

The impact of climate change on sexual and reproductive health: why is it important and what can we do?

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Introduction:

Climate change is increasingly being recognised as a major threat to global public health. Rising extreme weather events, erratic rainfall, and temperature fluctuations all contribute to the disruption of the fundamental determinants of health such as clean air, food security and drinking water. Environmental changes also facilitate the spread of communicable disease, exacerbate chronic health conditions and add pressure to already strained healthcare systems [1]. The intersection of the adverse effects of climate change on sexual and reproductive health (SRH) is an emerging area of study. Climate change can exacerbate existing vulnerabilities and create new challenges in providing care to those who need it the most. Although climate events affect individuals of all genders, women, girls and the LGBTQIA+ community often face increased vulnerability due to gender inequalities engrained in social norms [2].

This review aims to explore how climate change impacts aspects of SRH, as well as how health and rights can be protected and prioritised in climate change mitigation and adaptation efforts.

How climate change affects different aspects of sexual and reproductive health:

Maternal health:

The evidence base for the impact of climate change on maternal health is ever-growing. A 2024 systematic review found that in low- and middle-income countries, adverse climate events affected maternal health through increased levels of stress, decreased access to maternal health services and increased levels of malnutrition, as well as contributing to increased maternal mortality rates [3]. Exposure to extreme heat, and by extension dehydration, during pregnancy has been shown to increase the risk of pre-term birth, eclampsia and maternal anaemia [4,5].

Climate change is also associated with an increased spread of vector-borne diseases through impacts on temperature and precipitation rates. Studies show that vector-borne diseases can increase the risk of premature birth, stillbirth, spontaneous abortion, low birth weight, eclampsia and caesarean delivery for pregnant women. [6,7] Malaria in particular, can exacerbate anaemia, increasing the risk of postpartum haemorrhage [8].

Family planning:

Climate change has also been seen to have an impact on access to essential family planning and abortion services. According to analysis from MSI Reproductive Choices, across 26 climate-affected countries, since 2011, approximately 11.5 million women have had their

access to contraception disrupted due to climate-related displacement. They predict this will worsen over the next decade to affect an estimated 14 million women. The authors of this briefing posit that if access is not protected there could be an additional 6.2 million unintended pregnancies, 2.1 million unsafe abortions and 5800 maternal deaths [9].

Furthermore, data from Bangladesh showed that increased flooding has led to health facilities struggling to maintain stocks of contraceptives in rural and remote areas [10].

Violence against women and girls:

The relationship between climate change and violence against women, girls and other vulnerable populations has also been widely documented. A 2021 systematic review looking at the relationship between climate disasters and violence against women found that disasters were associated with an increased incidence of gender-based violence (GBV) [11]. Specifically, links to increased incidences of sexual violence, transactional sex and sex trafficking have been identified, which in turn are associated with an increased risk of sexually transmitted infections (STIs) and unintended pregnancies [2]. Studies have shown that when natural resources become scarce due to climate change, girls and women must travel longer distances to secure food and water, increasing their exposure to abuse and harm, both physical and sexual [10,12]. Furthermore, after the 2009 bushfires in Australia, there was a documented increase in domestic violence against women and children. Stressors linked to the fires such as financial instability were found to exacerbate existing violence in homes [13].

Climate change has also, more recently, been linked to an increased incidence of child marriage. A scoping review by Pope et al found that climate crises worsened established drivers of child marriage, meaning that families were forced to marry their daughters early due to a loss of assets and opportunities for income generation [14]. Evidence from Zambia found that although child marriage was prevalent prior to drought, heightened poverty from drought made it more likely for girls to be married off at younger ages as their parents were no longer able to care for them [15]. Similarly, there is evidence for a link between female genital mutilation (FGM) and adverse climate events. A study from Kenya, looking into the impact of climate change on the Masai community found that poverty due to the impact of drought on livelihoods have widened gender inequalities and contributed to the disempowerment of women and girls. This occurred through the loss of education, continued FGM practices and increasing child marriages [16]. These were all adaptive strategies to survive climate change related events but were at the expense of women and girls' safety and health.

Current guidelines and policy:

Climate change adaptation efforts lack a foundation of guidelines and direction for the upkeep of SRH. Interventions tackling SRH issues arising as a result of climate disasters require specific expertise, planning and a solid evidence base in order to be successful, all of which are often lacking. A widely used tool for SRH in humanitarian settings is the Minimum Initial Service Package (MISP) which outlines the minimum services and SRH needs which need to be addressed within 48 hours of an emergency [17]. It is comprehensive and covers multiple aspects of care, from basic obstetric management to the prevention of GBV. However, it lacks guidance specific to climate disasters. Furthermore, current WHO guidance for adaptation planning in the health sector does not explicitly recognise SRH needs, except the risk of malnutrition during pregnancy [18].

A 2019 publication from the National Adaptation Plan (NAP) Global Network and United Nations Framework Convention on Climate Change (UNFCCC) lays out three key elements of gender responsive climate adaptation plans [19]:

1. Recognising gender differences in adaptation needs
2. Gender-equitable participation in adaptation decision making processes
3. Gender-equitable access to financial resources and other benefits from investments in adaptation

These principles are important to bear in mind when tackling the fulfilment of SRH needs in the context of climate change and can be adapted to ensure vulnerable populations are not left behind.

The need for a social justice and rights-based approach:

In order to tackle this gap in research, policy and programming, a report from Women Deliver suggests a social justice and rights-based approach to ensuring SRH needs are met in the aftermath of climate change induced disasters [2]. A social justice framework for climate action protects human rights, especially for the most vulnerable populations, as well as promoting fairness and equity. The report's authors suggest that such a framework highlights that the responsibility for reducing global emissions should not be placed on people, especially women and girls, in low emitting countries who contribute only a little to the root causes of climate change but are increasingly vulnerable to its effects.

Placing the burden of climate mitigation and adaptation onto the bodies of women and girls diverts from the responsibility of government and large corporations, especially those with

investments in fossil fuels [20,21]. A social justice framework allows for SRH needs to be supported as well as meeting climate-related goals, without putting the burden on one gender or gender-identity.

One aspect of expanding SRH in the context of climate change, with a social justice framework in mind, involves ensuring that the promotion of voluntary family planning (including abortion) takes into account education and facilitates choice. Access to SRH information and services should be equitable, encourage preserving bodily autonomy and facilitate choice. Addressing power dynamics that may limit choice during times of climate adaptation could, in the long term, contribute to improved maternal and child health [22].

The empowerment approach:

Empowerment, particularly in the context of sexual and reproductive health, is deeply intertwined with the challenges posed by climate change. When individuals, especially women and marginalized communities, are empowered with knowledge, resources, and agency over their sexual and reproductive health, they can make informed decisions that enhance their well-being and climate resilience [23]. Empowerment can come in the form of education, financial independence and access to technology. A recent study in Ghana examining the link between child marriage and climate disasters suggests that interventions around promoting smart-agriculture techniques that involve young girls in farming practices, have the potential to reduce child marriage rates through preserving family livelihoods in periods of adaptation [24].

An example of a successful intervention targeting SRH with empowerment at its heart, is Blue Ventures, an oceanic conservation organization. Their approach integrates SRH services into conservation programmes through supporting local women to offer community-based family planning services. In Madagascar, they have increased total contraceptive uptake among women by 10% and averted over 4,500 unwanted pregnancies [25]. The successes of such interventions suggest that interventions and programmes prioritising empowerment and local ownership of services have the potential to provide long-term, sustainable and community driven solutions to SRH issues exacerbated by the effects of climate change.

Conclusions and Recommendations:

It is clear that the impacts of climate change negatively affect SRH. These impacts are worsened for those already facing barriers to accessing SRH care. International and national guidelines for climate adaptation are missing vital subsections on upholding SRH and rights.

Despite the ever-expanding body of evidence on the impact of climate change on SRH, there still exists considerable gaps in the research base. Firstly, there is insufficient evidence for the impact on the LGBTQIA+ community, who may be increasingly vulnerable to the adverse effects of climate change. With this, an intersectional lens is critical in gaining an understanding of unmet need in this diverse community. Furthermore, there is lacking evidence for the impacts of different STIs and treatment availability. Untreated and mismanaged STIs can have a multitude of disastrous consequences, all of which may be exacerbated in the aftermath of climate disasters. STI care for those most vulnerable in the aftermath of climate disasters, including children, women, the elderly and the LGBTQIA+ community must become a greater priority for relief organisations and health systems.

When healthcare focusses on the empowerment of women and vulnerable populations, the population as a whole benefits. Addressing SRH is crucial in the fight against climate change. By empowering individuals with the knowledge and resources to make informed reproductive choices, vulnerabilities may be reduced and resilience of those facing environmental challenges enhanced. The social justice and empowerment approaches foster sustainable and self-governed solutions that communities can adapt to their own needs making them important components of building a more equitable and climate-resilient future.

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