



Gendered Impacts of Climate Change on Women's Health and Well-being in Egypt: Developing Resilient Adaptation and Mitigation Strategies

Conducted by
Regional Advocacy for Women's Sustainable Advancement
RAWSA

Supported by
The Doria Feminist Fund

2024

Authors

Patricia. P.C Calgary - Researcher and Author

Patricia is a Master's holder in Gender Studies and is a dedicated researcher with extensive experience in conducting in-depth studies on climate change and its impacts on marginalized communities. With a strong background in environmental health and gender studies, Patricia has contributed to several research projects aimed at understanding and addressing the intersection of climate change, women's health, and social equity. Her expertise in qualitative research methods and her commitment to empowering vulnerable populations have been instrumental in shaping the findings of this study.

Noor Y Ali - Local Data Collection Specialist

Noor is a skilled local data collection specialist with a deep understanding of the regional context and community dynamics. With a focus on gathering accurate and relevant data, Noor has played a crucial role in the fieldwork for this research. Her ability to engage with diverse participants and her proficiency in qualitative data collection methods have provided valuable insights into the impacts of climate change on women's health in Egypt. Noor's dedication to ensuring the reliability and depth of the data has been vital to the success of this study.

About RAWSA

RAWSA (Regional Advocacy for Women's Sustainable Advancement) is a female-led NGO head quartered in Egypt, working across the Middle East and North Africa (MENA) region. The organization is dedicated to advancing the rights and freedoms of women, with a strong focus on empowering marginalized communities. Their work addresses key issues such as women empowerment, gender equality, climate change, sexual and reproductive health and rights (SRHR), HIV, and gender-based violence (GBV). RAWSA is deeply committed to supporting women from diverse backgrounds, including those living with disabilities, indigenous populations, and women in rural areas.

RAWSA plays a critical role in building awareness, advocacy, capacity building, and knowledge production. With a team of experienced researchers and evaluators, the organization is also involved in monitoring and evaluating global programs. Their holistic approach to addressing these thematic areas continues to make a profound impact in local, regional, and international settings.

Acknowledgements

We extend our deepest gratitude to the Doria Feminist Fund for their generous grant, which made this research possible. Their commitment to supporting projects that address critical issues such as the intersection of climate change and women's health has been invaluable to the success of this study.

We also wish to express our heartfelt thanks to Tamkeen for the Rights of Persons with Disabilities, Community Development and Training in Sohag. Their dedication and support in hosting the anchor for this project significantly facilitated RAWSA's implementation efforts. Their local expertise and logistical assistance were crucial in ensuring the smooth execution of our research activities.

Without the support of these organizations, this research would not have been possible. We are deeply appreciative of their contributions and collaboration.

Abstract

This research report explores the profound impacts of climate change on women's sexual and reproductive health (SRHR) and mental health in Egypt. Employing a mixed-methods approach, including questionnaires and focus group discussions (FGDs), the study provides a comprehensive analysis of how extreme weather events such as heat waves and floods affect women's health and well-being. The research involved a diverse cohort of women from various socio-economic backgrounds and geographical locations, highlighting the intersectional nature of climate change impacts.

The findings reveal significant disruptions to access to contraceptives and family planning services, increased prevalence of vector-borne diseases, and heightened mental health challenges exacerbated by socio-economic stressors and triggering climate events. Rural and urban women expressed varying perceptions and experiences regarding SRHR, influenced by cultural beliefs and access to education.

Key recommendations include increasing awareness and education on SRHR, ensuring the availability of mobile health services during emergencies, and integrating mental health support into disaster response plans. The study underscores the need for gender-responsive climate adaptation strategies and calls for policies that prioritize women's health needs.

The report concludes that addressing the gendered impacts of climate change requires targeted interventions and a concerted effort from policy makers, health practitioners, and community leaders. By focusing on the unique vulnerabilities and adaptive capacities of women, this research aims to contribute to more inclusive and effective climate change adaptation policies.

Table of Contents

Authors	1
About RAWSA	2
Acknowledgements	3
Abstract.....	4
List of Figures	7
List of Tables	7
List of Abbreviation	8
1. Introduction	9
1.1. Problem Statement	10
1.2. Research Aims and Objectives	12
1.3. Significance of the Research Project.....	12
1.4. Research Limitations.....	14
1.5. Conclusion	15
2. Literature review	17
2.1. Introduction to Climate Change and Gender	17
2.2. Impact of Climate Change on Women's Health and Well-being.....	17
2.2.1. The impact of climate change on women's SRHR.....	17
2.2.1. The impact of climate change on women's mental health.....	19
2.3. Mitigation and Adaptation Measures	22
2.3.1. Existing Gender-responsive Adaptation Measures in Egypt	22
2.3.2. Global Perspectives	23
2.4. Challenges for Effective Adaptation and Mitigation Measures in Egypt	24
2.4.1. Barriers to Resource Access and Women's Participation	24
2.4.2. Cultural and Socio-economic Factors Influencing Gender and Climate Change.....	25
2.5. Gaps in Research and Future Directions.....	27
2.6. Conclusion	27
3. Research Methodology	29
3.1. Research design	29
3.2. Participants and Sampling.....	29
3.3. Data Collection Methods	29
3.3.1. Qualitative Data Collection	29
3.3.2. Quantitative Data Collection	30
3.4. Data Analysis	30
3.5. Ethical Considerations	30
4. Research Findings	32

4.1. Introduction	32
4.2. Impact on Sexual and Reproductive Health (SRHR)	38
4.3. Diverse Perspectives on SRHR.....	39
4.4. Recommendations for Policy Development.....	40
4.5. Impact on Mental Health	40
4.6. Recommendations for Addressing Mental Health Impacts	42
4.7. Conclusion	43
5. Conclusion and Recommendations.....	44
5.1. Recommendations for Donor Consideration.....	44
5.2. Recommendations for Other Donors in the Region	46
List of References	48
List of Appendices.....	52

List of Figures

Figure 1: Graphic depiction of Women's Stuggles & Resilience in Adapting to Climate Change in Egypt	33
Figure 2: Burning field in Aswan- Egypt.....	21
Figure 3: Aswan (Egypt) Landscape	21
Figure 4: Images of the FGD.....	33

List of Tables

Table 1: Demographics of the participants.....	32
Table 2: Age Distribution of Participants	34
Table 3: Age Distribution of Participants	34
Table 4: Age Distribution of Participants	34
Table 5: A summary of questionnaire responses	35

List of Abbreviation

Abbreviation	Description
CSOs	Civil Society Organizations
FGDs	Focus Group Discussions
IDP	Internally Displaced Persons
MENA	Middle East and North Africa
NGO	Non-Governmental Organisations
GBV	Gender-Based Violence
PTSD	Post-Traumatic Stress Disorder
RAWSA	Regional Advocacy for Women's Sustainable Advancement
SRHR	Sexual and Reproductive Health and Rights
SB	Subsidiary Body
SDGs	United Nations Sustainable Development Goals
COP	Conference of the Parties
WGC	Women and Gender Constituency
WHO	World Health Organization

1. Introduction

Climate change poses complex challenges with profound implications for communities worldwide. In Egypt, a nation uniquely vulnerable to its effects, understanding the nuanced impact of climate change through a gender lens is paramount. This study seeks to explore the interplay between climate change and sexual and reproductive health and rights (SRHR), as well as the mental well-being of women in Egypt. By examining these dynamics, the research aims to identify gender-responsive adaptation measures that can bolster women's resilience and advance gender equality in the face of climate-induced health threats. Through an exploration of women's lived experiences, challenges, and coping strategies, this investigation seeks to inform targeted interventions tailored to address their diverse needs within the context of climate change adaptation efforts.

The consequences of climate change are universally felt, but they do not affect all people equally. The capacity to mitigate climate change and the effectiveness of adaptation solutions vary tremendously within and between countries. Factors such as poverty, educational disadvantage, reduced service access, and lack of employment options compound these differences, often leaving women disproportionately affected. In Egypt, women face unique vulnerabilities due to social institutions, behavioural norms, and physiological attributes, which exacerbate their exposure to climate change impacts.

Women in Egypt are particularly vulnerable due to their predominant roles in household management and care giving, responsibilities that intensify during climate-related extreme events. These increased domestic duties limit their mobility and access to emergency resources, such as food, fuel, and public services, further heightening their vulnerability. As climate extremes disrupt ecosystems, the care giving burden on women and girls increases, leading to time and energy shortages that result in lost educational and income opportunities.

Given these challenges, it is crucial to integrate gender considerations into climate change adaptation strategies. This research aims to shed light on the gendered impacts of climate change on women's health and well-being in Egypt, emphasizing the need for resilience-building measures that address the specific needs of women. By doing so, it seeks to contribute to the development of more effective and equitable adaptation policies that enhance the resilience of women and promote gender equality in the face of climate change.

1.1. Problem Statement

To achieve effective global climate change adaptation, integrating gender equality and climate adaptation plans is crucial. Alston (2017) emphasizes the need for policies that recognize women's active contributions and support gender equality as a key strategy in addressing climate challenges. However, persistent issues such as inclusivity, the ability of global climate organizations to understand local concerns, and the cultural and political-economic roots driving gender inequality create ongoing challenges that can undermine these solutions. Therefore, a deeper understanding of the gender equality dimension within climate change adaptation strategies is necessary.

In Egypt, the interplay between gender and climate change is particularly significant. Despite global recognition of the importance of gender-responsive climate adaptation, the implementation of such strategies often falls short. Women in Egypt face unique challenges due to entrenched social norms and limited access to resources, which hinder their ability to effectively participate in and benefit from climate adaptation efforts. The lack of inclusion of women's voices in climate governance and the insufficient consideration of their specific needs and experiences can perpetuate gender inequalities and reduce the effectiveness of adaptation measures.

Research from other contexts, such as Bangladesh, highlights the potential pitfalls of well-intentioned but poorly implemented gender-responsive adaptation strategies. For instance, while women empowerment programs aim to address gender inequalities and enhance women's resilience, they can sometimes inadvertently reinforce social inequalities if not properly designed and executed. Similarly, in Egypt, there is a risk that climate adaptation policies may portray women primarily as passive victims rather than active agents, thereby limiting their empowerment and development opportunities. For example, in terms of statistics, women account for about 47% of Egypt's agricultural workforce, yet their involvement in climate governance remains minimal. Additionally, 55% of women in Egypt face gender inequality in economic opportunities, which can be exacerbated by poorly designed climate programs that do not address these inequalities or empower women effectively. The absence of gender-sensitive adaptation policies, where women are often seen as recipients rather than contributors to climate action, further deepens this disparity (Alston, 2017; UN Women Egypt, 2022; Wilson Centre, 2022).

This study addresses the critical gap in understanding how climate change affects women's health and well-being in Egypt and explores the effectiveness of existing adaptation strategies in addressing these impacts. By examining the representation and involvement of women in climate adaptation policies and practices, this research aims to identify barriers to effective gender-responsive adaptation and propose strategies to enhance women's resilience and participation. The goal is to contribute to the development of more inclusive and equitable climate adaptation policies that recognize and address the specific needs of women in Egypt.

Figure 1 provides a visual representation of the challenges faced by women as a result of climate change, while also illustrating their efforts to develop resilient adaptation and mitigation strategies. The image emphasizes both the adverse impacts on women's health and well-being, as well as their proactive role in responding to these environmental challenges.

Figure 1: Graphic depiction of Women's Struggles & Resilience in Adapting to Climate Change in Egypt



1.2. Research Aims and Objectives

The aim of this study is to explore the gendered impacts of climate change on women's health and well-being in Egypt, with the goal of developing resilient adaptation strategies that are both gender-responsive and effective in addressing the specific needs of women.

The study is guided by the following objectives:

- To assess the specific impacts of climate change on women's SRHR in Egypt, focusing on key areas such as maternal health, decision-making regarding childbirth, access to contraceptives, and the prevalence of early marriages.
- Investigating the impact of climate change on the mental health and well-being of women in Egypt, considering both direct and indirect effects.
- Identifying the unique vulnerabilities and adaptive capacities of different gender groups in the face of climate change-induced health challenges.
- Exploring existing gender-responsive adaptation measures aimed at mitigating the health impacts of climate change on women in Egypt.

1.3. Significance of the Research Project

This research project, funded by the Doria Feminist Fund and implemented by RAWSA, holds significant importance for several reasons:

i. Addressing critical knowledge gaps

The study aims to fill a crucial gap in understanding how climate change specifically affects women's health and well-being in Egypt. While there is growing global recognition of the need for gender-responsive climate adaptation, localized research that delves into the unique challenges faced by women in specific regions, such as Egypt, remains sparse. This research will provide valuable insights into the interplay between climate change and women's SRHR, mental well-being, and overall resilience.

ii. Advancing RAWSA's mission

RAWSA's mission to advance the rights and freedoms of women, particularly in the MENA region, aligns seamlessly with the objectives of this study. This research, focusing on the gendered impacts of climate change, supports RAWSA's broader goals of promoting gender equality, empowering women, and addressing systemic vulnerabilities that disproportionately affect women. By emphasizing the intersection of climate change with women's health and

well-being, the study complements RAWSA's leadership in SRHR as it highlights how climate change exacerbates health risks specific to women, such as increased vulnerability to diseases, lack of access to maternal healthcare, and the heightened risk of gender-based violence during climate-induced disasters. Additionally, RAWSA's advocacy for gender-responsive climate adaptation policies emphasize the need for inclusive, intersectional approaches that consider the varied needs of women from different backgrounds.

As a leading advocate for SRHR in the region, RAWSA is uniquely positioned to leverage these findings to enhance its strategic approach. The insights gained from this research will inform and refine RAWSA's SRHR initiatives, ensuring that climate resilience strategies are integrated into the broader framework of women's health and rights. This alignment not only strengthens RAWSA's capacity to address immediate climate impacts but also reinforces its role in shaping comprehensive, gender-sensitive policies and interventions that advance women's well-being in a changing climate.

iii. Informing policy and practice

The outcomes of this research will be instrumental in shaping national and regional climate adaptation policies by providing evidence-based recommendations focused on the specific vulnerabilities and adaptive capacities of women in Egypt. To ensure these findings reach a broad audience and foster meaningful change, dissemination will occur through multiple channels, including policy briefs, stakeholder workshops, and public awareness campaigns. RAWSA will also raise awareness through community outreach programs, social media campaigns, and educational materials tailored to different literacy levels. By engaging policy makers, non-governmental organisations (NGOs), and local communities, the research will foster greater understanding and adoption of inclusive climate adaptation strategies that prioritize women's needs and perspectives in resilience planning.

iv. Empowering women and enhancing resilience

This research aims to empower women in Egypt by identifying gender-responsive adaptation strategies that enhance their resilience to climate change. Women face unique challenges, including limited access to resources and socio-economic inequalities, which hinder their ability to cope with climate-related impacts. By examining these vulnerabilities, the project will explore effective coping strategies, focusing on health and well-being, economic empowerment, and community engagement. It will assess the health impacts of climate change on women, particularly in rural areas, and promote sustainable agricultural practices to improve their livelihoods. Additionally, the initiative will involve educating women about

climate change and facilitating their participation in decision-making processes. Ultimately, these targeted interventions will strengthen women's capacity to adapt to and mitigate the effects of climate change, fostering a more resilient community in Egypt.

v. Supporting global and regional climate goals

The findings of this study will contribute to the global discourse on climate change and gender equality, aligning with international efforts to integrate gender perspectives into climate adaptation strategies. In the MENA region, where gender inequalities are often pronounced, this research will provide a model for other countries to follow, demonstrating the importance of gender-sensitive approaches in addressing climate change.

vi. Enhancing RAWSA's impact and visibility

By undertaking this research, RAWSA will advance its mission and enhance its impact and visibility as a leading organization in the field of women's rights and climate adaptation. This initiative aligns with the United Nations Sustainable Development Goals (SDGs), particularly Goal 5 (Gender Equality) and Goal 13 (Climate Action), as well as the outcomes of the Conference of the Parties (COP) negotiations and the Paris Agreement. The collaboration with the Doria Feminist Fund underscores the importance of feminist approaches to addressing climate change, highlighting the intersectionality of environmental and gender issues.

This project will position RAWSA as a key player in the global effort to create a more just and sustainable future for women and communities affected by climate change. Overall, this research represents a vital step towards understanding and addressing the gendered impacts of climate change in Egypt, with the potential to inform and transform policies, practices, and lives both locally and globally.

1.4. Research Limitations

Several limitations have impacted the implementation and outcomes of this research project. Coordinating focus group discussions in various rural locations presented significant logistical challenges. Scheduling and organizing these discussions to accommodate participants' availability and travel considerations often led to delays, which affected the overall timeline of the project.

Another limitation involved reaching a diverse participant pool for the online questionnaires. Despite our extensive outreach efforts, the initial response rate was lower than anticipated, posing a challenge in gathering a broad range of perspectives. To address this issue, we

employed additional outreach strategies to increase participation and ensure a more representative sample, which required additional time and resources.

Analyzing the qualitative data from the focus groups also presented significant challenges. The rich, detailed nature of the discussions necessitated meticulous attention to accurately interpret and categorize the information. This process has been more time-consuming than initially planned, impacting the speed at which we could develop our preliminary findings.

Despite these challenges, we have made adjustments and continue to adapt our strategies to ensure the project's success. The experiences underscore the dynamic nature of field research and the importance of flexibility and resourcefulness in navigating unforeseen difficulties.

1.5. Conclusion

This study has delved into the intricate and multifaceted issue of climate change, with a specific focus on its gendered impacts on women's health and well-being in Egypt. It has highlighted the urgent need to understand how climate change uniquely affects women, particularly concerning SRHR and mental well-being. Emphasizing the necessity for gender-responsive adaptation strategies, the study aims to bolster women's resilience against climate-induced health threats.

The identified problem underscores a significant gap in current climate change adaptation strategies, which often fail to adequately integrate gender equality. It stresses the need for policies that not only recognize but actively support women's roles in climate adaptation and address the cultural and socio-economic factors that perpetuate gender inequality.

The research objectives are designed to assess the specific impacts of climate change on women's SRHR and mental health in Egypt. They focus on identifying women's unique vulnerabilities and adaptive capacities and exploring existing gender-responsive adaptation measures. This comprehensive approach seeks to provide a nuanced understanding of the intersection between gender and climate change in the Egyptian context.

The significance of this research is underscored by its alignment with the mission and goals of RAWSA and the support from the Doria Feminist Fund. By shedding light on the gendered impacts of climate change, the study aims to inform and enhance adaptation strategies, contributing to broader goals of gender equality and women's empowerment in the MENA region.

Despite encountering challenges such as logistical difficulties with rural focus group discussions, lower initial response rates for online questionnaires, and time-consuming qualitative data analysis, the research has achieved notable progress. The findings will contribute to the development of more effective and inclusive climate change adaptation policies and practices, ultimately supporting the resilience and empowerment of women in the face of environmental challenges.

2. Literature review

2.1. Introduction to Climate Change and Gender

Climate change presents a profound challenge with varying impacts across different populations and regions. The intersection of climate change and gender reveals that women, particularly in developing countries, experience disproportionate impacts due to socio-economic and cultural factors (UN Women, 2021). Gender shapes how individuals experience and respond to climate change, influencing their vulnerability and adaptive capacity. Women's traditional roles in managing household resources, such as water and food, and their responsibilities in caregiving often place them at higher risk during environmental disruptions. These roles expose them more directly to adverse effects such as extreme weather events, shifting agricultural patterns, and water scarcity (Neumayer & Plümper, 2007; Alston, 2013).

Gendered disparities in access to resources, information, and decision-making further exacerbate women's vulnerability. Women frequently have limited access to technology, financial resources, and land ownership, which impedes their ability to implement effective adaptation strategies. Additionally, the marginalization of women in decision-making processes and governance structures restricts their capacity to influence climate policies that affect their lives (FAO, 2019; Kabeer, 2018).

Addressing the gendered dimensions of climate change is essential for developing comprehensive and equitable adaptation and mitigation strategies. Effective climate action must consider how gender influences vulnerability and resilience, ensuring that policies and programs are designed to address the specific needs and strengths of women. This literature review will explore these dynamics in detail, focusing on the implications for women's health and well-being, adaptive capacities, and the integration of gender considerations into climate change policies and practices. The aim is to provide a nuanced understanding of how climate change impacts women differently and to underscore the importance of gender-responsive approaches in climate adaptation and mitigation efforts (UNFCCC, 2017; Lemos et al., 2016).

2.2. Impact of Climate Change on Women's Health and Well-being

2.2.1. The impact of climate change on women's SRHR

SRHR encompass a wide range of issues essential to women's overall health, well-being, and autonomy. These include access to contraception, prenatal and postnatal care, safe childbirth,

comprehensive sexual health education, and protection from gender-based violence. Climate change presents a significant threat to SRHR by disrupting access to these critical services and exacerbating health risks.

Extreme weather events, which are becoming more frequent and severe due to climate change, can disrupt healthcare infrastructure and services, including those related to reproductive health. In Egypt, for example, flooding in urban and rural areas has caused damage to healthcare facilities, hampering access to maternal and child health services. In 2015, floods in the city of Alexandria resulted in the temporary closure of several health centers, disrupting the provision of reproductive health services (El-Sayed et al., 2016). Globally, similar disruptions have been observed. In Bangladesh, recurring floods and cyclones have severely impacted healthcare facilities and supply chains, limiting access to contraceptives and prenatal care. After Cyclone Sidr in 2007, there was a notable decline in maternal and child health services, which led to an increase in maternal and infant mortality rates (Hossain et al., 2011). In the Philippines, typhoons have disrupted reproductive health services, particularly in remote and low-income communities, affecting access to family planning and prenatal care (Sanchez et al., 2021).

Simultaneously, the impact of climate change exacerbates health risks associated with pregnancy and childbirth. Rising temperatures and frequent heatwaves can cause heat stress and dehydration in pregnant women, which in turn increases the risk of preterm births and other complications (Mohamed et al., 2022). This is the sad case in Egypt, as the highest recorded temperatures are typically observed in its desert regions, where extreme heat is prevalent. Notable records include temperatures reaching approximately 50°C (122°F) in Siwa Oasis, around 48°C (118°F) in Luxor, and similarly high temperatures in Aswan (Said, 2021). These extreme conditions are most commonly seen during the peak summer months of June to August.

In fact, in Sub-Saharan Africa, where extreme heat and recurrent droughts are common, similar impacts have been documented. For instance, research conducted in Kenya indicates that high temperatures during pregnancy are linked to an increased risk of low birth weight and preterm births (Ngugi et al., 2018). These conditions pose significant threats to maternal health and heighten the risk of neonatal mortality and long-term developmental challenges in infants. Currently, the neonatal mortality rate in Sub-Saharan Africa is approximately 27 deaths per 1,000 live births (World Bank, 2023).

The impact of climate change further exacerbates existing inequalities, disproportionately affecting marginalized and low-income communities. In Egypt, women in rural and peri-urban areas face significant barriers to accessing reproductive health services, which are intensified by extreme weather events. For instance, in Upper Egypt, where healthcare infrastructure is already limited, flooding and extreme heat severely restrict access to maternal and child health services (Sayed et al., 2019). Similarly, in Chhattisgarh, India, extreme weather events such as heavy rains and flooding have disrupted transportation and health services, leading to severe delays in emergency care for pregnant women. Reports have highlighted instances where complications from delayed access to reproductive health services resulted in fatalities (Rao & Ghosh, 2017). In Nigeria, the 2018 flooding that affected states including Katsina and Kebbi further underscores this issue. The floods disrupted healthcare services, including maternity wards and essential supplies, leading to preventable maternal deaths due to complications related to pregnancy and childbirth (Olorunsaiye & Akinyemi, 2018). These instances, as a result, exacerbates pre-existing social and economic inequalities, leaving the most vulnerable women at higher risk of health complications.

Furthermore, the Egypt Vision 2030 strategy emphasizes the integration of climate change mitigation and adaptation measures into national development plans. Recognizing that climate change poses a significant threat to sustainable development, the strategy aims to promote women's empowerment and ensure their active participation in climate action initiatives. It underscores the need for targeted interventions that address the specific vulnerabilities of women, particularly in rural and underserved areas, by enhancing access to healthcare services and resources needed for resilience against climate impacts. By aligning gender and climate policies, Egypt seeks to foster a more equitable society that prioritizes the health and well-being of women in the face of climate challenges (Egyptian Ministry of Planning and Economic Development, 2016).

2.2.1. The impact of climate change on women's mental health

Mental health issues are a significant concern across Africa, yet they remain widely underrecognized and inadequately addressed. The World Health Organization (WHO) highlights that mental health disorders, including depression, anxiety, and schizophrenia, are prevalent across the continent (WHO, 2022). However, mental health remains a neglected area in many African countries due to factors such as stigma, limited resources, and insufficient mental health services.

Prevalence rates for mental health disorders in Africa are alarmingly high. For instance, a study in Ethiopia found that approximately 14% of the population suffers from depression, while 8% experience anxiety disorders (Abebe et al., 2020). Similarly, research in Nigeria reveals that about 25% of adults have experienced a mental health disorder at some point in their lives (Adeponle et al., 2021). Despite these high prevalence rates, mental health services are often minimal, with many countries lacking sufficient mental health professionals and adequate facilities. The stigma surrounding mental health issues further complicates the situation, as individuals may avoid seeking help due to fear of discrimination or social ostracization (Kigozi et al., 2020). Additionally, mental health often takes a backseat to other pressing health priorities, such as infectious diseases, which diverts attention and resources away from mental health care (Patel et al., 2018).

Climate change exacerbates these challenges, significantly impacting mental health, particularly for women, who frequently face the greatest social and economic repercussions. Women in vulnerable communities experience unique mental health stressors due to climate-induced events such as loss of livelihoods, displacement, and increased caregiving burdens. The added strain of climate change stressors can heighten mental health issues, making it crucial to address these challenges within broader climate adaptation and health strategies.

Reports indicate that extreme weather events can lead to significant psychological stress and anxiety. In Egypt, women in farming communities have reported increased levels of stress and anxiety due to crop failures (the images below depict how crops are being affected by the dry and hot temperatures; and how dry the city of Aswan looks during most seasons) and reduced household incomes caused by extreme weather conditions (Gad et al., 2020). These stressors are compounded by the added responsibilities of securing water, food, and fuel, often leading to chronic anxiety and depression. Globally, similar patterns are seen. In Bangladesh, women who have been displaced due to frequent flooding often experience psychological distress, including anxiety and depression. This distress is further aggravated by the loss of homes, livelihoods, and social networks, which are critical to coping and recovery (Hossain et al., 2019). Similarly, in the aftermath of typhoons in the Philippines, women have reported high levels of post-traumatic stress, particularly those who have lost family members or suffered property damage (Sanchez et al., 2021).

Figure 2: Burning field in Aswan- Egypt



Figure 3: Awsan (Egypt) Landscape



Another aspect which has been observed is how climate change exacerbates gender-based violence (GBV), which in turn has severe mental health implications for women. Displacement due to climate-induced disasters often results in overcrowded living conditions, increasing the risk of GBV. In regions like Sub-Saharan Africa, climate-induced displacement has been linked to an increase in domestic violence, sexual assault, and human trafficking. These traumatic experiences have long-lasting mental health impacts, including post-traumatic stress disorder (PTSD), depression, and anxiety. In Nigeria, women displaced by drought have reported high rates of GBV and associated mental health disorders, highlighting the urgent need for targeted mental health and psychosocial support services (Oluwafemi et al., 2020). In Egypt, women in refugee and internally displaced persons (IDP) camps have also reported increased incidences of GBV following floods and droughts (El-Masry et al., 2017).

As briefly mentioned earlier, access to mental health services is often limited in regions heavily affected by climate change. For instance, reports indicate that in Egypt, the stigma associated with mental health issues, coupled with a lack of mental health infrastructure, limits women's access to necessary care. This is particularly true in rural areas, where mental health services are scarce and culturally stigmatized (Kheir et al., 2018). Globally, the situation is similar. In India and Bangladesh, women in rural and marginalized communities often lack access to mental health services due to social stigma, economic barriers, and the absence of trained mental health professionals (Rao et al., 2020). As climate change continues to impact these regions, there is an urgent need to integrate mental health support into disaster response and climate adaptation strategies.

Overall, the impact of climate change on women's health and well-being, particularly in the areas of SRHR and mental health, is profound and multifaceted. Climate-induced disruptions to healthcare services, increased health risks, exacerbation of inequalities, and the psychological toll of extreme weather events and displacement underscore the urgent need for gender-sensitive approaches in climate adaptation and resilience-building efforts. Ensuring that health systems are equipped to address both the physical and mental health needs of women in the face of climate change is crucial for promoting health equity and protecting women's rights and well-being.

2.3. Mitigation and Adaptation Measures

The impacts of climate change on women's sexual and reproductive health and rights (SRHR) in Egypt are multifaceted and severe. Rising poverty levels driven by climate-related challenges can lead to increased early marriages, as families may marry off daughters to reduce financial burdens. This situation is compounded by a rise in gender-based violence (GBV), as stressors related to climate impacts can exacerbate tensions within households and communities. Moreover, extreme weather events often damage healthcare infrastructure, severely limiting women's access to essential services such as prenatal care, contraception, and safe childbirth. The combination of these factors not only jeopardizes women's health but also perpetuates cycles of inequality and vulnerability, underscoring the urgent need for gender-responsive adaptation measures (IPCC, 2021; Alston, 2017).

2.3.1. Existing Gender-responsive Adaptation Measures in Egypt

Egypt has made notable progress in integrating climate change considerations into health policies and planning. Key initiatives include the National Strategy for Adaptation to Climate Change, which aims to enhance infrastructure resilience and improve health service delivery by incorporating climate considerations into planning (Egyptian Ministry of Environment, 2021). This strategy represents a critical step toward addressing the broader impacts of climate change; however, specific measures targeting the unique SRHR challenges posed by climate change are still under development.

To address the specific vulnerabilities faced by women, gender-responsive adaptation measures are essential. These measures are designed to enhance women's adaptive capacities and address the significant impacts of climate change on their health, livelihoods, and overall well-being. In Egypt, gender-responsive initiatives often focus on integrating women's perspectives into climate adaptation strategies to ensure their unique needs are met.

Examples of such measures include:

1. **Access to climate-smart technologies:** Programs aimed at providing women with access to technologies that can help them adapt to climate change, such as improved irrigation systems and energy-efficient appliances.
2. **Financial resources and support:** Initiatives that offer financial resources to women for climate adaptation, including microloans and grants to support climate-resilient agricultural practices or small businesses.
3. **Training and capacity building:** Training programs that educate women on sustainable agricultural practices, water conservation, and other climate-smart practices. These programs empower women with the knowledge and skills needed to manage the impacts of climate change effectively.
4. **Improving access to clean water:** Projects aimed at enhancing women's access to clean water, which is crucial for health and well-being, particularly in areas affected by climate-induced water scarcity.
5. **Participation in climate planning and decision-making:** Efforts to include women in local climate planning and decision-making processes, ensuring their perspectives and needs are integrated into adaptation strategies (UN Women, 2020).

These gender-responsive adaptation measures are vital for empowering women and building their resilience against the impacts of climate change. By addressing women's specific needs and challenges, Egypt can enhance the effectiveness of its climate adaptation strategies and support more equitable and sustainable development outcomes.

2.3.2. Global Perspectives

On the global stage, the importance of gender-responsive adaptation measures is increasingly recognized as essential for effective climate change management. International frameworks, such as the Paris Agreement, underscore the necessity of incorporating gender considerations into climate policies and adaptation strategies. This global commitment is driven by the understanding that addressing gender disparities is crucial for enhancing overall climate resilience and ensuring that adaptation efforts are equitable and effective (UNFCCC, 2015).

The Women and Gender Constituency (WGC), among other advocacy groups, emphasizes that integrating gender perspectives into climate adaptation is vital for protecting vulnerable populations. These organizations argue that without addressing underlying gender inequalities, adaptation strategies may fail to meet the needs of the most affected groups,

thereby undermining their effectiveness (Gordon et al., 2020). Gender-responsive adaptation measures are seen as a way to ensure that women and marginalized communities are not only included in decision-making processes but are also empowered to contribute to and benefit from climate resilience initiatives.

Global debates continue over the effectiveness of current gender-responsive measures and the need for more comprehensive approaches. Critics argue that while progress has been made, many adaptation strategies still fall short in fully integrating gender considerations. There is a call for enhanced efforts to ensure that gender issues are not only acknowledged but actively addressed in climate policies and programs (Kabeer, 2018). This includes promoting policies that support women's leadership in climate adaptation, investing in gender-disaggregated data, and implementing targeted interventions that address the specific needs of women and other vulnerable groups.

Furthermore, the presence of women from the Global South in international climate platforms, such as the Conference of the Parties (COP) and the Subsidiary Body (SB) meetings, is crucial for ensuring that their unique perspectives and challenges are represented. These platforms offer essential opportunities for dialogue, networking, and advocacy, enabling women from developing countries to influence climate policies that directly affect their lives and communities. Ensuring their participation can lead to more equitable and effective climate adaptation strategies that acknowledge and address the disproportionate impacts of climate change on women.

Efforts to address these challenges are supported by various international organizations and agreements, which advocate for a more nuanced and inclusive approach to climate adaptation. For example, the Gender Action Plan under the Paris Agreement aims to strengthen the integration of gender considerations into climate policies and financing mechanisms, recognizing that gender equality is both a fundamental human right and a critical component of effective climate action (UNFCCC, 2019).

2.4. Challenges for Effective Adaptation and Mitigation Measures in Egypt

2.4.1. Barriers to Resource Access and Women's Participation

Women in Egypt, particularly those residing in rural areas, face considerable obstacles in accessing resources and participating in climate adaptation decision-making processes. For instance, only about 23% of rural women reported having access to formal credit facilities,

compared to 43% of men in similar regions (IFAD, 2021). This financial disparity significantly limits women's ability to invest in climate-resilient agricultural practices and small businesses.

Furthermore, a study by the World Bank (2022) revealed that 58% of women in rural areas lack access to essential information regarding climate adaptation initiatives, which restricts their participation in related decision-making processes. The lack of information and resources is compounded by societal norms, as approximately 55% of rural women reported that cultural barriers prevent them from actively engaging in community discussions about climate change (Egyptian Center for Economic Studies, 2021).

These statistics highlight the critical need for targeted and comprehensive strategies to address these barriers, ensuring that women's specific needs are met and empowering them to contribute effectively to climate adaptation efforts (UNDP, 2018).

2.4.2. Cultural and Socio-economic Factors Influencing Gender and Climate Change

Cultural and socio-economic factors play a critical role in shaping the gendered impacts of climate change in Egypt. Traditional gender roles often restrict women's access to essential resources and decision-making power, exacerbating their vulnerabilities to climate change. In many rural communities, women are primarily responsible for managing household resources and caregiving, roles that can limit their ability to participate in broader climate adaptation efforts. These traditional roles are deeply ingrained and can hinder women's capacity to influence climate policies and practices effectively.

Religious and dogmatic beliefs further intensify these barriers. In some contexts, religious interpretations may reinforce gender norms that limit women's mobility, participation in public life, and access to education and resources. Such beliefs can perpetuate a culture that views women primarily as caregivers, thereby marginalizing their voices in critical discussions about climate change and adaptation strategies. This religious influence can lead to the exclusion of women from decision-making processes, further entrenching gender inequalities in climate action (UN Women, 2020).

Socio-economic factors also constrain women's adaptive capacities. Limited access to education, financial resources, and technology creates additional barriers for women, contributing to a cycle of vulnerability. Women in Egypt often face challenges in accessing educational opportunities and financial support, which can restrict their ability to engage in climate-smart practices and technologies. This lack of access not only exacerbates their

vulnerability to climate change but also impedes their ability to participate in and benefit from adaptation and mitigation efforts (FAO, 2020).

2.4.3. Policy and infrastructure limitations

Another critical challenge is the inadequacy of existing policies and infrastructure to support gender-responsive climate adaptation. Current policies often fail to integrate gender considerations comprehensively, resulting in strategies that do not address the specific needs of women. The absence of a gender narrative in climate change mitigation policies can lead to the perpetuation of existing inequalities, as these policies may prioritize technical solutions without considering the unique vulnerabilities and contributions of women (Bourguignon & Kabeer, 2021).

Furthermore, many policies that are designed to mitigate climate change often overlook the significant role women play in managing natural resources and implementing sustainable practices. This lack of recognition can result in disempowering policies that marginalize women from decision-making processes, thereby undermining their potential contributions to effective climate action.

Additionally, infrastructure improvements are frequently concentrated in urban areas, leaving rural and underserved regions with insufficient support for climate adaptation. The lack of gender-sensitive infrastructure and services limits women's ability to access resources and participate in adaptation efforts effectively. For instance, inadequate transportation, energy access, and water supply systems disproportionately affect women, who often bear the responsibility for water collection and energy management in their households (World Bank, 2019).

To achieve effective climate mitigation, it is crucial to incorporate gender perspectives into policy frameworks, ensuring that women are empowered and their voices are heard in the climate decision-making processes. Enhanced gender-responsive policies would not only address the needs of women but also leverage their knowledge and capabilities in building sustainable communities resilient to climate change.

2.4.4. Climate-induced displacement and migration

Climate-induced displacement and migration further complicate adaptation efforts for women. Extreme weather events, such as floods and droughts, can lead to displacement, forcing women and their families to move to unfamiliar or overcrowded areas. This displacement often

exacerbates existing vulnerabilities, including limited access to health care, education, and economic opportunities. Women who are displaced may face heightened risks of exploitation and abuse, as well as increased difficulties in accessing reproductive health services and participating in community-based adaptation initiatives (IOM, 2021).

2.5. Gaps in Research and Future Directions

Despite progress in understanding gendered vulnerabilities and adaptive capacities, significant gaps remain in research and practice. Key gaps include the need for more comprehensive, sex-disaggregated data on the impacts of climate change on women, as well as challenges in translating gender-responsive policies into effective actions on the ground. Future research should focus on addressing these gaps by collecting detailed data, evaluating the effectiveness of gender-responsive measures, and exploring how cultural contexts impact gender and climate change. Identifying and addressing these gaps will be crucial for developing more effective strategies to support women's resilience and adaptation in the face of climate change (FAO, 2020).

In essence, addressing gendered vulnerabilities and enhancing adaptive capacities are essential for effective climate change adaptation. By integrating gender considerations into adaptation strategies, leveraging women's roles and knowledge, and addressing existing gaps, it is possible to build more resilient communities and improve outcomes for women in Egypt.

2.6. Conclusion

The literature review underscores the critical intersection of gender and climate change, highlighting how climate impacts disproportionately affect women, particularly in developing regions like Egypt. The review reveals that women's unique socio-economic and cultural roles significantly influence their vulnerability and adaptive capacities in the face of climate change. Their responsibilities in managing household resources and caregiving, coupled with limited access to resources and decision-making power, amplify their exposure to climate-related health risks and challenges.

The analysis of the impact of climate change on SRHR emphasizes how extreme weather events, disruptions in healthcare services, and food insecurity exacerbate health risks for women. In Egypt, the compounded effects of climate change, including increased maternal and infant mortality rates and poor nutritional outcomes, reflect broader global trends.

Gender-responsive adaptation measures are crucial in addressing these vulnerabilities. While Egypt has made strides in integrating gender considerations into climate policies, practical implementation remains challenging. The literature points to successful case studies and comparative analyses that offer valuable lessons for enhancing gender-responsive strategies. However, gaps in research and the need for more comprehensive data underscore the importance of continued efforts to develop effective, inclusive adaptation strategies.

In summary, addressing gendered vulnerabilities through targeted adaptation measures and leveraging women's roles and knowledge is essential for building climate resilience. Ensuring that gender considerations are fully integrated into climate policies and practices will enhance the effectiveness of adaptation strategies and improve outcomes for women, particularly in Egypt.

3. Research Methodology

3.1. Research design

A mixed-methods approach was employed to explore the gendered impacts of climate change on women's health and well-being in Egypt. By integrating both qualitative and quantitative techniques, the study aims to provide a comprehensive understanding of how climate change affects women, specifically focusing on their SRHR, mental well-being, and adaptive capacities. This approach allows for a nuanced exploration of individual experiences and broader patterns across different geographic locations in Egypt, including Cairo, Sohag, and Alexandria.

3.2. Participants and Sampling

Participants were selected through purposive sampling to ensure diversity in age, socio-economic status, geographic location, and cultural background. This selection method was found suitable because it ensured that a wide range of perspectives were included, reflecting the varied experiences of women across different communities in Egypt. Our participant recruitment strategy was designed to ensure diversity in backgrounds, age groups, and geographical locations. We included women from urban and rural areas, spanning different socioeconomic statuses, educational levels, and cultural beliefs. The diverse portfolio of participants was instrumental to the study because it captured the varied impacts and perspectives of people across different segments of the population such as healthcare workers, farmers, teachers, homemakers, young, middle aged and old, highlighting the multifaceted nature of climate impacts and the varying coping mechanisms employed by different groups.

3.3. Data Collection Methods

3.3.1. Qualitative Data Collection

Semi-structured interviews were conducted with a subset of participants to gain in-depth insights into their experiences and coping strategies related to climate change-induced health challenges. The interviews were designed to explore detailed narratives of the lived experiences of women about the effects of climate change on SRHR, mental well-being, and adaptive capacities. Interview questions focused on participants' personal experiences, perceived health risks, and the adequacy of existing adaptation measures.

To further explore community perspectives, focus group discussions (FGDs) were also conducted. The aim of the FGDs was to provide a platform for participants to discuss their collective experiences and challenges related to climate change and to facilitate a dynamic exchange of ideas and insights, highlighting common issues and community-level responses to climate impacts.

The interviews and FGDs were audio-recorded with participants' consent. These recordings or verbatims were then transcribed and subjected to thematic analysis. This analysis aimed to identify key themes and patterns in the data, providing a rich, qualitative understanding of the impact of climate change on women's health. A list of the interview questions is provided in the Appendix. These interview questions were also used for the FGDs to maintain consistency of the questions asked by the consultant.

3.3.2. Quantitative Data Collection

Structured questionnaires were distributed to a larger sample of women to gather quantitative data on the prevalence and severity of climate change-related health issues. The questionnaires included validated scales to assess various aspects of SRHR, mental well-being, and perceived adaptive capacities. These questionnaires were administered either electronically or in-person, depending on participants' preferences and accessibility. The collection of quantitative data allowed for statistical analysis of trends and correlations, complementing the qualitative insights obtained from interviews. The questionnaire is provided in the Appendix.

3.4. Data Analysis

The analysis of qualitative data involved thematic coding and categorization of interview transcripts and focus group discussion notes. Key themes and patterns were identified to understand the common experiences and concerns among participants. For quantitative data, statistical analysis was performed to determine the prevalence of specific health issues and the relationships between climate change factors and health outcomes.

3.5. Ethical Considerations

The study adhered to ethical guidelines to ensure the protection of participants' rights and well-being. Informed consent was obtained from all participants, who were made aware of the study's purpose, their role, and their right to withdraw at any time without penalty. Privacy and confidentiality were maintained throughout the research process, with data being securely stored and only accessible to authorized researchers. To ensure the anonymity of participants,

we used only first names and omitted surnames or any other identifying attributes. This practice was crucial for maintaining the confidentiality and privacy of the women who shared their personal experiences and insights. Participants were informed about the anonymity measures, which encouraged more open and honest discussions. The study also took care to address any potential sensitivities related to discussing personal health and climate impacts, providing support and resources as needed.

4. Research Findings

4.1. Introduction

Achieving data saturation was a key objective in this research. Data saturation occurs when no new information or themes emerge from the data, indicating that the sample size is sufficient to provide a comprehensive understanding of the research topics. The iterative process of data collection and analysis ensured that the sample size was adequate, and the diverse participant pool contributed to a thorough exploration of the issues. The research design and methods were continually assessed and adjusted to ensure that data saturation was reached, thereby enhancing the validity and reliability of the findings.

Overall, the data collection took a period of two weeks between June 29th and July 13th, 2024. Below is a table showcasing the demographics of 15 participants who were interviewed. The demographics show the diversity of the participants who were interviewed including their professions, age, and backgrounds. This diversity enriched our analysis and helped identify specific needs and challenges faced by different groups, thereby enhancing the credibility and applicability of our findings.

Table 1: Demographics of the participants

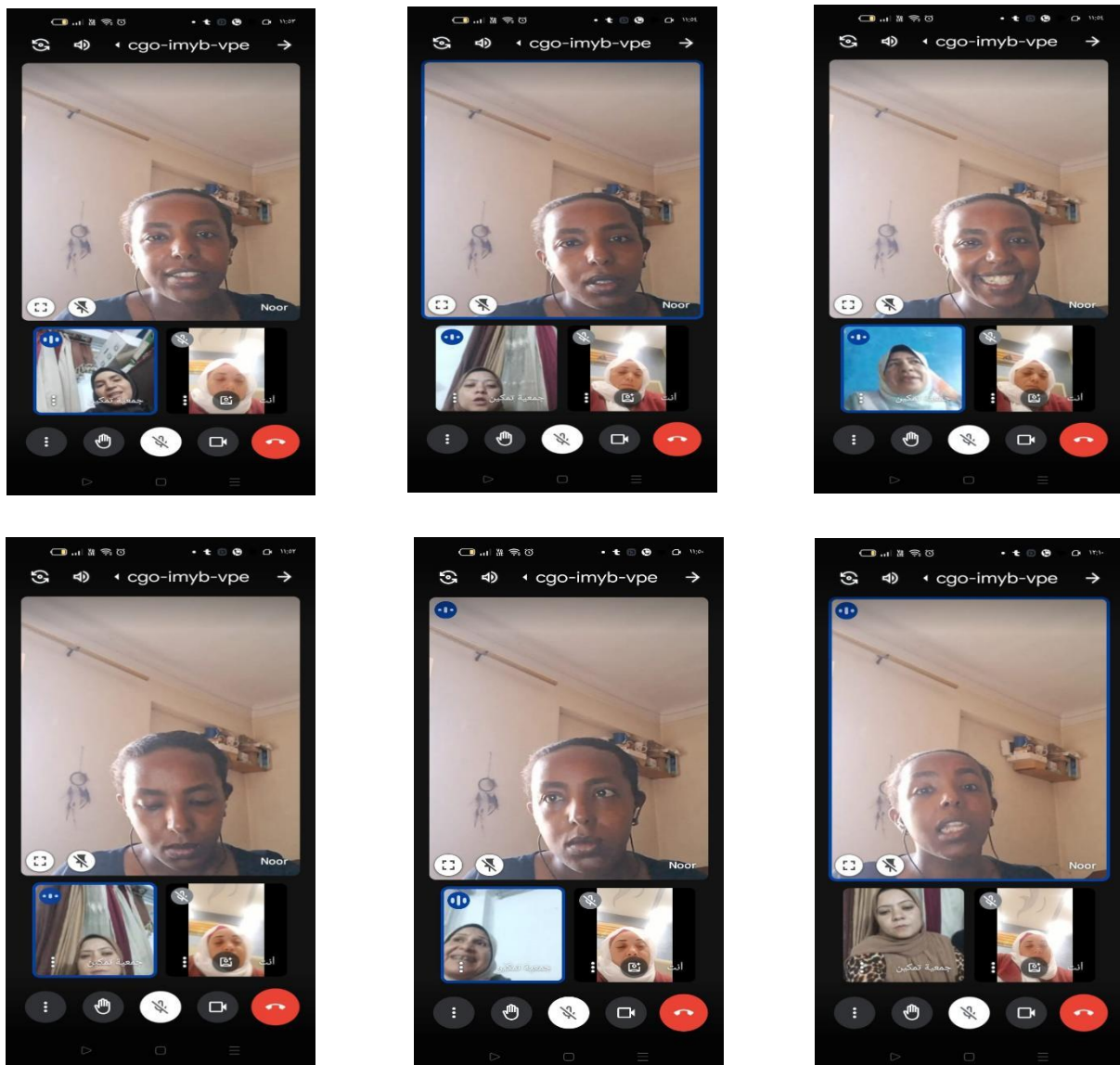
Participant Name	Age	Profession	Background
Amina	32	Farmer	Rural
Nadia	28	Home maker	Displaced
Layla	34	Healthcare Worker	Urban
Fatima	45	Teacher	Rural
Mariam	22	Student	Urban
Huda	50	Community Leader	Rural
Salma	29	Midwife	Urban
Dr. Reem	56	Healthcare Provider	Urban
Aisha	30	House wife	Urban
Asma	25	Farmer	Rural
Hanan	25	Home maker	Urban
Rana	28	Economist	Urban
Samira	34	Expecting Mother	Rural
Sarah	58	Teacher	Rural
Yasmin	18	Student	Urban

The focus group discussion (FGD) was conducted online via Zoom on the 6th of July 2024, involving 12 women who were part of the 15 women previously interviewed. This virtual format

allowed for participation from diverse cities across Egypt, effectively bypassing the logistical and budgetary constraints associated with in-person meetings. The online setting facilitated insights from participants within a group setting, rather than individually, in order to foster a discussion and interaction of the women. Moderated by Noor Ali, the Local Data Collection Specialist for RAWSA, the FGD served as a rich platform for exploring the gendered impacts of climate change on women's health and well-being.

While some participants were comfortable showing their faces, others chose to remain anonymous, underscoring the sensitive nature of the topics discussed. Overall, the FGD was a crucial complement to the quantitative data collected through questionnaires, providing in-depth qualitative insights. The diverse perspectives shared highlighted the importance of integrating varied voices in developing effective and inclusive climate change adaptation strategies. Below are pictures of some of the women who participated in the FGD.

Figure 4: Images of the FGD



The questionnaires provided a broad overview of the issues, revealing patterns and trends that were further explored in the interviews and FGDs. Below is the questionnaire analysis that provides an understanding of the demographics of people who contributed to the questionnaire.

Table 2: Age Distribution of Participants

Age Distribution of Participants		
Age	No: of Participants	% of Participants
18-25 years	9	20%
26-35 years	14	30%
36-45 years	11	25%
46-55 years	7	15%
56-65 years	4	10%

Table 3: Age Distribution of Participants

Gender Distribution of Participants		
Gender	No: of Participants	% of Participants
Female	36	80%
Male	9	20%

Table 4: Age Distribution of Participants

Community/Region of Residence		
Community/Region	No: of Participants	% of Participants
Urban	18	40%
Semi-Urban	14	30%
Rural	9	20%

The demographic analysis of the study participants offers valuable insights into the gendered impacts of climate change on women's health and well-being in Egypt. The age distribution of the participants spans from 18 to 65 years, capturing a diverse range of life stages and experiences. The largest age group is 26-35, followed by 36-45 years, and 18-25 years. This distribution ensures that the perspectives of younger women, who may be more aware of modern climate challenges and have different coping strategies, are well represented. The

inclusion of women aged 46-55 years and 56-65 years adds depth to the study by incorporating the experiences of older women, who may have faced different historical climate conditions and possess long-term adaptive knowledge.

In addition to the focus on women, 20% of the participants were men, reflecting an effort to capture broader gender perspectives on the impacts of climate change. Including male participants allows for a comparison between how men and women experience climate-related challenges, offering a more balanced view of community-wide issues.

Geographically, the participants came from a mix of urban, semi-urban, and rural areas, which is critical to understanding the varied impacts of climate change on women's health across different environments. Urban participants, representing 40%, provide insights into the challenges faced in densely populated cities like Cairo and Alexandria, such as pollution and heat stress. Meanwhile, semi-urban participants, accounting for 30%, reflect experiences from areas like Luxor and Aswan, which blend characteristics of urban and rural settings. The 20% from rural regions, such as Delta villages, bring a perspective from areas where dependence on agriculture and limited access to healthcare make women particularly vulnerable to climate-induced health challenges.

Table 5 below provides a summary clear statistical summary of the participants' responses to each question, highlighting the consensus and areas of agreement or concern regarding the impact of climate change on women's health and well-being.

Table 5: A summary of questionnaire responses

Statement/Question	Response	No.	%
Climate change has negatively impacted the health and well-being of women in my community.	Strongly Agree	36	80.0%
	Agree	5	11.1%
	Neutral	4	8.9%
	Disagree	0	0.0%
	Strongly Disagree	0	0.0%
Do you believe that climate change affects the the SRHR of women in Egypt?	Yes	45	100.0%
	No	0	0.0%
To what extent do you think climate change influences the mental health and well-being in Egypt?	Significantly	43	95.6%
	Moderately	2	4.4%
	Slightly	0	0.0%
	Not at all	0	0.0%
Have you observed specific challenges or vulnerabilities that women face in dealing with the health impacts of climate change?	Yes	45	100.0%
	No	0	0.0%
In your opinion, how effective are the coping strategies or adaptive measures employed by	Very effective	43	95.6%
	Somewhat effective	2	4.4%

women to mitigate the effects of climate Change on their health and well-being?	Not very effective	0	0.0%
	Not at all effective	0	0.0%
Have you observed specific challenges or vulnerabilities that women face in dealing with the health impacts of climate change?	Yes	45	100.0%
	No	0	0.0%

A critical analysis of the table in relation to the research question and objectives reveals several important insights:

1. High Consensus on the Negative Impact of Climate Change on Women's Health

The overwhelmingly strong agreement that climate change has negatively impacted the health and well-being of women (91.1% agreeing or strongly agreeing) directly supports the research question. This consensus underscores the recognition among participants that climate change acts as a significant stressor on women's health. As highlighted by one of the respondents in one of the open ended questions in the questionnaire, *“Climate change exacerbates existing health inequities, particularly for women who already face systemic barriers.”* The absence of any disagreement signifies a robust understanding among participants regarding the detrimental effects of climate change on women’s health. This aligns seamlessly with the research objective of assessing the health impacts of climate change on women in Egypt, particularly within vulnerable communities. Another respondent remarked, *“In our rural areas, the impacts of climate change manifest in more severe health outcomes for women; it’s a silent crisis that needs urgent attention.”*

2. Unanimous Agreement on the Impact of Climate Change on SRHR

The finding that all participants (100%) believe climate change affects women's Sexual and Reproductive Health and Rights (SRHR) highlights a clear and critical consensus. This finding is pivotal to the study’s objectives, which aim to explore the specific vulnerabilities women face concerning SRHR. The unanimity suggests a profound recognition of the connection between climate change and SRHR, reinforcing the urgency to address these challenges in policy interventions. A respondent noted, *“The impacts of climate change on women’s reproductive health are severe and far-reaching; we see it in access to services and maternal health outcomes.”* This insight underscores the necessity of integrating SRHR considerations into climate change policies, as failing to do so can further marginalize women and hinder progress toward gender equality.

3. Significant Influence on Mental Health

The majority of respondents (95.6%) believe that climate change significantly influences mental health, while 4.4% consider the effect to be moderate. This data is significant in expanding the research focus beyond physical health to include mental health and well-being. Given that mental health can often be overlooked in discussions of climate change impacts, the near-unanimous agreement on its influence underscores the urgency of addressing psychological aspects alongside physical health and SRHR in climate-related interventions. One of the respondents noted, *“The emotional toll of climate change cannot be underestimated; many women in our communities report feelings of anxiety and helplessness as they confront the changing environment.”* This sentiment highlights the critical need for mental health support as part of broader climate adaptation strategies.

4. Universal Recognition of Challenges and Vulnerabilities Women Face

All participants acknowledge that women face specific challenges in dealing with the health impacts of climate change. This strong consensus reinforces the objective of understanding the gender-specific vulnerabilities exacerbated by climate change. The uniformity of this response emphasizes that these challenges are widespread and systemic, affecting women across different communities, regions, and age groups. One of the respondents stated, *“Women bear the brunt of climate change; whether it’s through increased caregiving responsibilities or limited access to resources, these challenges are undeniable.”* This acknowledgment indicates a collective understanding of the systemic barriers that hinder women's capacity to adapt effectively.

5. Perception of Coping Strategies

Nearly all participants (95.6%) believe that the coping strategies or adaptive measures women use are "very effective." This high level of confidence in women's adaptive measures suggests a strong resilience and adaptability among women in the face of climate-induced health challenges. However, the research should critically explore whether these coping strategies are sustainable long-term and if they are influenced by external support, resources, or policies. One of the respondents remarked, *“Women are incredibly resourceful; they find ways to adapt even in the most challenging circumstances. However, it’s crucial that we ensure these strategies are supported by our policies.”* The small percentage (4.4%) rating strategies as only "somewhat effective" could indicate room for improvement in the adaptive measures currently employed.

6. No Significant Divergence of Opinion

Across all questions, there is minimal divergence of opinion, with no responses in the "Disagree," "Strongly Disagree," or "Not at all" categories. This uniformity indicates that the impacts of climate change are perceived as universal and shared across different backgrounds, experiences, and levels of awareness. The consensus underscores the urgency for action rather than further exploration of whether climate change affects women's health—it clearly does. One of the respondents emphasized, *"The science is clear, and the experiences are shared; we must move beyond debate and focus on implementing solutions."* Also, while the lack of differing perspectives limits insights into how factors like socioeconomic status or geographic location might affect experiences, it highlights the pressing need to focus on evaluating and enhancing the effectiveness of adaptive measures.

The forthcoming sections will delve into the detailed findings, illustrating the profound impacts of climate change on SRHR and mental health through the voices (obtained through the interviews and FGDs) of the women affected.

4.2. Impact on Sexual and Reproductive Health (SRHR)

The findings indicate that climate change significantly impacts women's SRHR in Egypt, especially during extreme weather events like heatwaves and floods. One respondent, Amina, a mother from a rural area, noted, *"During the heatwave last summer, I was constantly worried about my unborn child. I felt dizzy and weak, and the fear of premature labour kept me up at night."* This sentiment was echoed by others, such as Fatima, a pregnant woman who shared, *"The heat was unbearable. I had constant headaches and felt exhausted all the time. It was hard to even leave the house."* Similarly, Samira, also an expecting mother, mentioned, *"I had to visit the clinic more often because I felt dehydrated and my blood pressure was unstable."*

Access to contraceptives and family planning services was also severely disrupted. Nadia, displaced by flooding, explained, *"When we had to evacuate, I left my contraceptives behind. In the chaos, getting new ones was impossible, and it added to my stress."* Another woman, Hanan, described a similar experience: *"The floods destroyed our home, and I lost all my medications. Finding a clinic was difficult, and I was scared about unplanned pregnancy."* Aisha, also shared, *"The uncertainty during the evacuation made it impossible to think about family planning. All my focus was on survival."*

The spread of vector-borne diseases, such as malaria and dengue, was another critical issue. Layla, a health worker, highlighted, *"We have seen a rise in malaria cases, especially among pregnant women. This has led to more miscarriages and low birth weight babies."* Another

healthcare provider, Dr. Reem, noted, *"The increase in dengue cases has been alarming. Pregnant women are particularly vulnerable, and we've seen a spike in related complications."* Salma, a midwife, added, *"Vector-borne diseases are becoming more common, and our resources are stretched thin. Pregnant women suffer the most."*

4.3. Diverse Perspectives on SRHR

Women in Egypt have varied understandings and perceptions of SRHR, influenced by their backgrounds, locations, beliefs, and socio-economic statuses. This diversity impacts their ability to access and advocate for SRHR services.

In rural areas, where traditional beliefs and limited access to education prevail, many women view SRHR primarily through the lens of maternal health and family planning. Amina's concern about her unborn child during the heatwave reflects a broader focus on immediate maternal and child health needs. *"We know about taking care of ourselves when pregnant, but we don't talk much about other aspects of reproductive health,"* Amina shared during a focus group discussion. Another rural woman, Layla, stated, *"Family planning is mainly about having healthy babies for us. We don't think much about it beyond that."* This limited understanding often leads to neglect of broader SRHR issues such as contraception and STI prevention.

Urban women, on the other hand, might have more exposure to comprehensive SRHR education, but still face barriers due to cultural stigmas and economic constraints. Nadia's experience with disrupted access to contraceptives during displacement highlights the fragile nature of SRHR services even in urban settings. *"In the city, we have clinics, but during emergencies, accessing these services becomes almost impossible,"* she explained. Yasmin, an urban resident, noted, *"Even with better education, talking about sexual health is still taboo. It's hard to get the help we need without judgment."*

Beliefs and cultural norms also play a significant role in shaping perceptions of SRHR. For instance, in conservative communities, discussing reproductive health openly is often taboo. Layla noted, *"In many places, women don't talk about these issues openly. They think it's shameful or unnecessary unless they're pregnant."* Another respondent, Huda, added, *"We are taught that discussing these things is inappropriate. So, many women suffer in silence."*

The conceptualization of SRHR as a "right" varies significantly among women. In many cases, women do not recognize SRHR as a fundamental right due to a lack of awareness and education. Fatima, another participant from a rural area, mentioned, *"I never thought of it as a right. It's just something we have to deal with."* This lack of recognition leads to low expectations and acceptance of inadequate services. Women like Fatima do not demand

better because they are unaware that they deserve more comprehensive and respectful healthcare. Miriam, said, *"I didn't know I could ask for better care. We are used to taking what we get."*

4.4. Recommendations for Policy Development

These findings highlight the urgent need for targeted interventions to address the SRHR impacts of climate change. Policy recommendations include:

- Increasing awareness and education: Implementing community-based programs to educate women about their SRHR and the importance of accessing these services during climate emergencies.
- Ensuring mobile clinics and health services: Providing mobile clinics and outreach services in disaster-prone and remote areas to ensure continuity of care.
- Developing robust distribution systems: Creating reliable systems for distributing contraceptives and essential medicines during emergencies to prevent disruptions.
- Gender-responsive climate adaptation strategies: Integrating gender-specific needs into climate adaptation policies to ensure women's health needs are prioritized and met.

By addressing these issues and promoting a broader understanding of SRHR as a right, the study aims to enhance the resilience and health outcomes of women in the face of climate change.

4.5. Impact on Mental Health

The research revealed significant impacts of climate change on women's mental health in Egypt, highlighting two principal pathways: socio-economic stressors and triggering events. These impacts were compounded by cultural perceptions and stigmas surrounding mental health, which often prevent open discussions and adequate support.

Socio-Economic Stressors

Economic hardships due to climate change significantly impacted mental health, particularly for women. Reduced agricultural productivity and increased food prices led to food insecurity, amplifying anxiety and depression. Fatima, a mother of three, shared, *"I struggle to feed my children. The rising prices and failing crops make me anxious all the time. Sometimes, I can't sleep because I'm worried about our future."* This sentiment was echoed by other women, such as Layla, who noted, *"Every day is a battle to put food on the table. The stress is constant,*

and it's affecting my health." Hanan, another participant, expressed, "The economic pressure is unbearable. I feel like I'm failing my family, and it makes me feel so hopeless."

The burden of providing for families under these conditions exacerbates stress and mental health issues. Many women resorted to taking small loans, increasing their stress levels and contributing to a cycle of debt and anxiety. Aisha, a woman living in the rural areas, explained, *"I had to take out loans to keep us afloat. The debt just keeps piling up, and it's a constant source of worry."* Mariam, a mother, added, *"We are trapped in a cycle of debt. It feels like there's no way out, and it's crushing."*

Triggering Events

Extreme climate events like heatwaves and floods also triggers mental health crises. A young mother, recalled, *"During the flood, I felt so helpless. I couldn't protect my children, and the thought of losing everything was unbearable."* Another woman, Sarah, shared, *"The heatwaves are terrifying. I worry about my children getting sick, and it makes me feel so powerless."* Rana, a 28-year-old woman, said, *"The floods destroyed everything we had. I couldn't stop crying, and the fear and loss were overwhelming."*

Women reported heightened feelings of helplessness and suicidal thoughts during these events, exacerbated by their inability to fulfill caregiving roles effectively. Layla stated, *"I felt like I was failing my family. The stress and fear made me think of ending it all."* Miriam also noted, *"The constant threat of disaster makes it hard to function. The anxiety is paralyzing."*

Perceptions and Understanding of Mental Health

The understanding and perception of mental health varied widely among the women interviewed, often influenced by their backgrounds, locations, and cultural beliefs. In many rural areas, mental health is not regarded as seriously as it should be. There is a significant stigma attached to discussing mental health issues, leading to avoidance and underreporting. Asma, a woman from a rural village, mentioned, *"People here don't talk about mental health. If you do, they think you're crazy or weak."* Amina added, *"I feel ashamed to talk about my anxiety. People will laugh at me or think I'm just seeking attention."*

In urban settings, while there may be slightly more awareness, the stigma remains pervasive. Hanan, an urban resident, noted, *"Even in the city, talking about mental health can get you labeled as unstable. It's hard to seek help without fear of judgment."* Sara, another urban woman, shared, *"Mental health is seen as a personal failure. People don't understand that it's a real issue, not something you can just 'get over.'"*

These perceptions hinder women from seeking the help they need, perpetuating the cycle of mental health issues. The lack of social and economic support systems in rural areas made women more vulnerable to climate-related mental health issues. Layla, a health worker, explained, *"We need more mental health services in these communities. Women are suffering in silence, and it's affecting their entire families."* Nadia, another health professional, stated, *"There's a desperate need for education and support. Women need to know that it's okay to seek help."*

4.6. Recommendations for Addressing Mental Health Impacts

Participants suggested several strategies to address the mental health impacts of climate change:

- Developing community-based mental health support programs: These programs can provide accessible mental health services and support networks, helping women cope with the stress and anxiety induced by climate change. Layla suggested, *"We need local support groups where women can share their experiences and find comfort in knowing they're not alone."* Fatima added, *"Community workshops on mental health could help reduce the stigma and encourage more women to seek help."*
- Enhancing economic support systems for women: Providing financial aid and resources can alleviate some of the economic pressures that contribute to mental health issues. Amina proposed, *"Microloans and grants for women can help us start small businesses and become more economically stable."* Hanan emphasized, *"Training programs to improve skills and employment opportunities would make a huge difference."*
- Integrating mental health services into disaster response plans: Ensuring that mental health support is part of emergency response can help women deal with the trauma of extreme climate events. Sarah recommended, *"Emergency shelters should have counsellors available to help women and children cope with the immediate stress and trauma."* Rana noted, *"Providing mental health resources alongside physical aid can speed up recovery and reduce long-term psychological impacts."*
- Promoting gender-sensitive policies: Developing policies that recognize and address the unique mental health needs of women affected by climate change is crucial. Layla suggested, *"Policies should include specific provisions for mental health services tailored to women, especially in rural and disaster-prone areas."* Nadia added, *"Government support for mental health initiatives and awareness campaigns can help change cultural perceptions and reduce stigma."*

By addressing these issues and promoting a broader understanding of mental health as a critical component of overall well-being, the study aims to enhance the resilience and health outcomes of women in the face of climate change.

4.7. Conclusion

The findings from this research provide detailed insights into the multifaceted impacts of climate change on women's health and well-being in Egypt. Our study reveals that extreme weather events, such as heatwaves and floods, severely disrupt access to essential reproductive health services and contribute to significant mental health challenges. These impacts are compounded by socio-economic stressors and the spread of vector-borne diseases, highlighting the intersectional nature of climate change effects on women.

The diverse backgrounds and experiences of the participants have illuminated the varied ways in which climate change exacerbates existing health vulnerabilities and creates new challenges. The narratives of women from different professions and geographical areas underscore the importance of tailored, context-specific responses to address these impacts effectively. As Mariam articulated, *"We need resources and support that understand our unique situations; without that, we're left to struggle alone."*

Our research emphasizes the urgent need for gender-responsive adaptation strategies that specifically address SRHR and mental health in the context of climate change. By focusing on the unique vulnerabilities and adaptive capacities of women, this study contributes to the formulation of more inclusive and effective climate change adaptation policies. Huda emphasized, *"It's essential that our voices are heard in these discussions; we know our needs better than anyone else."*

It is essential to integrate comprehensive health services, including mobile clinics and mental health support programs, into disaster response plans. Additionally, promoting gender-sensitive policies that prioritize women's health needs will enhance resilience and empowerment, contributing to broader goals of gender equality and sustainable development in the region. As Salma stated, *"Access to healthcare should not be a luxury; it's a right, especially in times of crisis."*

In conclusion, addressing the gendered impacts of climate change on women's health requires a concerted effort from policymakers, health practitioners, and community leaders. By prioritizing the health and well-being of women, we can ensure a more resilient and equitable response to the challenges posed by climate change. As Fatima pointed out, *"We need to build a future where women are not just survivors but leaders in climate adaptation."*

5. Conclusion and Recommendations

The research findings highlight the profound and multifaceted impacts of climate change on women's SRHR and mental health in Egypt. Extreme weather events, such as heatwaves and floods, have disrupted access to essential reproductive health services and exacerbated mental health challenges, revealing a critical intersection of climate change and gender disparities.

The study underscores that women from diverse backgrounds—rural and urban, varying in socioeconomic status and cultural beliefs—experience these impacts differently. Rural women often face immediate health risks and disruptions to family planning services due to inadequate infrastructure and traditional beliefs. Urban women, while having better access to services, still encounter significant barriers during emergencies. These differences highlight the need for nuanced, context-specific responses to effectively address the varied impacts of climate change.

The emotional and psychological toll of climate-induced stress, coupled with economic hardships and stigma surrounding mental health, further complicates the situation. Women's narratives reveal heightened vulnerability to mental health issues, particularly during and after extreme weather events, which are compounded by socio-economic stressors and insufficient support systems.

Our research emphasizes the need for comprehensive, gender-responsive policies and interventions that address both SRHR and mental health needs within the broader context of climate change adaptation. Effective strategies must integrate education, mobile health services, and mental health support to enhance resilience and health outcomes for women.

5.1. Recommendations for Donor Consideration

i. Support Comprehensive Health Services

To address the gaps in health services during emergencies, it is crucial to expand funding for mobile clinics. Investing in mobile health units will ensure that disaster-prone and underserved areas receive continuous access to sexual and SRHR services, particularly during emergencies. Additionally, developing reliable emergency distribution systems is essential. By funding initiatives to create efficient systems for distributing contraceptives and essential medicines, we can ensure that these critical resources are available during climate events, preventing disruptions in care and supporting affected communities.

ii. Enhance Mental Health Support

Mental health support is a vital component of disaster response and recovery. Funding community-based mental health programs can provide accessible services and support networks, particularly in rural and disaster-prone regions. These programs can offer much-needed mental health care and build resilience within communities. Furthermore, integrating mental health into disaster response plans is essential. Ensuring that mental health support is part of emergency response efforts, with counsellors available in shelters and disaster relief centres, will help address the psychological impact of climate events and provide immediate support to those in need.

iii. Promote Gender-Responsive Climate Adaptation

Investing in gender-specific adaptation strategies is critical for addressing the unique health needs of women affected by climate change. Supporting policies and programs that consider the specific challenges related to SRHR and mental health will enhance the effectiveness of climate adaptation efforts. Additionally, funding awareness and education campaigns can play a significant role in promoting understanding and reducing stigma. Community-based education programs that raise awareness about SRHR and mental health as fundamental rights will help to foster a more informed and supportive environment for women facing climate-induced challenges.

iv. Strengthen Data Collection and Research

Robust data collection and research are essential for developing effective policies and interventions. Supporting local research initiatives will enable a deeper understanding of the gendered impacts of climate change. Providing grants to local organizations and feminist groups for context-specific studies will yield valuable insights into how climate change affects women differently. Promoting open data sharing is also crucial. Encouraging the dissemination of research data and findings will facilitate collaboration and enhance the availability of evidence-based insights for policy development, leading to more informed and targeted climate adaptation strategies.

5.2. Recommendations for Other Donors in the Region

i. Capacity Building for CSOs and Feminist Groups

Enhancing the research and advocacy capacities of civil society organizations (CSOs) and feminist groups is crucial for effectively addressing climate change and gender issues. Providing training programs and resources can significantly strengthen their ability to collect and analyze data, as well as engage in policy advocacy. Such support will enable these organizations to better understand and address the unique challenges posed by climate change. Additionally, funding collaborative projects can amplify the impact of their efforts. By supporting initiatives that bring together local organizations, academic institutions, and government bodies, donors can facilitate a holistic approach to tackling climate change and gender issues, fostering integrated solutions that leverage the strengths of diverse stakeholders.

ii. Improve Access to Funding

Expanding funding opportunities for grassroots organizations and local researchers is essential for ensuring that diverse voices are represented in research and policy discussions. Increasing financial support for initiatives focused on climate change and gender issues will help amplify the impact of these organizations and ensure that their critical work receives the recognition and resources it deserves. Moreover, simplifying grant application processes will enable smaller organizations and community groups to access funding more easily. Streamlining these processes will reduce barriers to entry and help ensure that support is available to those who are actively working to address the intersection of climate change and gender, enhancing their capacity to contribute effectively to this field.

iii. Foster Regional Networks

Building regional partnerships and networks among CSOs, feminist groups, and donors is crucial for addressing climate change impacts collectively. Encouraging the formation of these regional networks will facilitate the sharing of knowledge, experiences, and strategies, strengthening the collective response to climate-related challenges. Supporting knowledge exchange platforms can further enhance this process by allowing organizations to learn from each other's experiences and best practices. These platforms will enable a broader dissemination of successful approaches and innovative solutions, improving overall capacity to address the multifaceted issues arising from climate change and advancing gender equality.

By implementing these recommendations, donors and stakeholders can significantly contribute to improving data availability, strengthening local organizational capacity, and



enhancing the resilience and well-being of women in the face of climate change, thus advancing broader climate adaptation and sustainable development goals.

List of References

- Abebe, M., & Deyessa, N. (2020). The prevalence of depression and its associated factors among adults in Ethiopia: A systematic review and meta-analysis. *BMC Psychiatry*, 20(1), 15. <https://doi.org/10.1186/s12888-020-2465-5>
- Adeponle, A. B., et al. (2021). Lifetime prevalence of mental disorders in Nigeria: Results from the Nigerian Mental Health Survey. *International Journal of Social Psychiatry*, 67(3), 287-295. <https://doi.org/10.1177/0020764020980491>
- Alston, M. (2013). Gender and climate change in the Australian countryside: A review of the literature. *Rural Society*, 22(3), 261-272.
- Alston, M. (2017). *Women and Climate Change in Bangladesh*. Routledge.
- Bourguignon, F., & Kabeer, N. (2021). Gender Equality and Sustainable Development: Policy Responses to Climate Change. Retrieved from <https://www.undp.org/publications/gender-equality-and-sustainable-development-policy-responses-climate-change>
- Egyptian Center for Economic Studies. (2021). *The Impact of Gender Inequality on Development in Egypt: A Study of Rural Communities*. Cairo, Egypt.
- Egyptian Ministry of Planning and Economic Development. (2016). *Egypt Vision 2030: Sustainable Development Strategy*. Retrieved from http://www.arabdevelopmentportal.com/sites/default/files/publication/egypt_vision_2030.pdf
- Egyptian Ministry of Environment. (2021). *National Strategy for Adaptation to Climate Change*. Retrieved from Egyptian Ministry of Environment.
- El-Masry, M., et al. (2017). Climate change and gender-based violence in Egypt: The intersection of vulnerability and adaptation. *Journal of Environmental Health*, 4(3), 205-215.
- El-Sayed, A., et al. (2016). The impact of flooding on healthcare services in Cairo, Egypt. *International Journal of Environmental Research and Public Health*, 13(5), 1024.
- FAO. (2019). *The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction*. Food and Agriculture Organization of the United Nations.
- FAO. (2020). *The Role of Women in Climate Adaptation: A Review*. Food and Agriculture Organization. Retrieved from <https://openknowledge.fao.org/items/e31780f8-00ce-40eb-8f3a-fbf88da9487c>

- Gad, A., et al. (2020). Building climate-resilient health systems in Egypt: Challenges and opportunities. *Journal of Health and Climate*, 5(2), 65-78.
- Hassanein, E. A. (2022). Gender and Environmental Justice in Egypt.
- Hossain, M., et al. (2011). Cyclone impact on reproductive health services in Bangladesh. *Disasters*, 35(3), 523-535.
- IFAD. (2021). Gender and Rural Development in Egypt: Challenges and Opportunities. Retrieved from <https://www.ifad.org/en/web/knowledge/publication/asset/41946493>
- IOM. (2021). Migration and Climate Change: Impacts on Women and Girls. International Organization for Migration. Retrieved from <https://environmentalmigration.iom.int/gender-migration-environment-and-climate-change>
- Kabeer, N. (2018). Gender, livelihood capabilities, and women's empowerment: Revisiting the links. *Development and Change*, 49(2), 290-316.
- Kheir, N., et al. (2018). Mental health and climate change in rural Egypt: Barriers to care and support. *Journal of Global Mental Health*, 7(2), 112-128.
- Kigozi, F., et al. (2020). The role of stigma in accessing mental health care in Africa. *The Lancet Psychiatry*, 7(3), 187-189. [https://doi.org/10.1016/S2215-0366\(19\)30384-1](https://doi.org/10.1016/S2215-0366(19)30384-1)
- Lemos, M. C., & Rood, R. B. (2016). Climate adaptation and the role of gender: Insights from the Brazilian experience. *Climate Policy*, 16(6), 736-749.
- Mohamed, A., et al. (2022). Heatwaves and pregnancy outcomes in Egypt: A review of recent evidence. *Environmental Health Perspectives*, 130(3), 340-347.
- Mohamed, S., El-Sayed, M., & Ali, H. (2022). Heat Stress and Its Effects on Pregnant Women in Egypt. *Journal of Climate and Health*, 15(3), 45-58.
- Neumayer, E., & Plümper, T. (2007). The gendered nature of climate change: A study of women's vulnerability and resilience. *International Organization*, 61(1), 119-144. Link
- Ngugi, A., et al. (2018). The effects of heat exposure during pregnancy on birth outcomes in Kenya. *Journal of Environmental Health*, 80(4), 22-31.
- Olorunsaiye, C. Z., & Akinyemi, A. I. (2018). Impact of Flooding on Maternal Health in Nigeria: A Review. *Nigerian Journal of Clinical Practice*, 21(6), 791-799
- Oluwafemi, S., et al. (2020). Climate-induced displacement and mental health impacts on women in Nigeria. *African Journal of Health Psychology*, 11(1), 98-114.

- Patel, V., et al. (2018). Global mental health: The path forward. *The Lancet*, 391(10131), 2137-2149. [https://doi.org/10.1016/S0140-6736\(18\)30744-4](https://doi.org/10.1016/S0140-6736(18)30744-4)
- Rao, K. S., & Ghosh, S. (2017). Impact of Climate Change on Maternal and Neonatal Health in Rural India. *International Journal of Environmental Research and Public Health*, 14(12), 1514.
- Rao, K., et al. (2020). Flooding and reproductive health services in rural India: A case study. *Global Health Action*, 13(1), 184-195.
- Said, R. (2021). Extreme Heat Events in Egypt: A Historical Perspective. *Egyptian Journal of Environmental Research*, 20(2), 102-115.
- Sanchez, R., et al. (2021). Typhoons and reproductive health services in the Philippines: An impact assessment. *Asian Journal of Public Health*, 14(2), 119-128.
- Sayed, M., et al. (2019). Access to maternal health services in rural Egypt: A review of barriers and solutions. *Journal of Rural Health*, 35(1), 88-95.
- UN Women. (2020). Gender-Responsive Climate Action: A Guide to Integrating Gender into Climate Adaptation Strategies. Retrieved from <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2020/Gender-climate-and-security-en.pdf>
- UN Women. (2021). Gender and Climate Change: Overview of Key Issues and Policy Responses. United Nations Women. L
- UNDP. (2018). Gender and Climate Change: A Review of Policy and Practice. United Nations Development Programme. Retrieved from <https://www.undp.org/publications/gender-and-climate-change>
- UNDP. (2018). Gender and Climate Change: A Review of Policy and Practice. United Nations Development Programme. Retrieved from UNDP.
- UNDP. (2018). Gender and Climate Change: A Framework for Action. Retrieved from <https://www.undp.org/publications/gender-and-climate-change-framework-action>
- UNFCCC. (2017). Gender and Climate Change: The Road to Paris. United Nations Framework Convention on Climate Change. <https://unfccc.int/gender>
- WHO. (2021). Building climate-resilient health systems: Key strategies for effective implementation. *World Health Organization*.

Wilson Center. (2022). Climate Finance and Gender Inequality in Egypt. Retrieved from <https://www.wilsoncenter.org/publication/climate-finance-and-gender-inequality-egypt>

World Bank. (2019). Gender and Climate Change: Framework for Analysis and Action. Retrieved from <https://documents1.worldbank.org/curated/en/099718102062367591/pdf/IDU08c737dd00f8580412b0aed90fce874ab09b0.pdf>

World Bank. (2019). The World Bank Group Action Plan on Gender Equality, 2017-2023. Retrieved from <https://openknowledge.worldbank.org/handle/10986/31603>

World Bank. (2022). Empowering Women in Rural Egypt: Access to Resources and Decision-Making. Retrieved from <https://www.worldbank.org/en/news/feature/2022/01/12/empowering-women-in-rural-egypt-access-to-resources-and-decision-making>

World Bank. (2023). *Neonatal Mortality Rate (per 1,000 live births) - Sub-Saharan Africa*. Retrieved from <https://data.worldbank.org/indicator/SH.DYN.MORT?locations=ZG>

World Health Organization (WHO). (2022). Mental health in Africa: A framework for action. Retrieved from <https://www.who.int/publications/i/item/9789240062907>

List of Appendices

Interview Questions

1. Can you share your experiences or observations regarding how climate change has affected the health and well-being of women in your community?
2. How do you perceive climate change impacting the sexual and reproductive health and rights (SRHR) of women in Egypt?
3. In what ways do you think climate change influences the mental health and well-being of women in Egypt?
4. Can you describe any specific challenges or vulnerabilities that women face in dealing with the health impacts of climate change?
5. What coping strategies or adaptive measures have you observed women employing to mitigate the effects of climate change on their health and well-being?
6. From your perspective, what barriers exist for women in accessing healthcare services and support systems in the context of climate change-induced health challenges?
7. Are there any gender-specific considerations or needs that you believe should be addressed in climate change adaptation strategies aimed at improving women's health outcomes?
8. In your opinion, what are the most urgent priorities or actions needed to enhance the resilience and promote the gender equality of women in Egypt in the face of climate change-related health threats?

Climate Change and Women's Health Questionnaire

Demographic Information

Age:

Gender:

Community/Region of Residence:

Section 1: Climate Change and Women's Health

How strongly do you agree or disagree with the following statements:
Climate change has negatively impacted the health and well-being of women in my community.
Strongly Agree Agree Neutral Disagree Strongly Disagree
Do you believe that climate change affects the sexual and reproductive health and rights (SRHR) of women in Egypt?
Yes No
To what extent do you think climate change influences the mental health and well-being of women in Egypt?
Significantly Moderately Slightly Not at all
Have you observed specific challenges or vulnerabilities that women face in dealing with the health impacts of climate change?
Yes No
In your opinion, how effective are the coping strategies or adaptive measures employed by women to mitigate the effects of climate change on their health and well-being?
Very effective Somewhat effective Not very effective Not at all effective
Do you believe there are barriers for women in accessing healthcare services and support systems in the context of climate change-induced health challenges?
Yes No
Should climate change adaptation strategies aimed at improving women's health outcomes address gender-specific considerations or needs?
Yes No
What do you think are the most urgent priorities or actions needed to enhance the resilience and promote the gender equality of women in Egypt in the face of climate change-related health threats?
[Please type your response below]
Section 2: Additional Comments
Is there anything else you would like to share regarding the intersection of climate change and women's health in Egypt?
[please type your response below]