

CLIMATE CHANGE AND WOMEN'S HEALTH AND RIGHTS: WOMEN VOICES FROM MENA



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ACRONYMS

ESG	Environment, social and governance
FGD	Focus group discussion
GBV	Gender-based violence
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
KII	Key informant interview
MENA	Middle East and North Africa
NDCs	Nationally determined contributions
NGOs	Non-governmental organizations
OPT	Occupied Palestinian Territories
PTSD	Post-traumatic stress disorder
SRHR	Sexual and reproductive health and rights
WASH	Water, sanitation and hygiene

KEY TERMS AND CONCEPTS

Bodily autonomy: an individual has bodily autonomy when they have the power to make decisions about their own body and to chart their own future.

Climate justice: the vital bridge between climate issues and intricate social, racial and environmental challenges, climate justice stresses the need to combat climate problems while upholding equity, fairness and human rights. It acknowledges that climate change predominantly harms marginalized communities, which are often the least responsible for the crisis, and emphasizes the need to correct systemic inequalities. Climate justice advocates for holistic solutions, reducing emissions while fostering sustainable development and community resilience. It centres on inclusive decision-making, respecting the rights and wellbeing of marginalized groups.

Energy poverty: also referred to as energy deprivation, energy poverty occurs when individuals or households lack affordable and reliable access to essential energy services for heating, cooling, lighting, cooking, and powering appliances. This results in reduced energy consumption, negatively impacting health and wellbeing. Energy poverty arises from various factors, such as inefficient housing, limited access to modern energy sources, and financial constraints. It can lead to discomfort, health problems and limited opportunities for development.

ESG: or environmental, social and governance, refers to a set of criteria used by investors and organizations to assess and measure a company's performance in key areas related to sustainability and ethical practices. The 'E' in ESG evaluates a company's environmental impact, such as its efforts to reduce carbon emissions or conserve natural resources. The 'S' focuses on the company's social responsibility, including factors like labour practices, diversity and community engagement. The 'G' assesses the company's governance structure and practices, including issues like corporate ethics and transparency. ESG criteria are used to determine how well a company aligns with sustainable and socially responsible principles.

Climate finance: the funding and investment mechanisms aimed at supporting climate-related projects, programmes and initiatives. This financial support is primarily directed toward activities that mitigate the effects of climate change, such as reducing greenhouse gas emissions, and those that help communities adapt to the impacts of a changing climate. Climate finance can originate from various sources, including public funds, private investments, international organizations, FinTech (financial technology) and government contributions. Its primary goal is to enable the transition to a more sustainable and climate-resilient future.

Intersectional identity: refers to the interconnected nature of the various social categorizations and characteristics that influence women and girls' unique experiences, opportunities and challenges. These include race, ethnicity, sexual orientation, socioeconomic status, age, disability and others.

Just transition: a framework and set of policies aimed at ensuring that the shift to a more sustainable and low-carbon economy does not harm workers, communities and populations at risk. It involves managing the economic and social impacts of transitioning away from fossil fuels and other environmentally harmful practices, focusing on job creation, worker retraining and safeguarding the wellbeing of affected communities. The goal of a just transition is to balance environmental sustainability with social and economic equity.

Sexual and reproductive health and rights: SRHR upholds the fundamental principles that recognize an individual's right to a healthy body, incorporating autonomy, education and healthcare access. It advocates for the capacity to autonomously make choices about one's sexual life, including partner selection, alongside offering information and support to prevent sexually transmitted infections and unintended pregnancies. This perspective emphasizes the importance of sexual wellbeing as an intrinsic element of overall health, empowering everyone to engage in safe and gratifying sexual experiences, free from coercion, discrimination or health risks. It entails the protection of the rights and welfare of each individual in matters concerning their sexual and reproductive life.

Water, sanitation and hygiene activities: WASH refers to a set of initiatives, programmes and practices aimed at improving access to clean and safe drinking water, promoting proper sanitation facilities and practices, and ensuring good hygiene behaviours within communities. These activities are crucial for preventing waterborne diseases, enhancing overall public health and fostering a better quality of life. WASH programmes encompass various components such as the provision of safe water sources, the construction of sanitation facilities, waste management, education on hygiene practices, and the promotion of adequate water-resource management.

Human rights-based approach: according to UNICEF (2020), 'A human rights-based approach is a conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights.' The approach goes beyond mere acknowledgment of human rights; it is operationally directed to actively promote and protect these rights.

Intersectional framework: the intersectional framework acknowledges that individuals possess multiple intersecting identities that interact and shape their experiences. This framework is valuable for research and social change by revealing power structures and identifying challenges faced by marginalized individuals. It also emphasizes the intersection of different forms of oppression and privilege, underlining the importance of considering multiple identities in specific contexts. A decolonial feminist approach aligns with intersectionality by prioritizing voices from the margins, recognizing marginalized individuals as capable agents of change and knowledge creation.

EXECUTIVE SUMMARY

The Middle East and North Africa (MENA) region faces severe climate change impacts, with rising temperatures, water scarcity, desertification and extreme weather events. It is projected to experience high rates of warming, with a potential 4°C increase by 2071–2100 (UNICEF, 2022). Rising heat and humidity levels may exceed the limits of human tolerance. The region also grapples with social inequities, conflicts, poverty, water scarcity and gender inequality. Climate change exacerbates these challenges, acting as a ‘threat multiplier’ that reinforces existing inequalities. Gendered impacts of climate change are evident, especially in relation to sexual and reproductive health and rights (SRHR). SRHR, including family planning and reproductive choices, are crucial for overall wellbeing, but climate change is affecting bodily autonomy and reproductive decisions, particularly for women and girls.

Despite the evident effects of climate change in the region, which disproportionately affect women and girls, there is a significant lack of evidence on how climate change impacts their SRHR and access to sexual and reproductive health services. The primary objective of this research is therefore to thoroughly examine and understand the relationship and interconnection between SRHR and climate change in the MENA region, drawing insights from the lived experiences of women, including young women, across the region. Building upon these real-life experiences and a comprehensive literature review, the research proposes essential recommendations for the stronger integration of gender-sensitive policies and financing mechanisms to enhance women’s resilience and adaptive capacity in addressing the impacts of climate change. Simultaneously, they aim to improve women’s access to SRHR services while addressing systemic gender inequalities, discrimination and exclusion.

The study investigates the relationship between climate change and SRHR through a multifaceted approach including a literature review, focus group discussions (FGDs), key informant interviews (KIIs) and a survey, aiming to tap into the diverse experiences, perspectives and insights of women in the MENA region. The analysis is conducted with a keen focus on intersectionality, recognizing the interconnected nature of various identities and demographics. The study sample encompasses a diverse range of women, with specific attention to demographic diversity and intersecting identities. The sample also includes women with expertise in climate change, gender, economic justice, human development, psychology and human sciences, as well as experts in human rights within the MENA region.

The findings shed light on the complex and significant intersection between climate change, gender and SRHR in the MENA region. A significant number of participants highlighted the need for comprehensive and in-depth research into the interplay between climate change, gender and SRHR, to focus attention on this often-overlooked area.

Key findings

- There is a **significant lack of knowledge and awareness** in MENA regarding the **broader impacts of climate change and its specific effects on SRHR** among women and girls. This lack of understanding hinders the development of effective adaptation strategies and the realization of SRHR for women and girls in the region.
- The study reveals how **socio-cultural norms and conservative attitudes** significantly limit discussions and access to SRHR in many parts of the region.

There is significant **stigma and taboo surrounding reproductive health, fertility and menstruation**, further compounded by climate change impacts, the region's economic challenges and prioritization of immediate survival needs.

- **Climate change may exacerbate gender-based violence and harmful practices** such as domestic violence and forced and early marriage. **Forced and early marriage** frequently emerges as a response to early puberty in girls and the loss of livelihoods, which are both connected to **climate change effects** including extreme weather events and food and water insecurity.
- **Climate change affects women's hormonal and menstrual health**, influencing fertility. Extreme weather conditions and environmental stressors **exacerbate reproductive health issues and affect family planning decisions**.
- **Climate change may lead to increased risks during pregnancy**, including dehydration, heat stress and complications. It also contributes to the spread of infectious diseases, affecting maternal health. This impact is further exacerbated by conflicts, disasters and displacement.
- **Climate change induced disruptions to livelihoods** lead to shifts in family dynamics, often causing women to lose financial and capital assets. This **diminishes their health, agency and autonomy**, thereby compromising their ability to access SRHR services (e.g. family planning) or effectively adapt to climate change.
- Women, especially in areas impacted by **climate change or climate-induced disasters**, **face difficulties accessing SRHR services** due to restricted mobility, disrupted healthcare systems and socioeconomic challenges. Compounding factors such as **cultural norms and gender disparities** further restrict their access and autonomy regarding SRHR.
- **The impacts are more severe for individuals with intersectional identities**, including women and girls in rural areas and conflict zones, and among refugees, migrants, displaced women and individuals with disabilities. These groups **face additional, unique barriers** (e.g. social exclusion and discrimination) to accessing SRHR services in the context of climate change.
- The majority of participants **highlighted the importance of building the capacity of NGOs and activists** to understand the nexus between climate change and SRHR, recognizing its crucial role in addressing health and social inequalities exacerbated by climate change.
- Civil society organizations in the MENA region often concentrate their efforts on **single issues such as women's rights, gender equality or climate change**, despite the intersection of these issues.
- Participants highlighted the importance of inclusive and participatory policymaking and planning processes to address challenges related to climate change and SRHR. They also underscored the importance of enhancing policymakers' understanding of the nexus between climate change and SRHR, as policymakers play a crucial role in resource allocation and policy development to mitigate the impact of climate change on gender inequality and SRHR.

Recommendations

Drawing on published literature, FGDs, KIs and a survey, the study offers recommendations on how to address the impact of climate change on women and girls in the region, while also improving gender equality and access to SRHR services. Governments, international organizations, civil society organizations, donors, researchers, and gender equality and climate activists must work together to:

- **Generate gender-specific data and analysis** to inform climate policies, particularly focusing on the nexus between climate change, gender and SRHR. This includes funding scientific research on the impact of climate change on women's health, and supporting collaborative efforts for data collection and analysis.
- **Finance a just and gender-sensitive transition** by committing to financial support that integrates gender sensitivity and SRHR into climate initiatives. Allocate funds for SRHR protection, education and healthcare, emphasizing long-term financing to ensure accountability and effectiveness.
- **Invest in a sustainable and feminist green transition** by promoting green job creation and redirecting investments from fossil fuels to sustainable energy solutions to reduce carbon emissions and address the impact of climate change on water availability and women's livelihoods.
- **Bolster gender equality and women's participation and leadership** by addressing systemic gender inequalities, and reform legal frameworks to enhance gender-sensitive climate policies. Advocate for the adoption of intersectional and gender-transformative approaches to climate action, to ensure meaningful and inclusive participation of women in decision-making processes.
- **Promote gender-responsive healthcare systems** by strengthening health systems with a gender perspective through collection of disaggregated data and support for continuous monitoring. This also includes the promotion of gender-responsive health services, including family planning, maternal health and support for those affected by gender-based violence, especially during climate-induced crises. Provide training and awareness for healthcare providers to recognize and address SRHR needs, including for women with disabilities.
- **Raise awareness on SRHR and climate change and their intersection** through comprehensive educational programmes and research initiatives. Media can play a critical role in educating the public on SRHR and climate threats, and advocating for policy changes.
- **Strengthen the engagement of the feminist movement in addressing the SRHR and climate change nexus** through increased funding, collaborative planning and capacity building that help mitigate the impact of climate change on SRHR. Active participation in Nationally Determined Contributions (NDCs) and public policies will enable the feminist movement to influence climate crisis mitigation strategies. Fostering collaboration between the feminist movement and other stakeholders, including the private sector, is crucial to creating a unified approach to support a green transition and SRHR initiatives.

1. INTRODUCTION

“The climate crisis affects the enjoyment of a wide range of human rights, including the rights to health, food, water and sanitation, a healthy environment, self-determination, development, and the advancement of gender equality.”

Women and Gender Constituency and the SRHR & Climate Justice Coalition brief
(2022)

1.1 Brief overview

As we strive to achieve a gender-just world that embraces full equality and equity between women, in all their diversity, and men, in all spheres of life, it is imperative that we understand, recognize and address the intertwined and multifaceted relationship between climate change and gender justice, specifically in terms of sexual and reproductive health and rights (SRHR).

Climate change, encompassing extreme weather events including rising temperatures, wildfires, and variability in rainfall, poses significant challenges to clean air, safe drinking water, food security, livelihoods and housing, threatening physical and mental wellbeing. The Middle East and North Africa (MENA) is among the regions that are most at risk from the increasing frequency of extreme climatic phenomena (ESCWA, 2017). The impacts of climate change are not felt equally; the extent to which individuals are affected is influenced by factors such as gender, age, ethnicity, racial identity, economic status, education and other social characteristics (Vincent et al., 2014).

Girls and women face disproportionate risks from climate change effects, in large part due to systemic gender inequality and the pervasiveness of patriarchal structures. Their unequal access to basic social services, natural and financial assets, their increased risk of food insecurity and their unequal decision-making power, create additional obstacles in building resilience to extreme weather events (Sorenson et al., 2018). Moreover, acute and protracted crises have been shown to influence gender and social norms, exacerbating gender discrimination and structural gender inequality, and affecting the SRHR of women and girls (Sorenson et al., 2018). This has resulted in limited access to healthcare services, including contraception and abortion services, shortages in the availability of skilled healthcare workers, inadequate financial support and domestic resources allocated to healthcare, increased instances of gender-based violence and other harmful practices, and human rights violations (Women Deliver, 2021).

Therefore, climate action must be gender-responsive and transformative, which means: acknowledging gender-diverse adaptation needs and capacities; challenging rigid gender norms and power imbalances; fostering gender-inclusive participation and influence in adaptation, mitigation financing, and loss and damage decision-making processes; and ensuring equal access to finance and other benefits derived from climate-related investments. This is enshrined in recent decisions made by the United Nations Framework Convention on Climate Change (UNFCCC, 2019).

While the body of evidence linking gender, health and climate change is growing, there are still significant gaps in gender-disaggregated data and gender analyses that can inform climate decision-making and action (UNFCCC, 2019). In particular, the connections between climate change and SRHR have received limited attention to date, especially in the MENA region. This could be due to the lack of government prioritization of SRHR in general, and SRHR in climate action in particular, in many countries. The often-contentious discussions surrounding SRHR, along with the historical divides within and between the gender justice and climate change domains, also contribute to this landscape. Yet it is imperative to acknowledge that SRHR serves as a fundamental cornerstone for achieving both gender justice and climate justice. Ensuring individuals' right to bodily autonomy and access to sexual and reproductive health services is crucial for their active and meaningful participation across all aspects of society, including climate justice and action. Therefore, a deep understanding of the interconnection between SRHR and climate change is critical, not only for the MENA region but as a central component of global efforts to address gender inequalities, SRHR challenges and climate change impacts effectively.

1.2 Report methodology

The main aim of this report is to uncover the frequently ignored impact of the climate crisis on the rights and wellbeing of women and girls in the MENA region by **amplifying the voices of women and their experiences around the complex interplay and intersections between SRHR and climate change**. Grounded in **women's experience and insights**, the report **sets forth essential recommendations** for policymakers, activists and allies, outlining a path that promotes a gender-responsive approach and actions in climate response, policies and finance.

The report is grounded in **the diverse experiences and perspectives** of a wide range of women, incorporating various demographic categories and intersecting identities. The sample comprises women with expertise in climate change, gender, economic justice, human development, psychology and human sciences, as well as human rights. These experts were drawn from across the MENA region, spanning Algeria, Syria, Iraq, Jordan, Morocco, Lebanon, the Occupied Palestinian Territories (OPT), Tunisia and Yemen. Their testimonies and experiences deeply inform the arguments and recommendations presented. The report is enriched with direct quotes from the interviews and focus group discussions, complemented by survey data and an extensive literature review and desk research, ensuring a comprehensive and intersectional approach to climate and gender justice. For further details regarding the methodology, please refer to Annex I.

2. CLIMATE CHANGE IS A GENDER ISSUE

This section provides an overview of the existing literature, with a specific emphasis on the repercussion of climate change on gender and SRHR. This review aims to deepen our understanding of the intricate interplay between these issues and their impact on women and girls. The subsequent section will present findings derived from KIs, FGDs, and surveys conducted as part of this study, offering insights from women in the region. These findings will provide a more comprehensive picture of the current situation and the lived experiences of those at the forefront of the climate crisis.

2.1 Overview of climate change crisis in the MENA region

The MENA region is at the frontline of the climate crisis; it is projected to experience devastating impacts, from rising temperatures and dwindling water resources to desertification and extreme weather events. The defining characteristic of the region is water scarcity: approximately 41 million people lack access to safely managed drinking water services, and 66 million people lack basic sanitation services, resulting in an increased risk of disease and greater fragility (UNICEF, 2020). Scarce freshwater resources and limited arable land further complicate agricultural endeavours, while an increasing urban population propels heightened consumption of energy, water and food (WEF, 2022). As water resources are used faster than they are replenished by precipitation, climate change will likely reduce total and per-capita water availability to below the absolute water scarcity threshold of 500 cubic meters per person per year in 2030 (Falkenmark et al., 1989). This effect of water resources extends beyond significant environmental and economic impacts – it also has implications for the region's political stability and security.

The region is projected to experience extreme weather events as temperatures are expected to continue rising until the end of this century, leading to longer periods of extreme temperatures, with some areas exceeding 40°C (ESCWA, 2017). Escalating warming and drying patterns are increasingly evident, and forecasts indicate a further aggravation of these conditions in the coming years, posing severe threats to the region's inhabitants and infrastructure. One notable example of extreme weather events is the devastating Storm Daniel that struck Libya in September 2023. This disaster was significantly intensified by human-induced climate change, with temperature increases making it up to 50 times more likely and 50% more intense (Zachariah et al., 2023). The aftermath included heavy rainfall that breached dams, leading to widespread destruction in Libya's northeast (World Meteorological Organization, 2023).

The MENA region is also home to about 65 million people who lack access to electricity, and 60 million people who suffer from prolonged power outages and insufficient power supply (Olawuyi, 2020). Despite having a relatively modest greenhouse gas footprint compared to other regions, accounting for just 8.7% of global emissions in 2020, the MENA region contains the world's highest per-capita carbon emitters, including countries like Qatar, Kuwait, the United Arab Emirates, Bahrain and Saudi Arabia. It is the sole region where the growth of CO₂ equivalent emissions per capita has outpaced the growth of average incomes (World Bank, n.d.). Currently, renewable energy sources, excluding

hydropower, contribute less than 1.5% of the region's total electricity generation, which is significantly below the global average of 10%. Without intervention, greenhouse gas emissions in the region are projected to more than triple by 2060 compared to the 2000 baseline, under a business-as-usual scenario (World Bank, n.d.). Increasing energy demand, the interplay between water resources and energy, conflict, political and economic instability, and the dependence of MENA countries on fossil fuels have all contributed to the current energy challenges.

The region also faces other significant natural hazards, such as sand and dust storms, which have had serious adverse effects on human health and agricultural productivity, as well as causing traffic accidents and airline delays in many countries.

The escalating threat of hunger due to climate change is an urgent global concern, and is highlighted by the situation in the MENA region. Extreme weather events, such as droughts and floods, exacerbated by climate change, along with increasing water scarcity, are severely impacting food production and agricultural practices. According to a report by the Food and Agriculture Organization of the United Nations, the region accounts for 12% of the global undernourished population (FAO, 2022). This situation is projected to worsen, with the World Food Programme estimating that by 2050, the number of people at risk of hunger worldwide will increase by 10-20%, primarily due to the repercussions of climate change (WFP, 2009). This trend highlights the critical need for immediate and concerted global and regional efforts to mitigate climate change and enhance food security in the MENA region.

Given the pressing risks of climate change effects in the region, the increasing price of crude oils and the need to build sustainable economies, some MENA governments have recognized the need for action. They have made commitments to mitigate global warming by transitioning towards renewable energy sources and green technologies (Wehrey and Fawal, 2022). However, the practical implementation of these commitments to address climate change within the region has been markedly slow. A significant hindrance to realizing these climate goals is the substantial financial investment required – an estimated US\$186bn (World Bank, 2023). This financial barrier underscores the challenges that MENA governments face in reaching their climate targets and transitioning effectively to sustainable and green economies.

The MENA region is not only grappling with the devastating effects of climate change but also faces a unique confluence of formidable challenges. These include persistent conflicts, political instability, economic crises, rapid population growth and the overexploitation of natural resources. This intricate mix of factors exacerbates the impacts of the climate crisis and poses a significant barrier to achieving sustainable development in the region. A report from the United Nations Economic and Social Commission for Western Asia (ESCWA) in 2017 highlights that climate change is expected to intensify these challenges, exacerbating social and economic inequalities in a region already marked by significant inequalities. Adding to this complexity, the MENA region has the world's largest gender gap (WEF, 2022). Moreover, the region is struggling to recover from the aftermath of the COVID-19 pandemic, financial turmoil, ongoing conflicts and widespread displacement. The cumulative effects of climate change compound these already daunting challenges, further straining the region's efforts towards recovery and progress.

2.2 The gendered impact of climate change

Climate change is not 'gender-neutral', as women and girls are disproportionately affected by its impacts, as seen in the MENA region (World Bank, 2023). The experiences

of women and girls in the region under climatic stressors are shaped by a complex interplay of social and gender dynamics, political and economic conditions, and geographical location. Entrenched gender inequalities, compounded by prevailing social norms and unequal control or access to diverse forms of capital – social, physical, financial, natural, political and human – significantly heighten the vulnerability of women and girls to climate-related risks (Meinzen-Dick et al., 2011). These challenges also impair their capacity for adaptation and resilience building in the face of climate change. This situation is further aggravated by the limited influence women and girls have in household and community decision-making, leading to their reduced participation in community affairs, policy formulation and monitoring (UN Women, 2022). For example, women's representation in Arab governments within the MENA region is only half the global average (ESCWA, 2017), and the region also has the lowest rate of female participation in international environmental negotiations, resulting in women's minimal involvement in environmental matters (IUCN, 2013).

The negative impacts of gender inequality and climate change are mutually reinforcing, creating a vicious cycle where each exacerbates the other. Climate change intensifies gender inequalities, particularly undermining women's financial independence and negatively impacting their social, economic and political rights, especially in economies that are heavily based on agriculture. As a result, women face heightened obstacles when confronted with extreme climatic conditions, which are therefore more likely to affect their livelihoods, food security and health (Abdelali-Martini and de Pryck, 2015; Najjar et al., 2018). A study conducted in Morocco shows that climate change alters women's roles within their households, particularly for those who are the primary breadwinners. Women engaged in climate-sensitive livelihoods, such as agriculture, encounter obstacles in sustaining their incomes and supporting their families. This heightens their susceptibility to gender-based violence and food scarcity (Kamil and Malle, 2023).

Climate change and economic disparities

Across the broader Middle East, young women experience a significant unemployment rate, surpassing that of men across all age groups and education levels. The region's female labour force participation rate slightly exceeds 20%; this the lowest worldwide and compares to a global average of 48% (Ibourk and Elouaourti, 2023). These disparities largely originate from sociocultural norms, socioeconomic status, patriarchal governance and power dynamics: public sector roles are dominated by men, and women have limited private sector prospects and face an unsupportive work environment.

Numerous researchers emphasize the impact of climate change in exacerbating economic inequalities for women, noting how it diminishes their financial and land assets, which are crucial for adapting to climate-related challenges. The impact of water scarcity, for example, is more pronounced among employed women, as approximately 23% of employed women in the region are engaged in agriculture. Because they rely on farming and natural resources for their livelihoods, they are more susceptible to droughts, floods and diminished harvests (World Bank, 2023). Climate change also exacerbates an already uneven distribution of labour. Women in the region spend up to 10 times more time on unpaid care work than men, including caring for others whose health is affected by environmental hazards. During disasters, these responsibilities can hinder women's mobility and thus their ability to seek shelter or assistance, placing them at increased risk of fatality and injuries.

Water, food and energy security

One of the biggest challenges of the current century is providing water, energy and food to all, in an environmentally sustainable, economically viable and socially inclusive

manner that is capable of coping with shocks and disasters (Sachs et al., 2019). As the region grapples with water scarcity and the challenge of achieving equitable access to safe water, sanitation and hygiene (WASH) services, women are disproportionately impacted by these issues (ESCWA et al., 2021). Their traditional roles in managing family food resources, securing clean water and maintaining family health make them particularly vulnerable to the adverse effects of water scarcity and food insecurity. The inadequacy of WASH services, especially within educational institutions, affects menstruating girls, potentially leading to school absenteeism or dropouts due to concerns surrounding security and hygiene. Roughly one in five schools in the MENA region lacks proper hygiene facilities, and the availability of basic drinking water and sanitation in schools ranges from 74% to 83%, and 79% to 87%, respectively (Cheng, 2023). This situation increases women's domestic workload, as they are frequently responsible for cooking and washing clothes, and contributes to the widening economic disparity due to diminishing resources; it also exposes menstruating women and girls to risks related to sanitation (Kamil and Malle, 2023; Cheng, 2023).

Regional research highlights the deep impact of climate change on food security: it is estimated that some crop yields may decrease by 24% by late century if current climate change trends continue (NASA, 2022). These challenges serve to deepen the existing gender disparities, and are most acutely felt by female-headed households, rural and refugee women, and women with disabilities. Driven by climate-induced crop failure and resource scarcity, women often turn to negative coping mechanisms, while girls experience higher mortality rates due to malnutrition, exceeding those of boys (ESCWA et al., 2021). As climate change exacerbates natural resource scarcity, an increasing number of girls and women are forced to travel longer distances for food and water, thus facing heightened risks of sexual abuse, physical harm and other forms of violence (Mian and Namasivayam, 2017).

In many parts of the MENA region energy poverty is a significant issue, where access to reliable and affordable energy sources is limited. Women and girls often bear the brunt of energy poverty due to their traditional roles in household management. For example, a lack of access to clean cooking facilities forces women to spend more time on cooking and exposes them to harmful indoor air pollution. Climate change also has both direct and indirect effects on women's access to energy. UN Women (2019) reported that climate change can disrupt traditional energy sources that communities rely on, such as firewood and coal. Extreme weather events like droughts, floods and storms can damage or destroy these resources, disproportionately affecting women and girls, as they are often tasked with collecting these fuels.

Conflict, human security and migration

Climate change is the biggest threat to human security. As climate change worsens existing political and economic challenges, it heightens tensions and can potentially escalate into violent conflicts or exacerbate existing ones (Rüttinger et al. 2011b; Rüttinger et al. 2011a). This is particularly true in unstable regions, where climate-induced phenomena like sea-level rise, floods, droughts and natural disasters can undermine peace and security (Raleigh, 2010). An example is OPT, where water scarcity fuels conflict (Agha, 2019). These conditions increase vulnerabilities, especially among women and girls, by disrupting access to justice, education, healthcare, SRHR and other essential services. Like climate change, while conflict has an impact on all individuals, its impact is not 'gender-neutral'. Conflicts contribute to the escalation of violence against women and girls, such as forced marriage, torture and sexual violence. The latter has been used as a war tactic against Yazidi girls and women in Northern Iraq (Prügl, 2019).

Climate change also aggravates underlying tensions such as weak governance and social cohesion, straining natural resources and increasing food and livelihood insecurity. This can lead to resource-related conflicts, displacement and environmental degradation, further heightening vulnerability to climate shocks. Women and girls are particularly affected by conflicts, crises and scarcity of resources, impacting their livelihoods and access to water services.

The World Bank's estimation that sea-level rise could potentially displace millions of people along MENA's coasts, leading to as many as 19.3 million internal 'climate migrants' by 2050, poses a significant challenge to the region (World Bank, n.d.). This becomes particularly pronounced in light of MENA's already high population of refugees and displaced individuals. The region has high rates of violence against refugee women, with 37% of refugee women reporting instances of physical or sexual abuse (Cole and Huang, 2022). Climate-induced migration is likely to have repercussions for gender-based violence, especially for women and girls who have precarious visa status, as this makes them prone to exploitation and more likely to engage in risk-taking behaviour to survive (Cole and Huang, 2022). In some cases, societal gender inequalities and discriminatory norms can limit women's migration opportunities and increase risks, including gender-based violence and human rights violations. The plight of displaced, migrant and refugee women and girls is under-reported, obscuring their needs and undermining their resilience. Limited data and the absence of gender-specific migration statistics impede the creation of gender-responsive climate policies (ESCWA et al., 2021). Existing data shows that these women and girls face privacy issues, unequal power dynamics, violence, and difficulty accessing sanitation and health services.

Navigating intersectionality in climate change

Not all women and men, boys and girls are equally at risk from the effects of climate change. The impacts manifest differently across various groups and locations. Recognizing these disparities and understanding the structural and contextual conditions that underlie experiences of climate change is essential to support climate justice actions (Neumayer and Plümper, 2007). For example, women and girls with disabilities, women and girl migrants, and those living in refugee camps and in remote areas often face economic inequalities, earning less than their counterparts who have more privileged identities. They also face more extreme problems related to mobility, exclusion and violence. These factors are further exacerbated by climate change induced events, such as extreme weather or environmental degradation, because they hinder these women's ability to be informed and their opportunities for adaptation (UN Women, 2022). Intersectionality acknowledges that social characteristics interact in complex ways, shaping the particular forms of discrimination, privilege or disadvantage that people in a given context may encounter (Center for Intersectional Justice, n.d.). In that sense, all climate-related assessments and action must be informed by an intersectional approach and use disaggregated population, health and gender data to reflect the multiple and differentiated impacts of the climate crisis.

2.3 The climate change and SRHR nexus

SRHR is at the forefront of sustainable development and climate justice discussions, underpinning health and developmental endeavours such as the 2030 Agenda for Sustainable Development. This agenda particularly emphasizes contraception, maternal and neonatal wellbeing, and HIV/AIDS (Starrs et al., 2018). However, achieving equitable

access to SRHR remains a challenge, especially for vulnerable groups including women, girls and those with disabilities, who often grapple with conditions exacerbated by socioeconomic factors and the escalating impacts of climate change (WHO, 2017). The gendered technological divide further complicates this situation, as women often lack access to smart climate tools and real-time information (Dazé and Church, 2019), which are crucial for adapting to adverse weather patterns and making informed decisions.

In the context of climate change, SRHR faces significant risks. Access to safe water and sanitation is critical for reproductive health and preventing waterborne diseases. The inadequacy of these resources, along with challenges in accessing sustainable agriculture, adversely affects reproductive health outcomes, particularly for women, girls, children, older people and people with disabilities. Conflict and displacement further exacerbate these issues by disrupting healthcare systems, including SRHR services, increasing vulnerability for affected populations (WFP, 2015).

Climate change has a clear impact on SRHR. For instance, changing climate conditions can contribute to early puberty in certain regions, exposing girls to complex SRHR issues at a younger age (Hermelink et al., 2011). Additionally, extreme climate events can affect menstrual health and potentially alter the timing of first menstruation (Avakian, 2021), while migrant women and girls on the move due to climate and conflict disasters face barriers to accessing SRHR. Climate-related stressors may influence the onset of menopause in older women (Cucinella et al., 2023), presenting new challenges for SRHR services. Hormone and menstruation disorders induced by weather changes can create stress and depression patterns.

Pregnant women are uniquely susceptible to climate-related impacts due to physiological changes that increase their vulnerability to heat stress, dehydration, malnutrition and environmental stressors, posing significant risks to both maternal and neonatal health (Greenfield et al., 2021; UNICEF, n.d.). Air pollution and rising temperatures, for example, can worsen maternal and neonatal health outcomes (Kuehn and McCormick, 2017; Bekkar et al., 2020).

There is substantial evidence linking climate change to adverse maternal health outcomes, increased gender-based violence, and generally reduced access to SRHR services. This in turn affects family planning, access to abortion, and outcomes related to sexually transmitted infections. Trauma and stress associated with climate-induced events and unwanted pregnancies may heighten postpartum depression and anxiety rates. The psychological impact of frequent and severe climate-related disasters such as floods and wildfires can be substantial, particularly for women, leading to reduced life expectancy, mental health issues, gender-based violence, exploitation, human trafficking and increased complications during childbirth (Simpson, n.d.) 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 for Sexual and Reproductive Health, progress has been variable (Heidari et al., 2019).

Extreme weather conditions, such as high temperatures and extreme cold, can directly affect women's hormonal balance, potentially affecting their sexual desire and libido (Baker et al., 2020; Zaneva et al., 2022). Sexual activity and intimate connection are affected by external adverse circumstances (Zaneva et al., 2022).

Family planning, a cornerstone of SRHR, empowers couples to make informed decisions based on their unique circumstances. Climatic crises cause substantial disruptions in access to essential life-saving resources like contraception (UNFPA ESARO, 2022). Despite many married women wishing to delay or avoid having children, inadequate

access to contraception results in a significant number of unplanned pregnancies (Bongaarts and Sitruk-Ware, 2019). Climate change thus has significant consequences for family dynamics and cohesion.

In the MENA region, significant obstacles exist in accessing SRHR. These are linked to patriarchal structures, sociocultural norms, limited educational opportunities and economic disparities (Habib et al., 2021). Some women and girls in the region lack resources to protect themselves from sexually transmitted infections and unintended pregnancies (Habib et al., 2021). A study covering Egypt, Jordan, Lebanon, Morocco and Tunisia calls for destigmatization of sexuality, especially female sexuality outside of marriage, to ensure equitable access to SRHR services, especially for marginalized groups and unmarried women (Habib et al., 2021). Prevailing cultural norms and traditions in the region often hinder open discussions about sexual rights and pleasure for women. This silence, deeply rooted in societal norms emphasizing modesty and prioritizing male pleasure, impacts women's sexual health.

While the disproportionate impact of climate change on girls' and women's broader health, social and economic wellbeing is well documented, the linkages between climate change and SRHR have received little attention to date. Recognizing these links is key to creating an effective adaptive response to climate change, while also improving gender justice and access to SRHR services.

The SRHR, Gender and Climate Change Resilience Symposium (UNFPA, 2019) emphasized the importance of women and youth advocating for adaptation and policy reforms to effectively address the intersection of SRHR, gender and climate change. Educating young people, particularly girls, about integrating SRHR principles into their lives is key (UNFPA, 2019). Recognizing the connections between gender, SRHR and climate change is pivotal in formulating an efficient response to climate change, enhancing gender equality and ensuring access to SRHR services. To pursue a sustainable and just future that benefits everyone, girls and women must be fully engaged in environmental and climate justice action, and their health and rights promoted and protected.

2.4 Integrating gender and SRHR in climate change policies, programmes, financial mechanisms and feminist movements

According to the Climate Policy Initiative, funding for projects aimed at climate mitigation and adaptation in the MENA region has been notably deficient in recent years compared to that of other regions worldwide (Mooner, 2023). National climate policies in the region continue to be largely selective, lacking comprehensiveness, social dialogue and representation, while also lacking grounding in gender analysis and the availability of intersectional disaggregated data. Additionally, women's equal representation in national policy and decision-making in the MENA region remains very weak. As the links between climate change, gender and SRHR are increasingly recognised, it is imperative to incorporate SRHR into the realm of climate policy and address the structural causes of gender inequalities.

Incorporating SRHR into climate policies can address women's and girls' unique health challenges caused by climate change, such as maternal health risks during extreme weather events (UNFPA, 2022). By 2021, the majority of MENA countries had submitted their revised Nationally Determined Contributions (NDCs), which displayed better integration of national gender mechanisms within the elaboration process, and increased

attention to gender in general, compared to the initial round of NDCs. However, the mention of gender still predominantly takes the form of a bureaucratic procedure; only six reports made any reference to the various aspects of SRHR (UNFPA, 2022). Maternal health was the most frequently cited component of SRHR, alongside mentions of family planning services, gender-based violence and the situation of individuals living with HIV (UNFPA, 2022). While current climate policy documents offer limited references to SRHR, numerous opportunities for more extensive inclusion of SRHR exist in future climate policy endeavours, including forthcoming NDC submissions (UNFPA, 2022).

Jordan has shown commitment to gender equality in its National Climate Change Policy. Jordan presented several gender-distinct measures (such as the creation of green employment opportunities, poverty reduction and the enhancement of resilience within Indigenous communities), but SRHR was not mentioned (UNDP, 2021). Women and girls are often excluded from high-level dialogues on climate issues in Jordan; yet female investors and policymakers exhibit a greater likelihood, twice that of men, to consider environmental, social and corporate governance investing, indicating their active involvement in climate-related initiatives (UNDP, 2021).

Climate finance mechanisms need to ensure that resources are allocated equitably to promote gender justice, economic justice for women and protection of their SRHR. At present, climate finance predominantly focuses on mitigation efforts, and there is a pressing need for increased mobilization around adaptation strategies (UNFPA, 2022). National and global policies should prioritize adaptation while simultaneously engaging with and heeding the input of communities to bolster their resilience. Further, donors and development partners need to commit to increase funding for climate adaptation and resilience. They must dedicate more resources to enable people, communities and health systems to adapt and respond to acute and chronic climate challenges, explicitly supporting SRHR and strengthening commitments to realise and sustain gender justice.

Investments in the complete realization of SRHR and gender justice play a central role in enhancing the resilience of communities facing shifting climate patterns and growing inequalities. Despite this important need, the effective integration of gender in climate change remains limited in the MENA region, and in most of the policies SRHR is not covered. Integrating gender and SRHR into current climate change policies and financial mechanisms is vital to address the gender disparities and social inequalities exacerbated by the climate crisis.

3. RESEARCH FINDINGS AND RESULTS

This section collates data from the KIIs, FGDs and survey and triangulates it with the findings of research previously conducted by Oxfam.

3.1 Knowledge and awareness of climate change impacts, SRHR and their intersection

“In our societies, discussions about sexual topics, especially for adolescents and girls, are often avoided. Furthermore, when signs of early puberty in these young individuals are observed, some communities choose to deliberately ignore or deny access to SRHR information.”

Abeer (name changed), HR trainer, Jordan (FGD)

Before delving into the impact of climate change on SRHR, it is crucial to grasp the intricate and complex interplay between climate change, deep-rooted gender norms and SRHR. Access to SRHR information and services for women and girls is significantly hampered not only by existing gender inequalities, which manifest in limited economic, social and political rights, but also by the contentious nature of discussing and accessing SRHR. According to study participants, in many parts of the MENA region, cultural sensitivities surrounding SRHR can limit public discourse and educational initiatives about topics related to reproductive health, fertility and menstruation, making it difficult to raise awareness and advocate for SRHR. This both reflects and perpetuates the significant stigma and a deep-rooted taboo surrounding the access and discussion of information related to SRHR.

A significant portion of participants (69%) identified lack of information as a major barrier. Prevailing social norms (61.54%) and mobility issues (46%) were also noted as significant impediments to women’s access to SRHR services in the context of climate change. The stigma related to sexual and reproductive health adds an extra layer of challenge. Such complexities are exacerbated in the context of climate change, where the impacts of environmental shifts intersect with and magnify these entrenched societal barriers. The challenges are particularly pronounced among women and girls in marginalized communities, including those in rural areas and conflict zones, and among refugees, migrants and individuals with disabilities. This highlights a critical need for nuanced and inclusive strategies to ensure equitable SRHR access in these challenging environments.

“We lack education on how climate change affects our health, as well as knowledge regarding SRHR.”

Lamia (name changed), activist, Libya (KII)

Beyond the limited awareness and understanding of SRHR among women and girls, there is also a noticeable lack of knowledge regarding the broader impacts of climate change in the MENA region in general, and its effects on SRHR in particular. Respondents acknowledged the significant influence of climate change on women and girls' reproductive and sexual health; however, they expressed concern about the lack of knowledge of the intersection between climate change and SRHR among women and girls. The great majority of respondents (87%) therefore felt it was important to build the capacities of women and girls to understand the nexus between climate change and SRHR, and to develop adaptation strategies.

“In a culture where the focus is predominantly on basic daily needs, sexual and reproductive health and rights often appear to be a luxury. ”

Areej, NGO worker, Tunis (KII)

In a region struggling with economic challenges, people tend to prioritize immediate survival needs, such as food, shelter and employment, over addressing long-term issues like climate change and SRHR. This can lead to reduced attention and involvement in these areas. Consequently, there is a lack of awareness and a limited articulation of the nexus of climate change and SRHR. According to a key informant, corruption compounds these issues, syphoning off resources that could otherwise be invested in climate change education, mitigation strategies and raising awareness.

Public awareness is also limited due to both the scarcity of projects or organizations and the reduction or deprioritization of public and governmental resources, resulting in fewer initiatives, programmes or campaigns dedicated to educating and engaging the public on the impacts of climate change, SRHR and their intersection. Respondents believed this was due to the need for capacity building (53.85%), the need for knowledge and/or evidence (49.23%), and the need for funds (36.92%). This is exacerbated by social norms (32.31%) and a lack of interest (29.23%).

Another factor contributing to the inadequacy of public initiatives and programmes addressing the intersection of climate change and SRHR is the limited representation of women in politics, both generally and specifically in climate change policymaking, in parts of the MENA region. This results in the deprioritization of addressing this nexus on government agendas.

3.2 Women's and girls' diverse experiences of the climate change/SRHR nexus

The following section aims to uncover and examine the connection between climate change and SRHR, drawing on the varied experiences, perspectives and observations of women, including young women, in the MENA region, analysed from an intersectional lens. A significant number of participants highlighted the need for comprehensive research into the interplay between climate change and SRHR, to focus attention on this often-overlooked intersection within the region.

“This study brings attention to a profoundly significant issue that has yet to be fully comprehended and addressed.”

‘Fatima’ (name changed), married woman from Lebanon (FGD)

Violence against women and girls and other harmful practices

The relationship between climate change and gender-based violence in the MENA region is a complex issue where environmental and social crises intersect. Although studies from other regions have explored this interplay, there is a noticeable gap in data specifically addressing how climate change exacerbates gender-based violence in the MENA region. This lack of region-specific research underscores the need for more focused studies to understand and address these interconnected challenges.

Violence against women and girls is often employed as a means to violate or exert control over reproductive and sexual rights. This dynamic is particularly pronounced in situations where women face systemic denial of their autonomy in making choices about their bodies. An individual has bodily autonomy when they have the power to make decisions about their body and to chart their own futures. When young people in general, and women and girls in particular, can make the most essential choices about their bodies, they not only gain in terms of autonomy but also in terms of enhancements to their health, education, income and safety.

“Girls and adolescents are significantly affected by the onset of puberty. In our society, there’s a tendency to suppress their emerging sexual desires. In some regions, this is addressed through practices like female genital mutilation.”

Abeer’ (name changed), HR trainer, Jordan (FGD)

Participants drew a clear and concerning link between early puberty in girls, and malnutrition brought about by a lack of access to water and food as a result of extreme weather events and other impacts of climate change. Harmful societal responses to early puberty were also highlighted. These responses aim to suppress the onset of sexual awareness and autonomy in adolescent girls, and in some regions include harmful practices like female genital mutilation. These practices reflect deep-rooted cultural norms and demonstrate the many challenges young women face during their developmental years. According to the participants, early puberty also increases the risk of forced early marriage and the premature assumption of adult responsibilities, particularly following the onset of menstruation.

“I am extremely concerned about the future and the psychological wellbeing of girls facing early puberty.”

‘Leila’ (name changed), adult woman from a refugee camp (FGD)

The situation is even more dire for girls in conflict zones and refugee camps within the MENA region, where environmental stressors exacerbate existing vulnerabilities. Respondents emphasized that for these women and girls, the risks of forced early marriage and its associated negative outcomes – such as reduced educational opportunities, heightened health risks, early and unintended pregnancies, and exposure to violence – are particularly pronounced. Forced early marriages, which are often a response to the early onset of puberty exacerbated by climate change, set off a series of detrimental effects on the health and wellbeing of young girls. Respondents further highlighted how a lack of knowledge and awareness about SRHR significantly worsens these issues. This gap in understanding, which is often a result of interrupted or inadequate educational opportunities linked to early marriage and socioeconomic instability, contributes to a cycle of disadvantage. Additionally, insufficient family support, primarily due to a lack of SRHR knowledge, leaves young girls without the necessary guidance and protection against these challenges.

Participants noted that climate-induced changes and disasters, pollution in agriculture, and the impacts of these on livelihoods, have led to increased migration in the region. This often results in the disruption of girls' education, which in turn can lead to them being forced into early marriage.

“Agricultural challenges in Morocco and the broader MENA region have forced many families to abandon farming. Consequently, fathers are unable to work in agriculture, leading to changes in their behaviour. Often, this results in increased violence, which is frequently directed against their wives.”

Suad, NGO worker, Morocco (KII)

Participants indicated that they have observed an increase in violence against women as a direct or indirect consequence of climate-induced changes in agriculture. Families who depend on farming for their livelihoods face economic hardships, particularly in rural areas where agriculture is a primary source of income. The resulting economic strain can have social consequences, including stress and changes in family dynamics. In many societies, men are traditionally the breadwinners. When they are unable to fulfil this role, it can lead to frustration and a sense of emasculation. This psychological stress may manifest as increased domestic violence, which is often directed towards women. The impact of this extends beyond physical injuries to affect women's overall quality of life, mental health and social status.

Climate-induced changes, notably water scarcity affecting agriculture, critically impact women's livelihoods. This manifests in diminished financial resources, reduced independence and a lack of asset ownership. Such economic disempowerment leads to a decrease in women's social status and increases their vulnerability to abuse.

The socioeconomic conditions in which women and girls live play a critical role in this intricate web of factors. Poverty, limited education, existing gender inequalities and unstable living conditions, often intensified by the impacts of climate change and ongoing conflicts, create environments where violence against women and girls is more likely to occur. This interplay of climate change, SRHR and socioeconomic factors creates

a complex and challenging landscape that requires thoughtful and multifaceted responses.

Hygiene and menstrual health

FGD respondents stated that one of the most pressing issues is water scarcity, exacerbated by climate change. For women and girls, this directly affects their hygiene, especially during menstruation, putting their health at risk by increasing the possibility of menstrual disorders. It also affects their confidence and reduces socioeconomic participation. Among the most at-risk population are young women in refugee camps, which frequently lack water and supplies. The challenges women face in accessing clean water for hygiene and personal care can influence their interest and willingness to engage in sexual activity. FGD and KII respondents felt that when basic needs are not met, sexual matters often become secondary or even burdensome.

Women's reproductive and sexual health

“Climate change affects women's hormonal health, including their menstrual cycles, which in turn impacts fertility.”

Nuha' (name changed), adult woman from Jordan (KII)

Reproductive health and fertility

Reproductive health and rights, which are often deeply affected by sociocultural norms and beliefs, are a vital aspect of women's wellbeing and agency. In many MENA societies, women's worth is often tied to their fertility, which can have far-reaching implications for their self-esteem and societal standing (FGD). Respondents discussed fertility issues and challenges with conceiving, along with the lack of access to and affordability of fertility clinics. Hormone and menstrual disorders and other reproductive health issues (e.g. breast cancer) were raised as an increasing concern due to climate change impacts such as extreme weather, along with a lack of adequate (affordable and accessible) services.

Respondents also highlighted that rising temperatures can adversely affect sperm quality, potentially leading to issues in physiological development and deformities in babies. They noted that this places a greater burden on women as they are often the primary caregivers in their families, as there is a prevailing belief that 'children are the child of their mothers'.

The right to reproductive choice

“The impact of climate change on the environment is critically significant in our region. The most profound effects are related to water scarcity and its impact on agriculture, a sector in which women predominantly work. This situation

profoundly influences the decision-making process within families, including matters such as the number of children and pregnancy.”

Ghada, NGO worker, Jordan (KII)

The pervasive impact of climate change in the region, especially water scarcity and its detrimental effects on agriculture, has significant implications for the right to reproductive choice. Women form a large part of the agricultural workforce, and are most affected as these environmental challenges extend beyond the fields into family dynamics. They critically limit women’s decision-making power, notably in fundamental areas such as family planning and pregnancy. This highlights the deep interconnection between environmental changes and social structures.

“Some women, concerned about the future, are hesitant to have children due to environmental threats.”

Samah, adult woman, Lebanon (FGD)

Discussions with participants also revealed that the increasing prevalence of environmental threats like extreme weather events, water scarcity and food insecurity due to climate change can lead to uncertainty and instability. This uncertainty limits women’s reproductive choice, making them hesitant to bring children into a world where resources are unpredictable and living conditions may be harsh.

Sexual Health

Respondents commented that libido was negatively affected due to the lack of clean water, which impacts women’s hygiene practices, physical wellbeing and self-confidence. Women living in conflict zones and refugee camps often grapple with trauma, lack of security and privacy, and an ongoing sense of fear. These conditions can drastically diminish their sexual arousal and libido, according to key informants.

Some FGD participants also linked fluctuations in libido to climate change. In the MENA region, conservative cultural norms stigmatize women’s expression of sexual desires.

“In hot weather, sexual arousal tends to increase. Young women, however, often hesitate to assert their sexual rights with their husbands, fearing judgment as improper wives or the presumption of having previous experiences.”

‘Nuha’ (name changed), adult woman from Jordan (FGD)

Issues surrounding fertility, reproduction and the sexual needs of older women in the MENA region are often overlooked. Focus group participants felt that this demographic faces distinct challenges that are frequently ignored, particularly concerning hormone disorders before, during and after the menopause, as well as increased levels of anxiety and depression. These health issues are further exacerbated by climate change, as extreme temperature fluctuations and environmental stressors can intensify the physical and psychological symptoms experienced during menopause.

The impacts of climate change on sexual and reproductive health are compounded for refugees and migrants, particularly in densely populated and overcrowded areas. They often struggle with inadequate safe water supply and food access, a situation exacerbated by extreme climate conditions such as heat, cold and pollution. These environmental factors contribute to psychological stress, anxiety and hormonal imbalances, significantly impacting their reproductive and sexual health.

The SRHR of women with disabilities are often not considered, and hence the impact of climate change is often overlooked. Study participants highlighted that discrimination and exclusion from SRHR services, compounded by limited mobility, exacerbate the impacts of climate change on the SRHR experiences of women with disabilities. These factors add a layer of vulnerability, highlighting the urgent need for inclusive and accessible SRHR services that are sensitive to the unique challenges posed by both disability and climate change.

Pregnancy and maternal health

Climate change has profound and wide-ranging implications for pregnancy and maternal health in the region. The escalating frequency and intensity of extreme weather events, including heatwaves, directly affects the health of pregnant women. Key informants and focus group participants mentioned that extreme heat can lead to dehydration, heat stress and complications during pregnancy, significantly increasing the risks of premature births.

According to study participants, changing climate patterns in the MENA region contribute to the spread of infectious diseases, adding an extra threat to maternal health, particularly in areas where healthcare systems are already strained or inadequate, such as rural areas. The availability and quality of nutrition, which are crucial for the wellbeing of pregnant women and their unborn children, are also affected by climate-related factors. Changes in temperature and precipitation patterns disrupt agricultural practices, leading to food scarcity and malnutrition. Participants discussed how pregnant women in vulnerable communities, including those in rural areas and refugee camps, may face heightened challenges in accessing a balanced diet, elevating the risk of maternal malnutrition and associated complications. Limited access to clean water directly affects hygiene and sanitation for pregnant women, increasing the risk of infections and complications during childbirth.

According to key informants, in the aftermath of extreme weather events, disruptions to healthcare infrastructure and services are magnified, exacerbating maternal health challenges for women, especially in conflict zones and refugee camps. Access to prenatal care, emergency obstetric services and postnatal support may be severely compromised, particularly in areas prone to climate-related disasters.

3.3 Compounding factors impacting the climate change/SRHR nexus

“Our main concern is exclusion, which affects our access to SRHR resources and information under critical conditions.”

‘Leila’ (name changed), adult woman from a refugee camp (FGD)

Study participants highlighted additional barriers that exacerbate the vulnerabilities of women and girls to the nexus of climate change and SRHR. It is important to address these factors to ensure inclusivity, recognizing that individuals often possess multiple intersecting identities. This recognition allows for the provision of tailored support to meet the unique needs of different groups, promotes equity and justice by addressing systemic inequalities and fosters a holistic understanding of the complex interplay between climate change and SRHR. It contributes to improved resilience within vulnerable communities, and empowers individuals and communities to advocate for their rights and challenge harmful societal norms. Ultimately, this approach leads to a more comprehensive and equitable strategy for addressing the complex challenges posed by climate change in the context of SRHR.

Accessibility and availability of SRHR services

Key informants and focus group participants underscored the critical challenges women face in accessing SRHR services. Women, especially in areas impacted by climate change or climate-induced disasters, confront barriers ranging from disrupted to inadequate healthcare systems, restricted mobility and resource limitations. Without adequate disaster risk management, women and girls face greater challenges in accessing SRHR. Rural women, according to the KII and FGD findings, face compounded hardships due to climate change. Economic strains leading to male migration and increased domestic responsibilities, coupled with poor infrastructure, significantly hinder their access to healthcare, contraception and SRHR information. Some women with disabilities require specific accommodations and assistance to access SRHR services and information; this is especially the case for young women with disabilities who are becoming sexually active. The intersection of climate change impacts with SRHR for women with disabilities underscores a critical need for tailored support and understanding. This gap in the availability and accessibility of SRHR services exacerbates women’s struggles in sustaining their sexual and reproductive health in the context of climate change effects.

Socio-cultural norms and gender inequalities

The discussions in KIIs and FGDs revealed how societal norms and deep-rooted gender inequalities impede women’s autonomy regarding SRHR. In the MENA region’s conservative settings, cultural taboos surrounding SRHR discussions limit women’s access to and use of necessary services, adversely affecting their health and empowerment. Cultural sensitivities around fertility, reproduction and sexual health often lead to a lack of open dialogue. This silence, as highlighted in KIIs and FGDs, not only obscures the link between climate change and SRHR but also perpetuates societal norms

that marginalize or neglect the SRHR needs of specific groups, particularly young and older women.

Conflict and displacement

Women in conflict areas are compelled to venture into less secure regions in search of resources, where the risk of violence, exploitation and trafficking increases. The stress and trauma associated with conflict, combined with the challenges of accessing SRHR services, can lead to anxiety, depression and post-traumatic stress disorder, further affecting women's overall health, fertility and sexual desire. In conflict areas, where healthcare systems are often disrupted, addressing neonatal and postpartum care becomes a pressing SRHR concern. Climate change compounds the difficulties faced by displaced women. It can lead to resource scarcity, environmental degradation and increased competition for limited resources, making it even harder for women to secure their basic needs.

Exclusion and discrimination

According to focus group participants, women migrants and refugees in the region frequently encounter social exclusion and discrimination. Cultural differences, lack of social networks and the difficulty of adapting to new surroundings can hinder their integration into host communities. The absence of privacy and culturally sensitive services can discourage migrant and refugee women from seeking essential healthcare. Limited access to education, employment opportunities and essential services deepen their challenges. Women with disabilities confront an additional range of barriers, including the widespread belief that women with disabilities are not sexually active or do not need access to SRHR information and services, leading to their exclusion. Limited mobility can also hinder their access to services, along with lack of information in accessible formats.

As this section has shown, the interplay between climate change, gender and SRHR presents a complex web of challenges, profoundly influenced by factors such as displacement, conflict, migration, rural settings and disability. Insights from key informants, focus group participants and survey respondents emphasized the critical need to recognize and address the diverse experiences of women in these different contexts. Barriers to SRHR services, deep-rooted societal norms and gender inequalities contribute to this complexity, each impacting various groups of women in distinct ways. Acknowledging these intersectional factors is crucial for developing comprehensive and inclusive strategies to support women's SRHR amid the evolving climate crisis. Table 1 summarizes these diverse experiences. It is imperative to recognize that focusing solely on a specific intersectional identity might not fully encapsulate the compounded challenges faced by those with multiple intersecting identities, such as refugee women with disabilities. By considering these overlapping identities, we can better understand the layered impacts of the climate change and SRHR nexus on women and girls experiencing multiple forms of marginalization.

Table 1: Summary of climate change/SRHR nexus: impacts on different groups and compounding factors

Affected group	Specific climate change impact	SRHR issues and challenges	Compounding factors
Adolescent girls and younger women	Early puberty due to malnutrition and extreme weather Water scarcity impacting menstrual hygiene and hormone balance Climate change induced livelihood loss	Forced marriage, harmful practices, psychological trauma, early/unintended pregnancies, increased risk of GBV, increased risk of reproductive health infections, challenges in asserting sexual rights	Socioeconomic conditions, disrupted education and societal stigma and taboo, limited access to and availability of SRHR information and services, social norms and roles
Women in reproductive age	Rising temperatures affecting fertility and hormone balance Climate change induced livelihood loss, food and water insecurity	Fertility issues, menstrual disorders, increased reproductive health disorders and infections risk, unintended pregnancies, altered libido, postpartum depression, anxiety, pregnancy and maternal health issues, increased vulnerability to GBV, challenges in asserting sexual rights	Reduced healthcare access, contraception challenges, socioeconomic migration impacts, social norms and roles, stigma around sexual health, mental health impacts
Older women	Adverse effects on hormonal balance before, during and after menopause due to temperature variance	Exacerbated symptoms of menopause, increased anxiety, depression and chronic diseases	Cultural sensitivities, isolation, health issues exacerbated due to chronic conditions, limited access to age-appropriate healthcare services, social norms and roles
Rural women	Disruptions in agriculture and livelihoods due to climate change, economic migration of men	Increased domestic responsibilities, vulnerability to domestic violence, challenges in accessing healthcare and contraception, early marriages	Economic migration of men, disrupted access to education and SRHR services, increased stress and changes in family dynamics, poor healthcare infrastructure, social norms and roles

Migrant women, women in conflict zones and refugee camps	Resource scarcity, environmental degradation and climate-induced displacement	Forced marriage, unintended pregnancies, GBV, decreased access to SRHR information and services, trauma, diminished sexual desire, risk of violence and exploitation, mental health challenges like anxiety, depression, post-traumatic stress disorder (PTSD)	Limited access to healthcare, cultural differences, lack of privacy and security, challenges in accessing contraception and postpartum care, social exclusion and discrimination, disrupted access to education and SRHR services
Women in conflict areas	Food and water scarcity Environmental degradation and pollution increasing exploitation risks	Increased domestic responsibilities, compromised reproductive and maternal health, increased anxiety and PTSD, increased risks of violence and exploitation	Conflict-related disruptions to healthcare services, overwhelmed healthcare systems, increased risk of violence and exploitation, poor socioeconomic conditions, environmental or conflict-related disruption to livelihood
Women with disabilities	General climate stressors exacerbating existing health risks	Hormonal imbalances, altered libido, discrimination and exclusion in accessing SRHR services	Inadequate infrastructure, lack of accessible transportation and facilities

3.4 Bridging the current gaps

Despite the vibrant role of civil society in the MENA region and the significant contributions of feminist and women's rights organizations, the foremost advocacy priorities for these actors are unemployment, Personal Status Laws reform, gender-based violence and advancing women's rights. Advocacy related to climate change impacts mainly focuses on public health, mobility and livelihood opportunities, according to key informants.

Respondents suggested strategies to strengthen the role of civil society and other stakeholders in addressing the challenges arising from the nexus between climate change and SRHR. The majority, 68%, believe there is a significant gap in understanding this nexus and 89% of respondents considered it important to build the capacities of NGOs and activists to understand the nexus between climate change and SRHR. This is crucial, as climate change can exacerbate health and social inequalities, affecting access to healthcare, particularly reproductive health services, and increasing vulnerabilities, especially for women and marginalized communities.

Despite the limited attention given to this issue by civil society actors, key informant

interviewees recognize the significance of the nexus between climate change and SRHR on family stability and on women's health, self-confidence and livelihood opportunities. Currently, civil society organizations in the MENA region may tend to concentrate their efforts on specific issues such as women's rights, gender equality or climate change in isolation. Additionally, the increasingly shrinking civic space in the region presents a significant challenge to their activism and work. Nevertheless, despite the current narrow focus, KIs emphasized civil society's potential interest in and recognition of the importance of these intersecting issues.

Moreover, 60% of respondents emphasized the importance of inclusive and participatory policymaking and planning processes to tackle these challenges. This approach involves diverse stakeholders, including communities, health professionals and policymakers, working together to create strategies that cater to both climate resilience and SRHR needs. Such collaborative efforts can help ensure that the developed strategies are culturally sensitive and context-specific.

Around 48% of respondents pointed to the need for targeted funding and support for women. Women are disproportionately impacted by climate change effects but are also key players in community resilience and adaptation. Support in this context might mean ensuring women's access to healthcare, education and necessary resources to adapt to the impacts of climate change on their lives and health. Over half of the respondents, 52.31%, suggest that it is crucial to enhance policymakers' understanding of the nexus between climate change and SRHR. Policymakers are instrumental in resource allocation and shaping policies that can mitigate climate change impacts on gender and SRHR. Educating them can lead to more informed decisions and the implementation of responsive policies.

4. RECOMMENDATIONS AND THE WAY FORWARD

“The biggest challenge in promoting the inclusion of gender-responsive policies and actions in climate response is the capacity of policymakers and their willingness to integrate a gender perspective. Despite having a committee to address environmental issues, there is no representation of women.”

Maha, activist, Libya (KII)

To build a sustainable future, it is necessary to ensure the full participation in environmental and climate action – and harnessing their potential is dependent on their health and rights. It is therefore crucial to adopt an intersectional and gender-transformative approach to address the multifaceted challenges posed by the nexus between climate change, gender and SRHR. Solutions should encompass overarching regional strategies as well as tailor-made, context-specific initiatives that consider the unique sociocultural, economic and environmental factors influencing the lives of women and girls.

Drawing on published literature, FGDs, KIIs and a survey, the study offers recommendations to address the impact of climate change on women and girls in the region, while also improving gender equality and access to SRHR services. Governments, international organizations, civil society organizations, donors, researchers, and gender equality and climate activists must work together to:

Invest in gender analysis, data and evidence generation

Generate gender-disaggregated data and analysis to develop evidence-based arguments to advocate for policies that address the complex interplay between climate change, gender and SRHR. This is of utmost importance, as gender-disaggregated data is lacking in the region. This analysis can provide useful insights and evidence on how these issues can be incorporated in policies, plans and programmes. An intersectional approach with gender-disaggregated data is costly and takes time, but is essential for comprehending and addressing the impacts of climate change on women and girls.

Conduct and fund scientific research to understand the impacts of climate change on women’s health (e.g. fertility, hormonal balance and psychology, puberty, menopause, etc.). To support scientific studies in this area, it is crucial to allocate research funding to long-term projects and resources.

Support and leverage regional consortiums and alliances for data collection, sharing experiences and analysis to help produce reliable new indicators that can inform the nexus in transformative ways. Supporting research led by local experts at the country

level will ground the research in women's lived realities, reflecting their unique challenges and contexts within countries.

Make gender-sensitive and SRHR-centric financial commitments in climate action

Financial commitments are needed that transcend mere climate awareness; they need to incorporate gender sensitivity and SRHR, and acknowledge the unique challenges faced by women and girls. In this regard, it is imperative to strengthen health systems with an intersectional gender lens.

Allocate funds to protect and promote the SRHR of women and girls. Financing culturally sensitive educational programmes can play a pivotal role in raising awareness and improving adaptive and resilience practices. This encompasses prioritizing investment, e.g. in equitable contraceptive distribution, maternal healthcare, mobile SRHR clinics and smart tools for providing comprehensive information on reproductive health that is adaptable to the changing climate.

Long-term financing should support strong foundations (e.g. infrastructure, technical aspects, governance and capacity building) to ensure accountability and effectiveness in funded organizations. Initiatives should be aligned with specific gender-related indicators, enabling precise measurement and reporting of the impacts of climate finance efforts on women and girls. This commitment to the long term needs to overcome common funding challenges, which often arise from the prevailing preference among donors and grant providers for short-term, high-impact projects.

Invest in sustainable and feminist green transitions

Invest in green transitions that are truly sustainable and feminist. This transformation involves promoting the active involvement of women and girls in the transition, and prioritizing funding models that specifically promote the creation of green jobs and provide support for women-led green businesses and initiatives (e.g. through affirmative action and fixed quotas, or under the corporate social responsibility of firms and organizations). This not only empowers women to address the climate crisis but also contributes to greater gender equality. This initiative is particularly crucial to mitigate the potential loss of livelihoods due to climate change impacts in sectors where women are strongly represented (e.g. agriculture).

Redirect investments away from fossil fuels towards sustainable and green energy solutions with the potential to reduce carbon emissions and support feminist agendas in the region. By reducing greenhouse gas emissions through sustainable energy solutions, we can mitigate the adverse effects of climate change on water availability. This transition must be approached from a gender-just perspective, identifying and mitigating potential adverse consequences that could disproportionately affect women, girls and at-risk populations.

Bolster gender equality and women's participation and leadership in climate policies and action

Adopt institutional reforms that focus on addressing the systemic gender inequalities that exacerbate climate vulnerabilities. Central to this approach is the need to tackle the structural causes of gender inequality, including by enhancing gender-sensitive legal

frameworks, promoting women's asset ownership and leadership, and building their resilience to the impacts of climate change. It also requires concerted efforts to reform deeply ingrained social norms and legal structures that have traditionally hindered women's economic opportunities in the MENA region, such as discriminatory inheritance laws.

Promote gender-transformative climate action by addressing the linkages between climate change and SRHR across climate action processes, by advocating for the adoption of intersectional and gender-transformative approaches and comprehensive representation in climate policy formulation and execution. This holistic approach should take into account SRHR including for young people and elderly women.

Support women's equal participation in national climate policymaking processes (e.g. NDCs) by prioritizing substantive consultations, in particular harnessing the insights, experiences and capacities of women and girls representing diverse and intersecting identities (women with disabilities, women migrants and those in refugee camps, women in rural areas and conflict zones). The appointment/empowerment of gender focal points at the national level is essential to further bolster the integration of diverse groups of women and girls into climate policies and guarantee their effective implementation.

Foster women's leadership, particularly in climate-related processes, as this is a key strategy for ensuring that gender issues, including those related to SRHR, remain at the centre of policy discussions.

Promote gender-responsive healthcare systems

Increase the resilience of health systems from a gender perspective by collecting disaggregated data and supporting continuous monitoring, evaluation and learning processes. Regional collaboration between ministries of health and communities of practice can enable gender considerations to be integrated into disaster preparedness plans.

Promote gender-responsive health services, including family planning, maternal health and support for those affected by gender-based violence and displacement, as this is essential to addressing the challenges faced by women in all their diversity. Promote comprehensive adaptation strategies that support women to make informed decisions regarding their SRHR. As part of this approach, it is crucial to intensify efforts to combat gender-based violence amidst climatic stressors.

Support training and awareness-raising programmes for healthcare providers to ensure they are equipped to recognize and respond to the SRHR needs of women and girls, particularly during climate-induced crises and for women with disabilities.

Support awareness raising around SRHR, climate change and their intersection

Invest in comprehensive educational programmes and research initiatives to increase awareness regarding SRHR and climate threats, dismantling cultural barriers to open discussions, and equipping women and girls with the knowledge to recognize and address the subtle yet significant health impacts of climate change. This will lead to more informed decision-making and improved health outcomes, ushering in a future where the effects of climate change on SRHR are well understood and mitigated. It will also help develop women's capacities for adaptation and mitigation.

Harness the media to play a vital role in raising awareness around SRHR, climate change and their intersection. This can be achieved by reporting on the impacts of climate change on SRHR, highlighting the stories of affected women but also sharing positive learning and transformative experiences, and disseminating information. Through news reports, documentaries, articles, creative activities and artworks, the media can educate the public, advocate for policies that address these challenges, and hold governments and organizations to account on their commitments.

Unleash the potential of the feminist movement to drive climate justice solutions

Support the engagement and participation of the feminist movement in creating more sustainable and climate just policies and actions which mitigate the impacts of climate change and respect and protect the SRHR of all individuals. The feminist movement, with its commitment to gender equality, bodily autonomy and social justice, provides a robust foundation for addressing the complex challenges posed by the intersection of climate change and SRHR in the region.

Increase the feminist movement's engagement and advocacy on the SRHR and climate change nexus by supporting more funding, collaborative planning and capacity building. It is important to establish regional projects and initiatives that offer financial backing to enhance knowledge, facilitate peer learning and encourage the sharing of experiences.

Support the ability of the feminist movement to participate in NDCs and public policies to mitigate the climate crisis. Regional cooperation across the feminist movement serves as a conduit for regular knowledge exchange, enabling organizations to stay abreast of cutting-edge research, evolving best practice and emerging challenges. This mutual exchange of knowledge enhances the efficacy of programmes and advocacy endeavours.

Foster collaboration between the feminist movement, researchers, policymakers, civil society organizations, humanitarian workers and the climate justice movement to help bridge the gap between climate and feminist activists, as well as academic researchers, in order to create an intersectional and comprehensive approach to addressing the intersection of gender and climate issues. Collaborative regional efforts have the potential to fortify advocacy initiatives, presenting a cohesive and compelling united front to donors and policymakers alike. Furthermore, these collaborative endeavours provide a robust platform for knowledge exchange, facilitating sharing of insights and best practice across diverse organizations. Private sector involvement would also help in supporting the green transition and SRHR initiatives.

5. CONCLUSION

This research highlights the intricate and profound intersection between climate change, gender and SRHR in the MENA region. The findings reveal that climate change not only exacerbates existing gender inequalities but also significantly hinders the realization of SRHR for women and girls. The impacts are manifold, ranging from heightened risks of gender-based violence and health complications to constrained access to SRHR services, especially in countries where climate change impacts are more pronounced.

The insights gathered from diverse groups of women across the MENA region paint a vivid picture of the challenges faced. Climate change acts as a 'threat multiplier', intensifying pre-existing societal and economic pressures, and disproportionately affecting women and girls.

As the pace of climate change accelerates, its impact on SRHR becomes increasingly critical. Without effective mitigation strategies from governments, these effects are poised to intensify, further compromising the SRHR of women and girls. This study serves as an urgent appeal for united efforts to fill the knowledge gaps, address the existing gender inequalities and vulnerabilities, and to commit to both climate adaptation and mitigation. The adoption of intersectional and gender-sensitive approaches is crucial in navigating the intricate nexus of climate change, gender and SRHR.

To build a sustainable future, it is necessary to harness the full potential and active participation of girls and women in environmental and climate initiatives. The realization of this potential is fundamentally linked to their health and rights. Therefore, it is imperative to integrate these considerations into the core of climate action strategies, as efforts to combat climate change must be inclusive if they are to be effective. This holistic approach is not just a step towards gender equality but a stride towards a resilient, sustainable and equitable world for all.

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7. ANNEX 1: RESEARCH METHODOLOGY AND APPROACHES

The research was conducted using a human rights-based approach, which focuses on actively promoting and protecting human rights. It also employed an intersectional framework that acknowledges the diverse, intersecting identities of marginalized individuals and underscores the significance of their perspectives in driving social change and empowerment.

7.1 Methodology

The research was carried out by feminist research incubator Includovate, which adopted a mixed research method for its data collection and analysis. This helped to triangulate the data collected and ensured that reliable research findings were obtained. Methodological rigour and report quality were ensured by paying close attention to detail and design, and through our peer review process which includes ethical review and clearance, and expert panel consultations.

Geographical scope: Middle East and North Africa (MENA) regional focus – Algeria, Syria, Iraq, Jordan, Morocco, Lebanon, Occupied Palestinian Territories (OPT), Tunisia and Yemen.

Data collection for the study involved key informant interviews (KIIs) examining the impact of climate change on SRHR in the MENA region, focus group discussions (FGDs) to reflect on women's experiences in this context, and a survey to analyse regional perspectives and the need for a network for advocacy.

7.2 Participant selection

Study respondents were selected using intersectionality principles, with criteria such as age, organization type, location and identities. Due to a limited response from selected participants, efforts were made to expand participant outreach through other networks and snowball sampling. Key informants from women's rights organizations identified experts in climate change, SRHR and economic justice. The identified experts were invited to participate in the research, offering the survey as an alternative to interviews.

The survey sample encompassed a diverse group of women from the MENA region, with a particular focus on various demographic categories and intersecting identities. The sample covered experts in climate change, gender, women's economic justice, human development, psychology and human sciences, in addition to women experts in human rights. The survey sample covered NGOs (34%), women's rights organizations (17%), older women from affected communities (9%) and women with disabilities from affected communities (10%). Furthermore, the study considered women residing in conflict areas, women in refugee camps, migrants, and women from rural areas.

The data was collected through a combination of research methods, including six online KIs, three online FGDs, and a survey with 67 respondents. The survey successfully gathered data from most of the countries where Oxfam works in the region (Algeria, Egypt, Syria, Iraq, Jordan, Morocco, Lebanon, OPT, Tunisia and Yemen). Respondents aged 24 to 34 years constituted 24.62% of respondents, those between 35 and 44 years made up 36.92%, those aged 45 to 54 accounted for 15.38%, and those aged 55 and above represented 18.46%.

7.3 Study limitations and mitigation

Conducting remote online data collection through digital platforms introduces potential challenges to ensuring data reliability and achieving the desired level of participation. Repeated email reminders were sent encouraging people to complete the survey to increase the response rate.

The absence of in-person interactions could also have impacted the robustness of the findings. To mitigate this, an inclusive virtual environment for meaningful engagement was fostered by a researcher from the region who spoke local languages, which helped build rapport with respondents. Also, the limited awareness of SRHR and climate change affected the number of FGD participants and the quality of survey responses, leading to many incomplete answers.

The relatively small sample size of KIs and FGD participants raises concerns about representativeness. The survey was used to mitigate these aspects, and support the research by collecting the maximum inputs. However, the survey did not cover the younger age group, under 18 years. While the results are not representative, they nevertheless serve to provide illustrative snapshots of the situation. Data triangulation (including the use of secondary sources in addition to a validation workshop) was used to increase the reliability of the results.

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