, makes them more vulnerable to climate change. In addition, women often have limited access to financial resources, more restricted rights, and limited

access to participation in decision-making processes and labor markets. All of these factors further constrain their ability to effectively advocate for and influence climate action policy and implementation.¹⁶⁹ A climate justice framework recognizes that gender-balanced leadership and climate action policies with a gender perspective can better account for gender differences in social roles and subsequent needs.

With a social justice framework, it is possible to support SRHR and meet climate-related goals without putting the burden on one gender. To expand girls' and women's SRHR, it is crucial that the promotion of voluntary family planning involves education, enhances agency, and facilitates choice both by improving access to SRH information and services and by addressing the power dynamics that limit women's decision-making power.^{170, 171, 172, 173, 174} In the long-term, such an approach could contribute to improving maternal and child health and fulfilling the right to bodily autonomy, while also helping to address one of the many drivers of climate change.¹⁷⁵ When healthcare focuses on the empowerment and well-being of women and gender equality, both women and the environment benefit.¹⁷⁶

Given the growing political will to address climate change issues with a gender lens, it is important to restart conversations between women's rights, health, climate, and humanitarian advocates, as having the ability to enjoy bodily autonomy and SRHR is integral to gender equality and the right to health and, therefore, fundamental to building climate-resilient societies.



Hurricane clouds over Yemen

Photo by NASA on Unsplash

3.3 THE IMPORTANCE OF SRHR FOR CLIMATE CHANGE ACTION AND RESILIENCY

There is a strong rationale for the realization of SRHR to be a basis for climate action, including both adaptation and mitigation. It ranges from reducing the broader impacts of climate-related shocks and stresses, improving resilience to climate change, and improving girls' and women's ability to fully participate in all aspects of society, including in the green economy and as decision-makers.

Investments in health systems that promote sexual and reproductive health and rights can reduce the impacts of climate change

The World Health Organization has outlined a framework on integrated patient-centered health services for resilient health systems, oriented around five interdependent strategies: 1) empowering and engaging people and communities; 2) strengthening governance and accountability; 3) reorienting the model of care; 4) coordinating services within and across sectors; and 5) creating an enabling environment.¹⁷⁷ Since SRHR is a key component of health, by building resilient, integrated health systems that effectively deliver education, care, and treatment in support of SRHR, the impacts of climate change and climate-related shocks and stresses can be reduced. Additionally, these strategies will yield benefits to preparedness and disaster response management, consequently building resilience to climate change.

Primarily, universal health coverage should be designed and implemented in ways that address the needs of girls, women, and individuals of underrepresented SOGIESC throughout the life course, with a specific focus on often-overlooked components of SRHR such as safe abortion and youth-friendly services.¹⁷⁸ Other specific actions that may be relevant here include: comprehensive sexual education, including in crisis contexts; investments in health infrastructure that take climate change into account, such as air conditioning in maternity wards and flood- and storm-proofing health facilities; and collecting and using disaggregated data for public health decision-making.^{179, 180, 181} These efforts have the potential to reduce the impacts of climate change by addressing the underlying causes of vulnerability in health systems; however, more evidence is needed to strengthen the case for these investments.

The realization of sexual and reproductive health and rights can contribute to resilience to climate change

The realization of SRHR is closely linked to efforts to achieve gender equality, and, though limited in scope, early case studies suggest that it can also increase the resilience of women, their families, and their communities to climate change.¹⁸²

Some examples:

- A study in western Tanzania used a household survey to explore different components of resilience, including specific aspects related to climate change, and assessed the linkages with family planning and maternal and child health. The results showed that households who scored higher on the SRHR-related aspects of the survey also scored higher on all of the components of resilience.¹⁸³
- An analysis focusing on Sub-Saharan Africa highlighted the ways in which family planning (including access to contraceptives and counseling services) can help build climate resilience. It highlights the reduced strain on climate-sensitive natural resources such as land and water that result from smaller family sizes; the health, education, and economic benefits; and the positive effects on food security, which is under threat from climate change.¹⁸⁴
- A disaster risk management project in Bangladesh that integrated women's forums to discuss and address issues such as reproductive health and pregnancy attributed much of its success to the leadership and capacities of women to respond when the area was hit by a cyclone.¹⁸⁵

The realization of sexual and reproductive health and rights can improve individuals' engagement in climate action

While the right to health is the primary reason for promoting SRHR for all,¹⁸⁶ the literature reveals that the realization of SRHR yields a range of benefits for individuals, their families, and their communities. When given equitable opportunities, girls and women are effective agents of change, making their meaningful participation and influence in decision making related to climate action essential.¹⁸⁷ Similarly, involvement of Indigenous communities, the LGBTQIA+ community, and other underrepresented groups provides a strong basis

for ensuring that their needs and priorities — including those related to SRHR — are addressed.

Some evidence illustrates that the inverse is also true: gaps in the realization of SRHR limit opportunities, particularly for girls and women, to pursue education and improve their livelihoods; access resources and services; and participate in politics and community affairs.^{188, 189, 190} There are persistent economic, governance-related, and social barriers that lead to gaps in the realization of SRHR, which are heightened for

specific populations (see Section 3.4). Though it is not explicitly addressed in the literature, these same gaps that stem from gender and social inequalities can limit people's ability to engage in climate action — from receiving the right information to being included as participants and leaders. For example:

- If girls are forced to marry before they complete their education and achieve literacy, it may affect their knowledge and ability to receive and act on climate information and emergency preparedness.¹⁹¹
- Women experiencing unintended pregnancies have less time and fewer resources to invest in renewable energy technologies and strategies to manage climate risks.¹⁹²
- Girls and women who work in the sustainable energy workforce may also face challenges. For example, a global survey found that women are more likely to leave the renewable energy sector during their childbearing years.¹⁹³
- People suffering from HIV/AIDS and other STIs that require ongoing treatment have less money available to put into savings for times of crisis due to their high out-of-pocket healthcare costs.¹⁹⁴
- The risk of discrimination and violence for women is a barrier to their employment, mobility, and participation in infrastructure and gender equality projects.^{195, 196}



Bangladesh: Climate change rally

Photo credit: Caroline Gluck/Oxfam

Status of women's engagement in climate action

At the international level, efforts are being made to ensure the equal participation of women in the UNFCCC process.¹⁹⁷ At the national level, however, persistent gaps remain in women's representation in key decision-making bodies. For example, 2015 data from 193 countries showed that only 12 percent of environment-related ministries — such as environment, water, and agriculture — were headed by women.¹⁹⁸ Though the need for local participation in climate action is widely recognized,¹⁹⁹ gender imbalances and social marginalization in decision-making power persist and represent an ongoing barrier to ensuring these processes are inclusive of women and underrepresented groups.^{200, 201, 202}



Signing Ceremony: UNFCCC Paris Agreement

Photo Credit: Martin Schulz © European Union 2016 - European Parliament. (Attribution-NonCommercial-NoDerivs Creative Commons license).

3.4 INTERSECTIONAL IDENTITIES IMPACT VULNERABILITY AND ADAPTABILITY TO THE IMPACTS OF CLIMATE CHANGE

Vulnerability to the risks associated with climate change and challenges with accessing comprehensive SRHR are informed by the intersection of different inequalities and uneven power structures. While studies with an intersectional lens are limited, many of the factors that inhibit the realization of SRHR also exacerbate vulnerability to climate change and vice-versa.

Age

Few reports and articles expand upon the vulnerabilities to climate change of specific age groups. However, it is well known that adolescent girls and young women face some of the greatest barriers to SRHR services and information due to issues with privacy,

confidentiality, stigma, discriminatory laws and practices, and access to financial resources. Additionally, youth-friendly services that can offer the full range of acceptable contraceptive options to young people are lacking globally.

Sexual orientation, gender identity and expression, and sexual characteristics (SOGIESC)

Similarly, people with diverse SOGIESC experience barriers accessing SRH services due to discrimination. For example, a qualitative study in Southern Africa (based on 50 interviews with participants from Malawi, Mozambique, Namibia, Zambia, and Zimbabwe) found that adolescents who are also part of a “sexual or gender minority” face

“double-marginalization” due to age-related and social stigma, as well as real and perceived criminalization of same-sex consensual sexual acts.²⁰³ It is therefore expected that these barriers to access SRH services will be exacerbated in the aftermath of a climate-related disaster for example.

Poverty

People living in poverty are also highly vulnerable to the effects of climate change and experience barriers to accessing SRH services. As global temperatures rise, heat waves will spread across continents primarily threatening those in poverty who cannot afford air conditioning, who have to travel further to access natural resources and care, and who may not be able to afford care. It is estimated that three out of four people living in poverty rely on agriculture and natural resources to survive, and the global warming crisis is predicted to impact the agriculture sector the

most by yielding fewer crops, increasing food prices, and exacerbating food insecurity. Low-income communities are often hit the hardest as they are not protected by the same social structures like health insurance.^{204, 205} Girls and women living in rural areas experience similar barriers to SRHR and vulnerability to climate change as those individuals living in poverty. Not only are poverty and rurality highly correlated, but women in rural areas are also far from services, lack transportation to services, and often depend on jobs that rely on agriculture and natural resources.²⁰⁶

Therefore, an older cisgender woman with a high socioeconomic status, for example, and a young girl living in poverty and in a rural area

Race and Ethnicity

Additionally, race and ethnicity also influence access to SRHR and vulnerability to climate change. Across various settings, it has been noted that Indigenous and Black women experience higher maternal mortality rates than white women.^{207, 208} Regarding vulnerability to climate change, because Black, Indigenous, and People of Color (BIPOC) are more likely to live in poverty and in communities that lack adequate services, including informal settlements and disaster-prone areas, they

Disabilities

Girls and women living with disabilities are at a higher risk of sexual violence, unplanned pregnancies, and STIs. They face difficulties in accessing services and are often denied the right to make decisions about their sexual and reproductive health.²¹¹ Girls and women living with disabilities also experience compounded impacts of climate change, as they face

Displacement

For displaced girls and women in humanitarian settings, lack of access to SRH services is the leading cause of death.²¹⁴ Globally, it is estimated that 26 million girls and women of a reproductive age are living in humanitarian settings and face threats to their SRHR.^{215, 216} Evidence outlines negative health ramifications associated with gaps in access to almost all aspects of SRHR, including HIV/AIDS and other STIs, contraceptive services, maternal and newborn health, abortion, and GBV. Maternal

may experience differences in their resilience to climate change and ability to access SRHR.

are also more likely to experience the worst impacts of climate change — like living in areas with polluted air, rising sea levels, and longer droughts. Climate change further threatens the livelihoods and health of Indigenous women, as they more often depend on land and natural resources to sustain their livelihoods and cultural practices.²⁰⁹ Climate variability puts much of Indigenous economic, social, and cultural activities, which depend on natural resources, at risk.²¹⁰

stigma, discrimination, and environmental barriers that limit their access to education, employment, healthcare, food security, and other important services.²¹² In addition, people living with disabilities face difficulties accessing emergency and disaster preparedness support and have disproportionately higher rates of morbidity and mortality in emergencies.²¹³

mortality and morbidity are highest in crisis-affected countries.²¹⁷ Estimates suggest that approximately 507 women and girls die every day as a result of complications from pregnancy and childbirth in regions affected by conflict, displacement, and natural disasters.²¹⁸ It is estimated that 60 percent of preventable maternal deaths and 53 percent of preventable deaths of children under five years old occur in the 50 most fragile states, many of which are affected by conflict and natural disasters.²¹⁹

Understanding how compounding crises and intersecting identities shape vulnerability and resilience to climate change and SRHR is necessary to make sure climate actions do not exacerbate inequalities.

4. GAPS IN AVAILABLE EVIDENCE

There are a number of gaps in the existing evidence on the linkages between SRHR and climate change, many of which are highlighted within the literature. These include:

- **Disaggregated data and intersectional analysis of specific groups:** In general, the literature on SRHR tends to focus on the experiences of women, with some attention to the specific needs of adolescents, migrants, asylum seekers, internally displaced persons, and refugees. However, there is little disaggregation beyond this. The same is true for the small body of literature that specifically addresses SRHR and climate change issues. There is an urgent need for further analysis of the interplay of gender with other factors, such as age, race, indigeneity, disability, and sexual orientation, to better understand how intersectional issues influence people's resilience to climate change and their ability to engage in climate action.
- **The linkages between SRHR, gender equality, and climate resilience:** Though a few studies have explicitly addressed this linkage, more intersectional analysis rooted in social justice and equity is needed to understand the multifaceted relationship between SRHR and systemic changes in gender norms and relations, and how these, in turn, can contribute to the resilience of individuals, families, and communities to the impacts of climate change. Explicit analysis of the ways in which the realization of SRHR concretely contributes to individuals' resilience to climate-related shocks and stresses over the longer term is lacking.
- **Relationship between climate change and less-studied aspects of SRHR:** As noted from this evidence review, the bulk of evidence on climate change and SRHR is focused on family planning, maternal health, and GBV. There is a gap in relation to other aspects of SRHR, including STIs and infertility, as well as strategies for promoting SRHR, including CSE, and how these link to strategies for climate action.
- **Relationship between demographic change and greenhouse gas emissions:** To date, analysis of the relationships between population growth and greenhouse gas emissions has focused on carbon emissions from energy. A better understanding of the links between demographic change and emissions of greenhouse gases beyond carbon dioxide and land use is needed.²²⁰

5. CONCLUSIONS & RECOMMENDATIONS

Several clear conclusions emerge from this evidence review. The impacts of climate change negatively affect SRHR, both directly (e.g., maternal health risks and damage to health infrastructure) and indirectly (e.g., reduced income to access SRH services). These impacts are exacerbated for people who are experiencing existing barriers to the realization of their SRHR, including those living in humanitarian and emergency settings.

Consequently, investments in information, services, and infrastructure towards resilient and inclusive health systems have the potential to reduce the impacts of climate change on SRHR. An essential component of this comes into play when planning for disasters. It is key to ensure in advance that SRH services can be provided before, during, and after a crisis.

The realization of SRHR can support both adapting to and mitigating climate change. By addressing unmet need for family planning through a voluntary and rights-based approach, decision-makers can help prevent unwanted pregnancies, improve maternal and child health, and reduce global greenhouse gas emissions. At the same time, by supporting people's realization of SRHR, individuals' resilience to climate-related shocks and stresses can be enhanced and barriers for them to engage in climate action can be removed.

Though there are considerable gaps in the evidence that specifically links climate change and SRHR with an intersectional lens, this review's evidence could lead the international community towards more integrated, systemic approaches to achieving inter-related objectives that improve gender equality and health, while helping climate change (including reaching the SDGs and the goals of the Paris Agreement).

RECOMMENDATIONS TO DRIVE ACTION AT THE INTERSECTION OF CLIMATE CHANGE AND SRHR

In order to fully capture the linkages between SRHR and climate change, minimize the impact of climate change on the population, and improve efforts to fight climate change without placing SRHR at risk, governments, international organizations, CSOs, donors, researchers, and advocates must work together to:

1. Enhance collaboration between the climate change, health, and women's rights advocacy and humanitarian communities.

Though there are some existing platforms (such as the Women and Gender Constituency under the UNFCCC) that bring climate change and gender equality advocates together, there remain gaps in dialogue and collaboration among actors working on climate change, health, SRHR, and women's rights. This is particularly true at a more practical level, for example, through technical assistance programs to governments and among the different UN agencies working on these issues. There is a need to find a "common language" based on human rights to explain the linkages between SRHR and other development priorities, including climate change.²²¹ By coming to a common understanding of challenges and identifying solutions together, collaborative approaches can be pursued that address multiple objectives. This could be achieved, for example, through targeted events or sessions within broader events that bring the climate change, humanitarian, health and women's rights communities together to co-generate knowledge on these linkages. These processes could lead to the establishment of a dedicated network of actors focusing on SRHR and climate change.

2. Promote gender-transformative climate action by addressing the linkages between climate change and SRHR across climate action processes.

The international community must recognize that the realization of SRHR can contribute to many Sustainable Development Goals, including those focusing on gender equality and climate change.²²² There are a number of platforms that provide the opportunity to further strengthen gender-responsive climate action by considering the linkages with SRHR. These include the enhanced Lima Work Programme on Gender and its Gender Action Plan under the UNFCCC,²²³ the Women and Gender Constituency, the Generation Equality Action Coalition on Feminist Action for Climate Justice, IWAG, WHO climate-change adaptation guidelines, and National Adaptation Plans and adaptation processes, among others. Efforts should increase access to information, guidance, and experience available for governments and other actors to pursue SRHR-related interventions as a basis for adaptation to climate change.

3. Increase the focus on inclusive, gender-balanced, multi-sectoral stakeholder participation in climate policy.

Participatory processes that include people in all their diversity are fundamental to ensuring that holistic needs are recognized and addressed and for the resulting analysis and messaging to adopt an intersectional lens. This is essential for a human rights-based approach to climate action and can also facilitate the identification of context-specific needs and capacities in relation to climate change and SRHR. Gender-transformative climate action can be used as the starting point for addressing SRHR. For example, dedicated consultations for women and people of underrepresented gender identities and sexual orientations could be helpful in ensuring that SRHR issues are surfaced and openly discussed. Fostering women's leadership, particularly in climate-related processes where a more technical framing of the issues has been promoted, is a key strategy for ensuring that gender issues, including those related to SRHR, remain at the center of policy discussions. This applies to policy and planning processes focused on climate change — including NAP processes and Nationally Determined Contributions (NDCs) — as well as those related to health and gender equality. Cross-collaboration among these different actors will help to strengthen the linkages between the different issues in different policy spaces towards more integrated approaches to implementation.

4. Invest in research to address the evidence gaps and integrate analysis of SRHR and climate data.

More investment in research on the social and gender dimensions of climate change and action, including elements related to SRHR, is needed. Where SRHR data exist, it would be useful to analyze the data through possible linkages to climate change and action. This research must apply an intersectional lens, looking at gaps and opportunities related to SRHR and climate change for different groups based on gender, age, socioeconomic status, SOGIESC, race, and indigeneity, among other factors. Use of disaggregated data and intersectional analysis are essential to move away from generalizations — for example, about women's vulnerability to climate change — and to ensure that the particular needs and concerns of specific groups, including adolescents and the LGBTQIA+ community, are understood and addressed. With adequate attention, this analysis can provide useful insights to build the evidence base and strengthen the argument for these issues to be incorporated in policies, plans, and programs. Research initiatives that bring together climate, health, and gender experts can help to promote more integrated analysis by breaking down silos.

5. Realize the full range of SRHR in order to prepare for, respond to, and recover from climate-related disasters.

More attention to SRHR in disaster risk management (DRM) processes is needed. This includes addressing both the process of DRM planning and the practicalities of preparing for, responding to, and recovering from disasters. Evacuation processes and shelters must take into consideration the circumstances of pregnant women, mothers with infants, adolescents, and people of underrepresented sexual orientations and gender identities, in terms of practical considerations such as toilets and hygienic supplies, as well as personal security and comfort. The continued provision of SRH services throughout disaster response must be a priority, requiring measures such as training for health teams on SRHR and non-discriminatory approaches, and stockpiling essential supplies such as contraceptives and menstrual hygiene products.²²⁴ The MISP for Sexual and Reproductive Health provides helpful guidance on the full range of activities that should be implemented at the onset of crises, yet more concerted efforts to meet SRHR needs in prolonged crises are also necessary.²²⁵

6. Invest in health systems that address the underlying causes of vulnerability to climate change.

Investments in resilient health systems provide opportunities to address persistent barriers to the realization of the right to health while addressing an underlying cause of vulnerability to climate change. To be effective, investments in resilience must address the underlying systemic issues that make some populations more vulnerable than others to the same climate risks, including girls and women, Indigenous people, and people of underrepresented SOGIESC identities. Building resilient health systems requires investments in civil society organizations, especially those focused on gender equality, women's health, and SRHR. Finally, funding must be secured for the continuous delivery of high quality SRHR services to be able to respond to global challenges and emerging crises.

Recognizing the links between gender and climate change is key to creating an effective response to climate change while also improving gender equality and access to SRHR services. Building a sustainable future for all requires the full potential — and participation — of girls and women in environmental and climate action, and the realization of that potential depends on their health and rights. This evidence review is a guide for decision-makers and climate change, humanitarian, and gender equality advocates to better understand the linkages between sectors and align efforts to generate effective policies and programs for people and the planet.

6. ANNEX 1: GUIDING QUESTIONS

Guiding questions for the literature review

ISSUE	GUIDING QUESTIONS	TOPICS USED AS A BASIS FOR KEY WORD SEARCHES
The impact of climate change on SRHR	<ul style="list-style-type: none"> • How does climate change affect the different components of SRHR? • How does the increased risk and uncertainty associated with climate change affect the different components of SRHR? 	<ul style="list-style-type: none"> • Gendered impacts of climate-related disasters • Gendered impacts of climate change • Impacts of climate change on health and health services • Impacts of climate change on different social groups (youth, LGBTQIA+, etc.) • Impacts of climate change on SRHR in humanitarian settings (e.g., conflict)
The impact of climate action on SRHR	<ul style="list-style-type: none"> • What types of adaptation and mitigation actions have been shown to positively affect SRHR? • What types of adaptation and mitigation actions have been shown to negatively affect SRHR? 	<ul style="list-style-type: none"> • Gender-specific benefits of adaptation and mitigation actions • Assessments of adaptation and mitigation projects (where these address gender and SRHR issues)
Importance of SRHR for climate action	<ul style="list-style-type: none"> • How do gaps in the realization of SRHR increase vulnerability to climate change? • How do gaps in the realization of SRHR create barriers for participation in adaptation and mitigation actions? • How does the realization of SRHR increase resilience to climate change? • How does the realization of SRHR create opportunities for people, particularly women, to engage in climate action (adaptation/mitigation)? 	<ul style="list-style-type: none"> • SRHR and vulnerability/resilience to climate change • Family planning and climate change • SRHR and community participation • SRHR and climate-sensitive livelihoods (agriculture, water, etc.) • Gender and energy

Semi-structured questions for key informant interviews

ISSUE	GUIDING QUESTIONS
<p>The impact of climate change on SRHR</p>	<ul style="list-style-type: none"> • In your work, have you seen evidence that climate change has an impact on SRHR? If yes, where? What do these impacts look like? • Which components of SRHR would you say are most at risk due to climate change? • What do you think are the gaps in evidence in relation to the impact of climate change on SRHR?
<p>The impact of climate action on SRHR</p>	<ul style="list-style-type: none"> • Have you seen any evidence that climate action (adaptation/mitigation) is having a negative impact on SRHR? If yes, where and how? • Have you observed good practices in integrating SRHR in climate action? Where? What does this look like? • Where do you see gaps in evidence related to the impact of climate action on SRHR? • What do you think are the most important types of investments to drive progress at the intersection of SRHR and climate action (adaptation/mitigation)? • What do you think will be the effect of COVID-19 on efforts to promote such investments?
<p>Importance of SRHR for climate action</p>	<ul style="list-style-type: none"> • How do you think gaps in SRHR increase vulnerability to climate change? Have you seen evidence of this? If yes, where? What did it look like? • How can the realization of SRHR increase resilience to climate change? Have you seen evidence of this? If yes, where? What did it look like? • How do gaps in SRHR create barriers for participation in adaptation and mitigation actions? Again, any evidence? Where and what? • How does the realization of SRHR create opportunities for women to engage in climate action (adaptation/mitigation)?
<p>Sources of information</p>	<ul style="list-style-type: none"> • What other organizations are you aware of that are working at the intersection of climate change and SRHR? • Do you have any recommended resources on the topic?

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