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Policy Brief

**Quantifying the
Nexus between
Climate and Gender**



04

Quantifying the Nexus between
Climate and Gender

06

What do we know about the
relationship between climate
change and gender equality?

10

Climate change increases the
likelihood and severity of
gender-based violence

14

What data do we currently have?

16

We are not seeing the full picture

18

What data do we need?

20

Recommendations

Quantifying the Nexus between Climate and Gender

Gender inequality and climate change are interconnected crises that reinforce one another. Climate change is accelerating existing inequalities and fuelling conditions that increase gender-related discrimination, including gender-based violence (GBV). At the same time, gender inequality limits women's and girl's ability to recover, adapt, and lead climate action.



Integrating gender equality into climate policies and programmes ensures more effective, inclusive and sustainable outcomes. Recognising and addressing this relationship is also essential for achieving the Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality) and SDG 13 (Climate Action), and improving outcomes across sectors.

Yet, we still lack the data to understand and respond to this intersection.

To address this gap, Equality Institute, in partnership with the Gates Foundation and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, explored an innovative, and evidence-based response designed to fill this gap and deliver lasting impact across Sub-Saharan Africa, South Asia and beyond. The project aims to develop a rigorous quantitative measure that will lead to the production of quality, comparable data on the climate change and gender nexus. The scoping stage of this project informs this brief.



I like to use as a starting point...the recognition of climate change not as a creator of crisis, but as a revealer of existing gaps.”

— Key Informant interview¹



What do we know about the relationship between climate change and gender equality?



Climate stress amplifies existing inequalities

The project's scoping phase included a review of 38 existing quantitative tools, a focused literature review on gender–climate linkages, key informant interviews, and scoping visits to Ethiopia, Lesotho, Pakistan and Zambia.

A key theme emerging from this scoping phase is how climate stress exposes and deepens existing gender inequalities such as barriers to women's access to healthcare, assets and land ownership, employment, education and freedom of movement. In this way, climate change has disproportionate impacts on women and girls because of how it *amplifies* existing inequalities, not because climate impacts are specifically targeting women and girls.

This has significant implications for how the nexus between climate change and gender is measured. Measures which focus on climate change impacts, in isolation from the structural inequalities that make women and girls vulnerable, miss the complexity of this relationship. A key challenge in measuring climate change's gendered impact is analysing this contributory role.



We know that progress on gender equality (SDG 5), including preventing gender-based violence, impacts progress across all SDGs. In fact, evidence suggests that unless we end gender-based violence globally, at least 14 of the 17 SDGs will not be achieved.² Given climate change is amplifying existing gender inequalities across sectors, this interplay is likely to stall progress even further. In this way, understanding and measuring the relationship between gender inequality and climate stress has implications for progress across sectors.

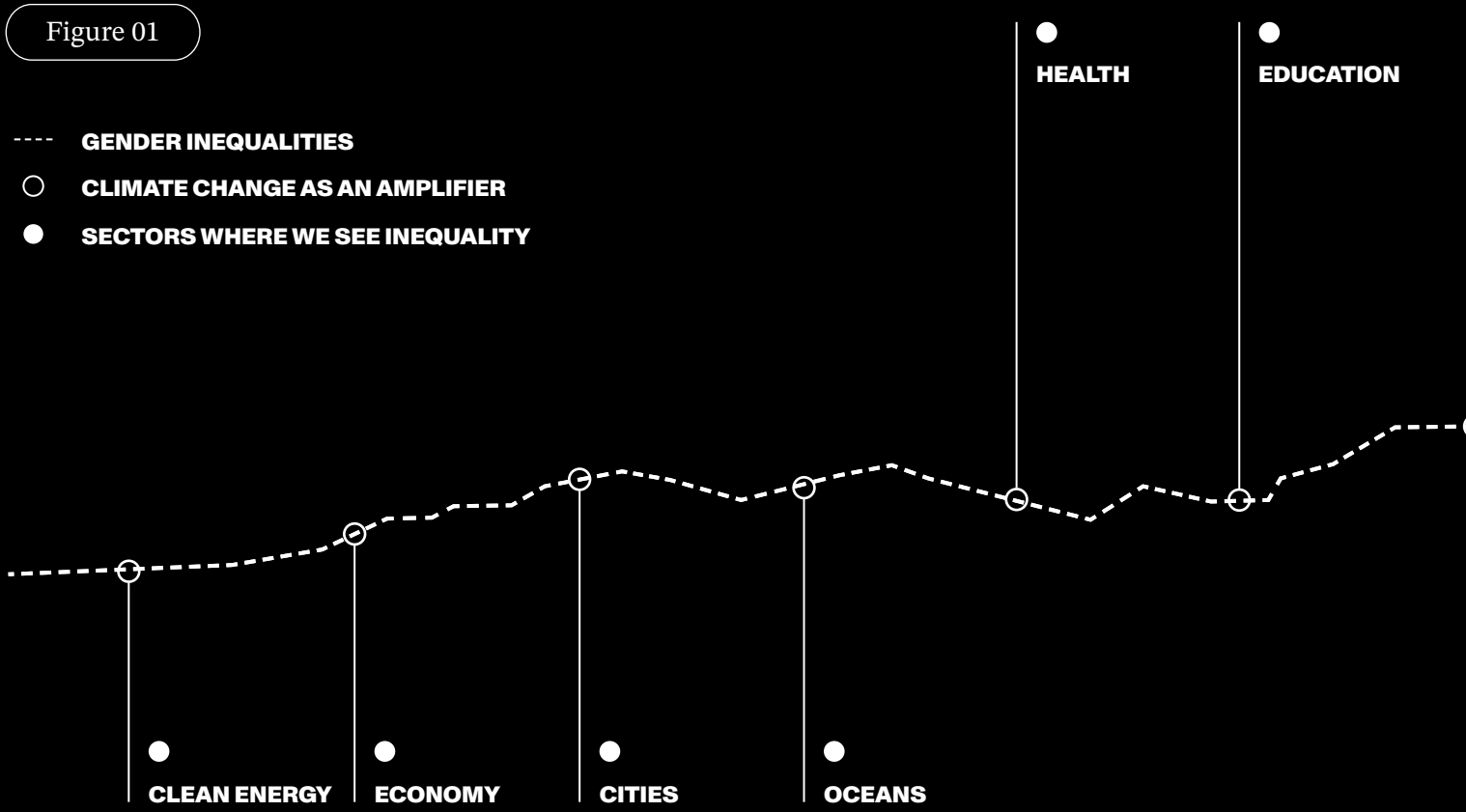
For example, women and girls, especially rural and Indigenous women, face increased poverty risk due to climate hazards. It is estimated, under the worst-case scenario, that climate change could push up to 158 million, 310 million and 422 million more women and girls into poverty at the \$2.15, \$3.65 and \$6.85 per day international poverty thresholds.³

The impacts of the climate / gender nexus across sectors demonstrates the urgency of investing in actions to address gender inequality as part of climate response. Yet, our scoping has shown that the relationship between climate change and gender inequality, particularly gender-based violence, is one of the least developed areas of research.

Gender inequalities are exacerbated in the context of climate change

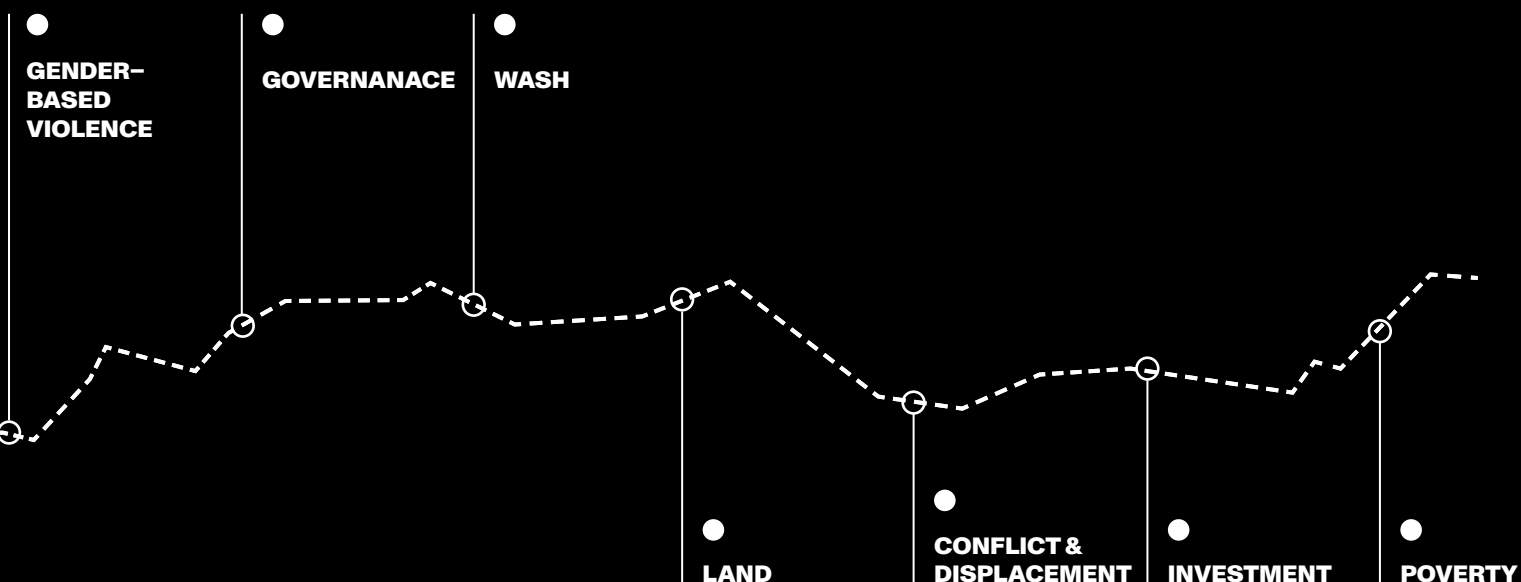
Climate stress exposes and deepens existing gender inequalities

Figure 01



**UNDERLYING CAUSES
OF GENDER INEQUALITY**

- Deep-rooted social norms
- Unequal power structures
- Systemic discrimination



Climate change increases the likelihood and severity of gender-based violence



Qualitative studies demonstrate the direct and indirect linkages between climate impacts and gender-based violence – including heightened intimate partner violence, forced marriage, trafficking and sexual harassment with cascading impacts on health, livelihood and well-being outcomes.⁴ Scoping visits for this project also illustrated how the climate crisis is heightening the risks of gender-based violence for marginalised women and girls.⁵

This happens through three pathways (see Figure 2): climate change fuels the stressors that trigger gender-based violence, post-disaster environments and response create an enabling environment for gender-based violence and climate pressures amplify the underlying structural causes of gender-based violence.⁷

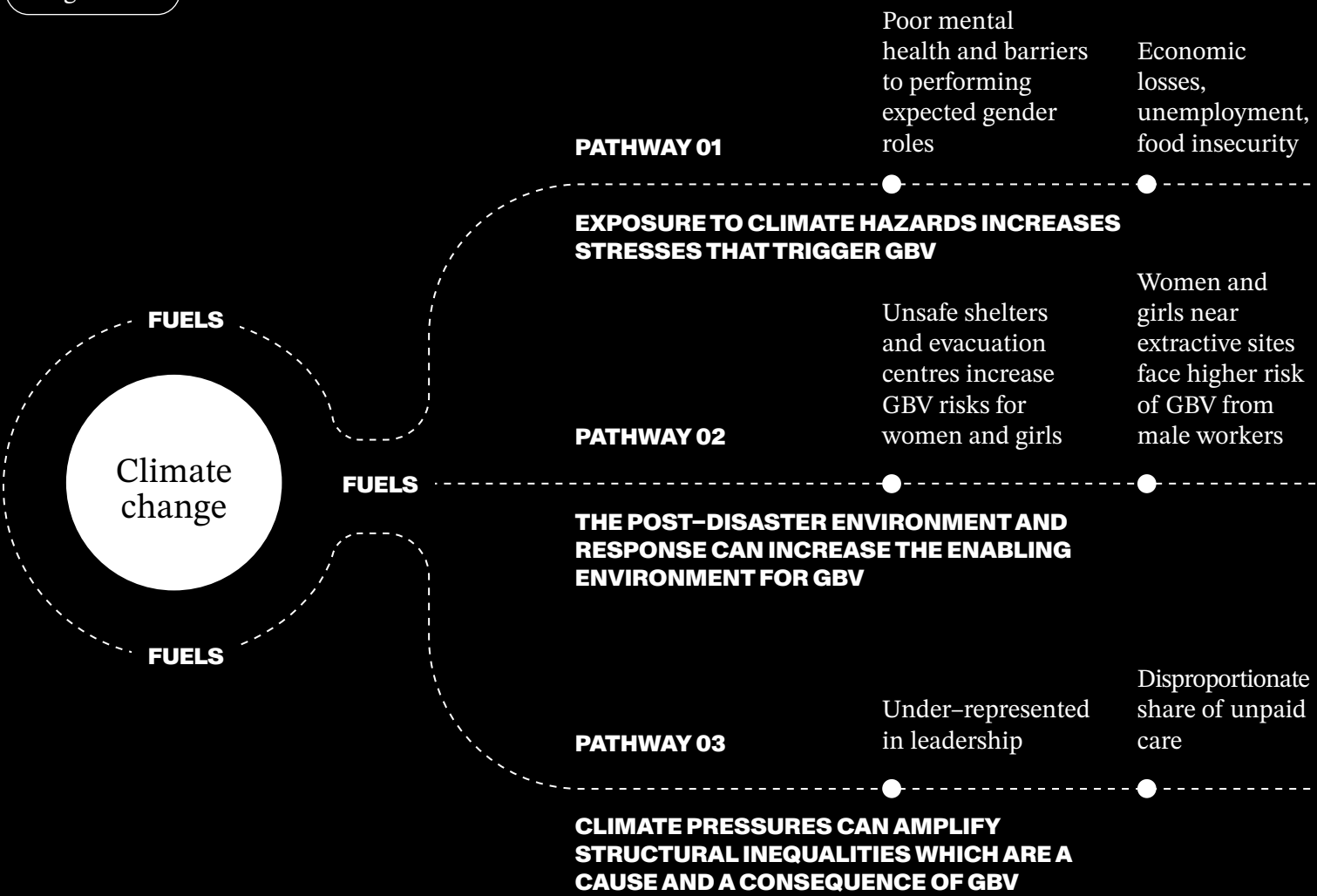


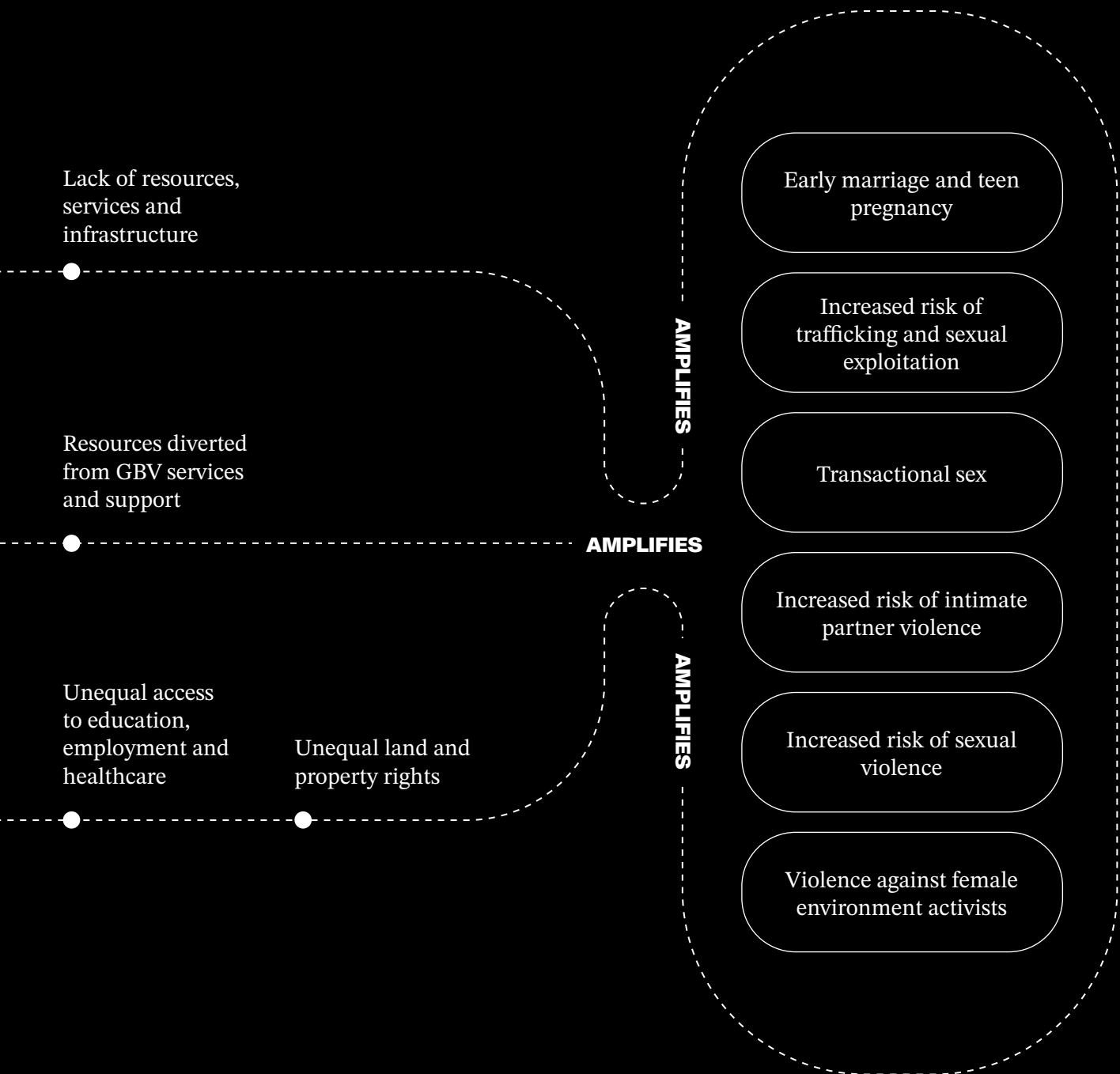
It is estimated that by the end of the century, **1 in 10 cases of intimate partner violence will be linked to climate change.** This means an additional 40 million women and girls will likely experience IPV each year by 2090.⁶ **10 million women and girls** will likely experience non-partner sexual violence in the same time span.

How does climate change increase GBV?

The three pathways

Figure 02





What data do we currently have?

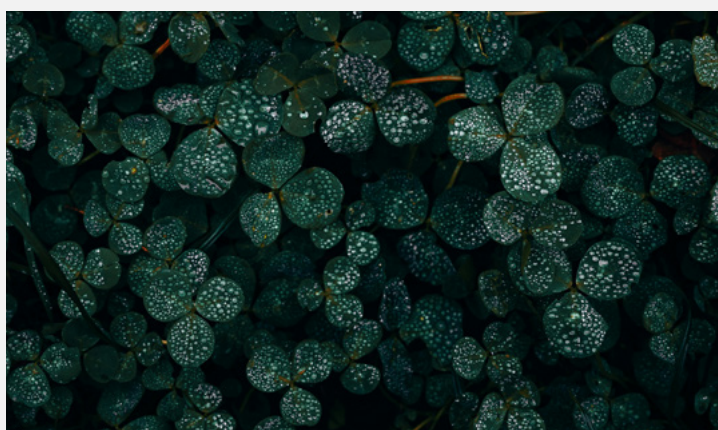
Over the past decade, significant methodological advancements have been made to strengthen the evidence base on the relationship between climate and gender.⁸ However, despite these encouraging developments, our work⁹ identified a number of cross-cutting gaps and challenges:

- **Metrics are commonly siloed** – Leading gender inequality metrics offer rich insights into gender dynamics but rarely incorporate climate considerations. Conversely, studies and metrics focused on climate adaptation lack the depth and breadth of gender inclusion.¹⁰
- **Within resilience and adaptation metrics**, there is a tendency to **focus more on vulnerability of women, but adaptation/resilience of households**. This usually means a focus on household heads—typically men—thereby rendering women and intra-household dynamics invisible in these assessments.
- **Most metrics target a generic poor rural household, omitting population segments of households and wealth alongside other potential risks**. Studies indicate that urban environments pose unique challenges, and applying the same questions as in rural areas may fail to capture inequalities accurately.¹¹
- **Longitudinal data is missing** – Impacts from climate change are usually cumulative and unfolding over longer periods of time. However, metrics that focus on gender and climate change impacts often prioritise the immediate effects of climate hazards.
- **The challenges of measuring contribution** – Measuring how climate change interacts with socio-economic and political change, and amplifies existing structural injustices, is essential – yet it remains a key challenge.
- **Reliance on qualitative methods** – limits opportunities for large-scale comparison, modelling, and integration into broader studies and policy frameworks.
- Metrics which cover a broad range of issues face the challenge of becoming very **descriptive, long and impractical**.

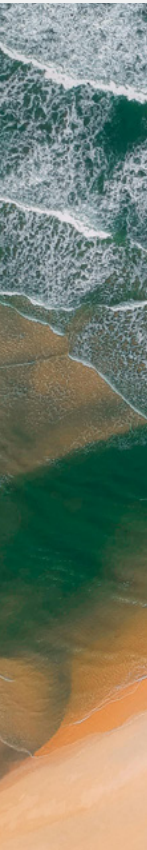
Deep dive: Gender-based violence and climate metrics

Our review of existing metrics revealed that gender-based violence has been persistently omitted or minimised within various large-scale climate metrics despite significant evidence of its relationships with climate change. Existing research is largely confined to small-scale, context-specific qualitative studies:¹²

- Quantitative metrics on the relationships between climate change and GBV are limited and usually rely on secondary data, such as police reports and hospital records, which typically capture only a small fraction of gender-based violence cases.
- Population-based Demographic and Health Surveys (DHS) modules which assess gender-based violence are not climate sensitive.
- Gender-based violence modules within humanitarian systems including the GBV Analytical Framework and International Organisation for Migration Displacement Tracking Mechanism (IOM DTM) focus on risk factors and capacities to tackle gender-based violence.
- Currently, understanding the relationships between climate and gender-based violence at scale is achieved through reviews of qualitative studies.



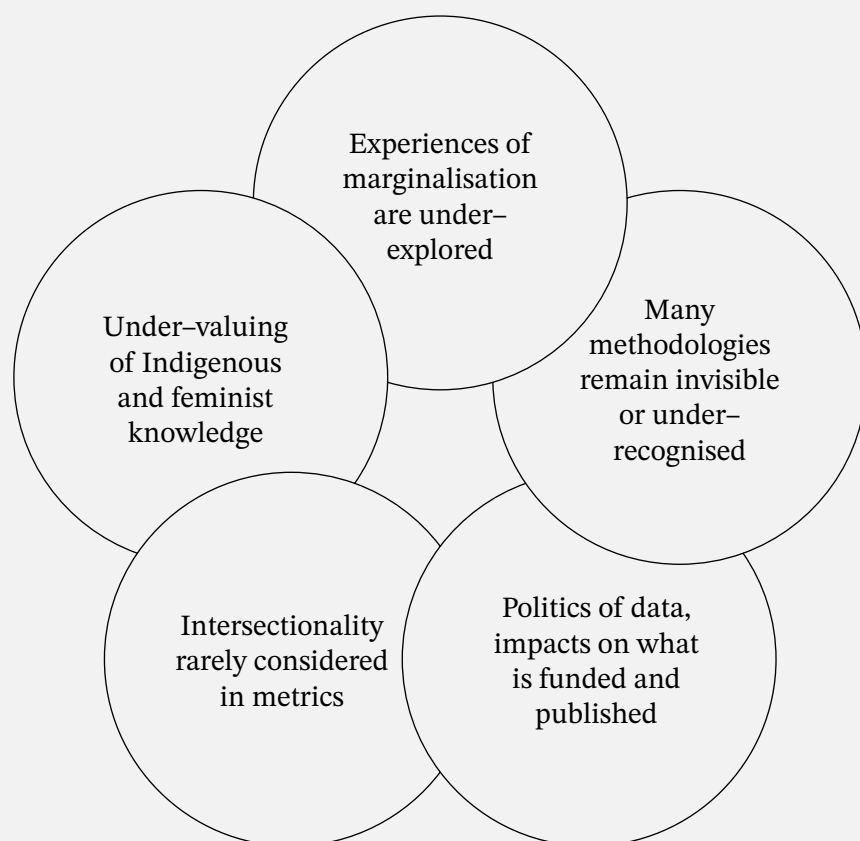
We are not seeing the full picture



Much of the existing literature focuses on broad impacts, with less attention given to the specific mechanisms through which climate change exacerbates gender inequalities. The intersections with other systems of oppression such as land rights and extractivism are also typically overlooked.

There is also a need for more localised and intersectional research that examines how different dimensions of identity, such as ethnicity, socio-economic status, age, sexuality and disability, intersect with gender to influence the impacts of climate change. Current approaches fail to recognise the interdependent nature of identities, and how experiences of marginalisation and oppression overlap and interact.¹⁴

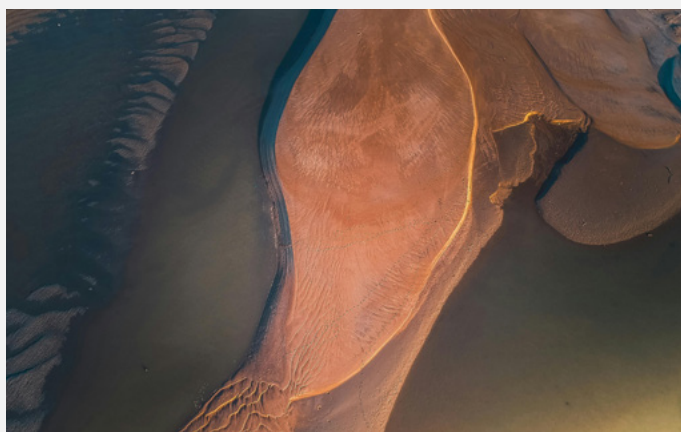
Frontline feminist organisations and researchers have been actively investigating the intersections of climate and gender within their project scopes. These efforts reflect a deep understanding of the issue's complexity. However, individual studies are often difficult to scale, and many methodologies remain invisible or under-recognised. During this scoping work, we discovered that survey guides and modules are rarely published. This invisibility hampers methodological innovation and cross-sectoral learning. The politics of data, including what is funded and published and the under-valuing of Indigenous and feminist knowledge, impacts on the visibility and sharing of metrics and data on climate change and gender.





What data do we need?

We know from this scoping phase that investing in understanding the relationship between gender and climate change makes sense. Existing metrics are not providing the full picture. This is an opportunity to develop a groundbreaking and innovative solution so that policies and programmes can take into account the relationship between climate change and gender – increasing scale and impact.



The proposed measure:

- **Takes a gender transformative approach:**

Will analyse choice, agency, power, roles & responsibilities, marginalisation, safety and care of women, men, non-binary and gender-diverse people, boys and girls across intersectional identities, within households and across communities.

- **Built for scale:**

Designed to integrate into major data systems (e.g. DHS, MICS, national statistics), enabling widespread adoption across sectors—from health and agriculture to gender and disaster risk reduction.

- **Applicable across sectors:**

Can be applied across sectors to provide insights relating to health, livelihoods, poverty alleviation, WASH and other areas.

- **Fills a major data gap:**

As the scoping phase has shown, no existing tool captures the intersection of climate stress, gender inequality and gender-based violence risk. This scale will create a much-needed metric to inform programming, policy, and funding.

- **Rooted in local realities:**

Informed by qualitative research with communities experiencing climate stress in two SADC countries (across 4 sites), with potential for expansion across the region.

- **Coalition building:**

The project will foster collaboration across traditionally siloed sectors—climate resilience, GBV prevention, gender equality (including education, women's health, sexual and reproductive health, and economic empowerment), and development—helping align strategies and amplify outcomes.

The proposed next phase will involve piloting and psychometric testing of the tool to ensure validity and reliability. This phase will also include quantitative data collection, integration into existing surveys, and broader regional and global dissemination. Our goal is to position the new measure as a global public good—ready for use by governments, national statistics offices, researchers, and multilateral agencies to drive more equitable and effective climate responses.

Recommendations

FUNDERS

Recognise gender as a climate and development issue:

Acknowledge that gender inequality, including GBV, is both a human rights violation and a barrier to effective climate adaptation, resilience, and recovery, and integrate action to address gender inequality into climate, humanitarian, and development financing frameworks.

Require gender and GBV risk assessments in climate finance proposals:

Ensure all climate adaptation, mitigation, and resilience projects include gender analysis and gender-based risk screening, and measurable outcomes on women's safety, participation, and empowerment.

Invest in evidence and data:

Invest in gender and climate nexus methodology development and data, including Phase 2 of this project.

Support transparency in data production:

Resource the development and maintenance of a regularly updated platform or hub for sharing data, metrics, and methodologies as well as collaborative dialogues.

Direct resources to women-led and community environmental organisations:

Provide flexible, long-term funding to women's rights and environmental groups that operate at the community level, where climate and gender inequality, including GBV risks, intersect most acutely.

Strengthen monitoring, evaluation, and accountability:

Invest in robust monitoring systems that collect sex-disaggregated and intersectional data to assess how funded climate projects impact gender inequality, gender-based violence risks and community resilience.

Allocate dedicated funding for integrated gender-climate programming:

Create or expand funding windows that explicitly address the nexus between gender equality and climate change and encourage joint proposals from climate and gender-focused organisations.

Support knowledge sharing and innovative research:

Fund pilot projects, research partnerships, and learning networks that generate evidence and scalable models linking gender, including gender-based violence prevention, with climate adaptation and response efforts.

RESEARCHERS**CLIMATE CHANGE AND GENDER PRACTITIONERS****Compile evidence:**

Conduct academic reviews and systematic analyses of methodologies to identify trends, gaps, and innovations.

Centre Indigenous and feminist knowledge and lived experience:

Work in allyship with Indigenous, feminist and historically marginalised researchers and knowledge holders.

Increase accessibility of data tools:

Collaborate with practitioners and funders to compile and curate existing metrics and guidance (e.g., Weathering Risk) to support under-funded organisations.

Integrate gender risk analysis into climate and environmental programming:

Conduct gender risk assessments during the design of climate adaptation, disaster risk reduction, and resilience projects to identify how environmental stressors may increase gender-based violence risks and other inequalities.

Strengthen coordination between climate, gender, and protection actors:

Establish cross-sectoral mechanisms linking gender equality / GBV specialists with climate, environment, and humanitarian teams to ensure coherent and survivor-centred responses.

Partner with local women's organisations and community networks that combine gender equality, climate adaptation, and protection activities. These groups are often first responders in both crises.

Empower women's leadership in climate action:

Support women's participation and leadership in decision-making on resource management, early warning systems, and climate adaptation planning to address root causes of gender inequality.

Investment in data:

Advocate for investment in data metrics, such as Phase 2 of this project, that track how climate impacts intersect with gender inequality to inform evidence-based policy and programming.

Build the evidence base:

Collect, use and share gender disaggregated and intersectional data as part of monitoring and evaluation activities to assess the relationship between gender inequality and climate response.

References

- ¹ Quantifying the Nexus between Climate and Gender: Research Report (2026) forthcoming report for this project.
- ² Homan, S. and Fulu, E. (2019). Sustainable Development Goals and VAWG. Melbourne, The Equality Institute.
- ³ UN Women, & DESA. (2024). Progress on the Sustainable Development Goals: The gender snapshot 2024.
- ⁴ See, for example, Spotlight initiative. (2025). Colliding Crises: How the climate crisis fuels gender-based violence. See also Boyer, A., Meijer, S., & Gilligan, M. (2020). Advancing gender in the environment: Exploring the triple nexus of gender inequality, state fragility, and climate vulnerability. Washington, DC: IUCN & USAID; Castañeda, C., I., Sabater, L., Owren, C., & Boyer, A. E. (2020). Gender-based violence and environment linkages: The violence of inequality; Epstein, A. et al. (2020). Drought and intimate partner violence towards women in 19 countries in sub-Saharan Africa during 2011–2018: A population-based study. *PLoS medicine*, 17(3), e1003064; Global Alliance for Green and Gender Action. (2025). Women at the Frontlines: a case study analysis of the gender, conflict and climate nexus, Malivel, G., Huyer, S., & Seager, J. (2024). Climate Change and Gender Based Violence: Overview of Current Research; an Daalen, K. R., et al. (2022). Extreme events and gender-based violence: a mixed-methods systematic review. *The Lancet Planetary Health*, 6(6), e504–e523.
- ⁵ See Quantifying the Nexus between Climate and Gender: Research Report (2026) forthcoming report for this project – four scoping visits were undertaken to Ethiopia, Lesotho, Pakistan and Zambia.
- ⁶ Spotlight initiative. (2025). Colliding Crises: How the climate crisis fuels gender-based violence. This is under a 2°C warming scenario.
- ⁷ Informed by Thurston, A., Stöckl, H., & Ranganathan, M. (2021). Natural hazards, disasters and violence against women and girls: a global mixed-methods systematic review. *BMJ Global Health*: 6: e004377.
- ⁸ Promising recent metrics include the UN Women Model Questionnaire Measuring the nexus between gender and environment and the Gender and Environment Survey Report: Kingdom of Tonga. These metrics offer a detailed analysis of climate hazards, slow-onset events, and preparation strategies, as well as livelihood dependencies, household decision-making, and gendered asset ownership. However, both metrics face the challenge of becoming very descriptive and taking time to deliver, given the range of issues they cover.
- ⁹ In this scoping stage, 38 tools were reviewed in total, with traceable modules and questions, including 20 large scale and 18 smaller scale studies.
- ¹⁰ Although emerging work on Indicators for the Global Goal on Adaptation shows promise.
- ¹¹ This need for insights into population segments has also been identified in The Pathways Project.
- ¹² Quantifying the Nexus between Climate and Gender: Research Report (2026) forthcoming report for this project.
- ¹³ Castañeda, C., I., Sabater, L., Owren, C., & Boyer, A. E. (2020). Gender-based violence and environment linkages: the violence of inequality; UNHR, UNODC, & UN Women. (2024). Gender-Based Violence Against Women and Girls in Southern Africa: Key Human Rights Trends.
- ¹⁴ The usual approach to intersectionality is inclusion of various demographic parameters and using regression analysis to assess how these factors affect the outcome.
- ¹⁵ A review study on 260 peer-reviewed studies on gender and climate in Africa until 2019 revealed that 25.1% of studies utilized a survey (Vercillo, S., Huggins, C., & Cochrane, L. (2022). How is gender investigated in African climate change research? A systematic review of the literature. *Ambio*, 51(4), 1045–1062). Surveys being the most used method in the field. However, during our study, we discovered that survey guides and modules are rarely shared or published.



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