

# The WPS Index and the Gender-Climate-Security Nexus

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## SUMMARY

The impacts of climate change, conflict, and gender inequality are increasingly intertwined. While there is a growing body of evidence recognizing that environmental and humanitarian crises disproportionately affect women and acknowledging the vital need to meaningfully include women's voices in prevention and response efforts, research on the relationship between women's status broadly and countries' resilience to the impacts of climate change is lacking. To address this gap, we investigated the relationship between women's status—as measured by the Women, Peace, and Security (WPS) Index—and countries' preparedness to mitigate and respond to the impacts of climate change, as captured through three indices of climate resilience. Our results reveal strong and significant relationships, suggesting that countries where women are doing well are also those best prepared to respond to climate change. These findings yield critical policy implications. Decision-makers working on issues of climate and security must:

- **Leverage systematized information and metrics**—such as the WPS Index, other indices of gender equality, and climate resilience indices such as the Notre Dame Global Adaptation Initiative Index, the State Resilience Index, and the Environmental Performance Index—to promote data-informed work across the gender-climate-security nexus.
- **Amplify women's voices** in climate adaptation efforts and policymaking. This should include local women leaders and women from diverse racial, ethnic, and socioeconomic groups to ensure that interventions are informed by and aligned with local priorities and experiences.
- **Scale up efforts to collect data** on how climate change poses gender-specific risks and to identify best practices for gender-transformative climate security action.
- **Recognize gender, climate, and security as interconnected issues.** Progress in one area leads to advancements in the other two. This includes mainstreaming gender-transformative goals with climate security, mitigation, and adaptation policies.
- **Ensure that the gender dimensions of security and climate issues are prioritized** and integrated into security and climate policy as well as environmental peacebuilding.
- **Ground policy and programming on WPS and climate action in evidence-based research** conducted by the Intergovernmental Panel on Climate Change (IPCC) and other relevant organizations.

## Introduction

The world is entering a new era of risk, as acute environmental crises are increasingly intertwined with conflict and fragility. Climate change, biodiversity loss, pollution, and resource scarcity are already impacting every part of the globe. At the same time, insecurity is on the rise, with a breakdown of arms control regimes and a doubling of conflict-related deaths in the last ten years. More recently, the wars in Ukraine, Sudan, Israel-Gaza, and elsewhere are having devastating impacts on geopolitical, human, and food security.

Global and local actors are moving beyond superficial acknowledgments of the disproportionate impacts of environmental and humanitarian crises on women and girls.<sup>1</sup> These actors are beginning to focus on the vital need to meaningfully incorporate women's voices and active participation in climate action<sup>2</sup> and peace negotiations.<sup>3</sup> Gender is also increasingly recognized as an integral dimension of the security implications of climate change.<sup>4</sup> These aims are strongly aligned with the core tenets of the Women, Peace, and Security (WPS) agenda.<sup>5</sup>

While there is a growing evidence base around the ways that climate change and fragility disproportionately affect women, research on the relationship between the status of women in a given country and that country's resilience to the impacts of climate change is lacking. To address this gap, we investigated the relationship between women's status and countries' preparedness to mitigate and respond to the impacts of climate change. We did so through correlation analysis that compared countries' performance on the WPS Index—a measurement of women's status that considers indicators of women's inclusion, justice, and security—and their performance on three climate indices that capture different aspects of climate resilience: the Notre Dame Global Adaptation Initiative's (ND-GAIN) Country Index, the State Resilience Index (SRI), and the Environmental Performance Index (EPI).

Our results reveal strong and significant relationships, suggesting that countries where women are doing well are also those best prepared to respond to climate change.

## Climate as a Risk Multiplier and the Gender-Climate-Security Nexus

Climate change is a threat multiplier<sup>6</sup> that can exacerbate other drivers of instability to amplify security risks at all stages of conflict. Extreme weather, volatile temperatures, rising sea levels, and related disasters driven by climate change can damage economies, intensify inequality among social groups, and compromise resource-based livelihoods such as fishing, farming, and livestock production. Increased competition for resources like fertile land and fresh water is already disrupting societies and uprooting entire communities, thereby worsening current conflicts and fueling new ones.

We also know that climate change disproportionately affects women, especially in conflict or crisis settings. The impacts of climate change on fragile contexts can deepen preexisting gender inequalities, increase the vulnerability of women and girls, and indirectly amplify the risks of sexual and gender-based violence (SGBV).<sup>7</sup> Women who face other forms of marginalization based on their race, ethnicity, socioeconomic status, and other identities often face even greater risks.

For example, in the aftermath of climate-change-induced disasters or armed conflicts, women and girls may have to walk longer distances to fetch water and find alternative food sources, which often increases their exposure to various forms of violence, including SGBV, assault, and robbery.<sup>8</sup>

In conflict-affected and disaster-prone South Sudan, resource-constrained families are marrying off their daughters at increasingly young ages. In the absence of other viable livelihoods, pastoralist groups can turn to child marriage as a survival strategy to obtain cattle, money, and other assets via the traditional practice of dowry payments.<sup>9</sup> In post-conflict eastern Chad, rural communities cope with chronic food insecurity, economic fragility, and increasingly frequent droughts. Discriminatory and rigid gender norms in this region preclude women from running businesses, earning an income, owning land, and making independent livelihood decisions in the absence of their husbands. Restricting women's decision-making power and access to necessary

resources renders them, and their dependents, more vulnerable to subsequent climate- and conflict-related shocks and stresses.<sup>10</sup>

While climate change has become a global priority, available data rarely accounts for the uneven consequences of climate change for women, men, youth, and members of ethnic and other marginalized minorities, as well as across geographic locations.<sup>11</sup> The myriad ways in which gender inequality constrains women's lived experiences also hamper their resilience and adaptive capacity.<sup>12</sup> In turn, these compounded challenges adversely impact women's families and communities. A gender-blind approach that ignores diversity and inclusion weakens climate change adaptation and mitigation responses and reduces the efficacy of climate policy.<sup>13</sup> It also contributes to the further marginalization of women, girls,<sup>14</sup> and other excluded groups<sup>15</sup> and may even lead to the resurgence of conflict.

Women must, however, be seen not only as victims of climate disaster but as active and effective agents and promoters of adaptation and mitigation. Women's gender-differentiated knowledge of natural resource management can contribute effectively to enhancing local adaptive capacity and sustaining a community's livelihood.<sup>16</sup> For example, women in Small Island Development States (SIDS) have been at the forefront of global discussions on strong climate action and the implementation of mechanisms to address loss and damage.<sup>17</sup> Women in these states and other coastal regions have also pioneered the creation of local, community-based solutions to mitigate the existential threat of climate-induced displacement and loss of ancestral homelands. Examples include women planting mangroves as a measure against sea level rise in Fiji,<sup>18</sup> keeping coastal erosion at bay with wooden structures and coconut tree fronds on the islands along the coast of southern Senegal, and building a system to restore the supply of clean water in the face of salt water intrusion in Micronesia.<sup>19</sup>

Globally, women represent 43 percent of the agricultural workforce. In Asia and Africa, this proportion is higher, often above 50 percent, especially in mountain regions.<sup>20</sup> There and elsewhere, research shows that women adopt innovative and preventative measures faster than men. In a review of 17 studies from around the world, the meaningful participation of women in conservation and natural resource management resulted in more sustainable extraction rules, greater compliance, more transparency and accountability, and better conflict resolution.<sup>21</sup>

From livelihood strategies, ecosystem services, and food and water security to household maintenance, income generation, and engagement in other sociocultural and political institutions, women's contributions are indispensable for sustained peace and inclusive climate action.<sup>22</sup>

Studies also show that women adopt and advance climate change policy more often than men. A study of 130 countries showed a positive correlation between the participation of women in national administrations and the likelihood that a country would ratify international environmental treaties.<sup>23</sup> Where women have higher social and political status, their country's CO<sub>2</sub> emissions are lower, even when controlling for factors like GDP, industrialization, and foreign investment.<sup>24</sup> Additionally, women hold the key to more peaceful societies. A study of 182 signed peace agreements between 1989 and 2011 found that, when women are included in peace processes, there is a 35 percent increase in the probability that an agreement will last 15 years or more.<sup>25</sup> Other analysis from the 2023 WPS Index also found that women's status in society is strongly correlated with peace and lower risk of armed conflict.<sup>26</sup>

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Conventional climate security framings do not fully capture the multiple ways in which conflict and violence affect climate change vulnerability, and they often overlook the gender dimensions and implications embedded in climate and security issues.<sup>27</sup> They also have a tendency to omit the vital roles women can and must play in addressing the climate crisis. However, progress has been made in the last decade to integrate a gender lens into climate security. Seminal thought leadership on the gender-climate-security nexus can be attributed to the United Nations (UN) Joint Programme on Women, Natural Resources and Peace.<sup>28</sup> Their flagship 2013 report, *Women and Natural Resources: Unlocking the Peacebuilding Potential*, concluded that women's gender-differentiated relationship to natural resources, together with shifting gender dynamics in conflict-affected settings, provides opportunities for

enhancing women’s political participation and enabling them to engage more productively in both economic recovery and peacebuilding.<sup>29</sup> This was followed by a 2020 report titled *Gender, Climate, and Security: Sustaining Inclusive Peace on the Frontlines of Climate Change*. Grounded in a series of case studies from research and programming, the report proposes various entry points for action across existing global agendas. It offers concrete recommendations for how policymakers, development practitioners, and donors can advance three interrelated goals: peace and security, climate action, and gender equality. This report represents the most comprehensive compilation of field research studies on this topic to date.<sup>30</sup>

The Georgetown Institute for Women, Peace and Security’s report *The Climate-Gender-Conflict Nexus: Amplifying Women’s Contributions at the Grassroots* strengthened the premise that these factors are best understood and addressed in combination. Our report emphasized that women face structural barriers to meaningful participation but are well positioned to lead in natural resource management and climate security when they are able to overcome these barriers.<sup>31</sup>

It is becoming increasingly clear that the gender-climate-security nexus is critical to both peacebuilding efforts and developing strong communities resilient to climate change impacts. This “triple nexus” provides an analytical framework to critically examine the gender-differentiated drivers and human security risks of climate change and conflict, thereby facilitating gender-transformative research, policy, and programming.<sup>32</sup>

These analytical frameworks can inform and guide interdisciplinary, mixed-method assessments of conditions of vulnerability and resilience. Comprehensive approaches are essential for enhancing our understanding of the gendered, environmental, social, and economic consequences of climate insecurity across demographics and geographies. A rigorous evidence base will also be indispensable for identifying and implementing effective and inclusive climate action both within the context of the United Nations Framework Convention on Climate Change (UNFCCC) and in national and local adaptation policy and programming.

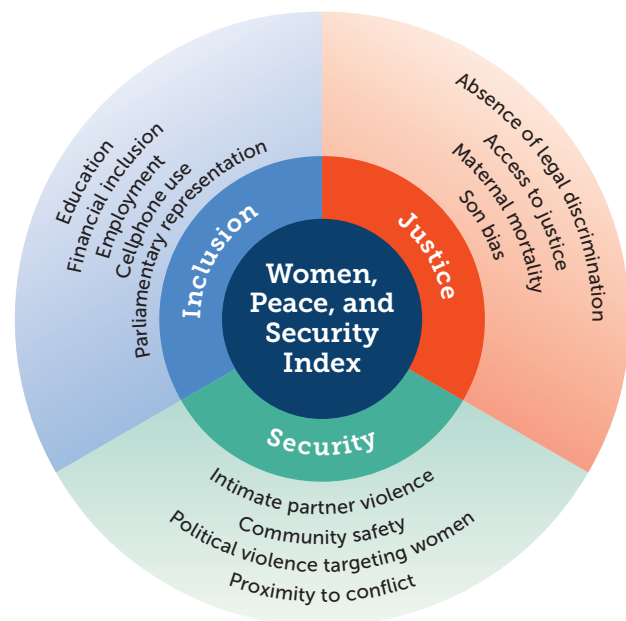
To deepen the evidence base on the gender dimensions of climate security, we investigated how women’s status in society broadly—measured by the WPS Index—is related to countries’ climate resilience, as measured by the ND-GAIN Index of climate adaptation, the SRI, and the EPI.

## Framework and Methodology

### The WPS Index: Measuring women’s status

The Women, Peace, and Security Index ranks and scores 177 countries and economies in terms of women’s status.<sup>33</sup> The WPS Index captures 13 indicators of women’s status, classified under the three dimensions of inclusion (economic, social, political), justice (formal and informal discrimination), and security (at the individual, community, and societal levels) (figure 1). The data comes from recent and reputable sources, including UN agencies, the World Bank, the Gallup World Poll, and more. We combine performance across indicators and dimensions to generate a country’s score, between zero and one, which is used to establish its ranking.

FIGURE 1. The WPS Index captures three dimensions of women’s status in 13 indicators

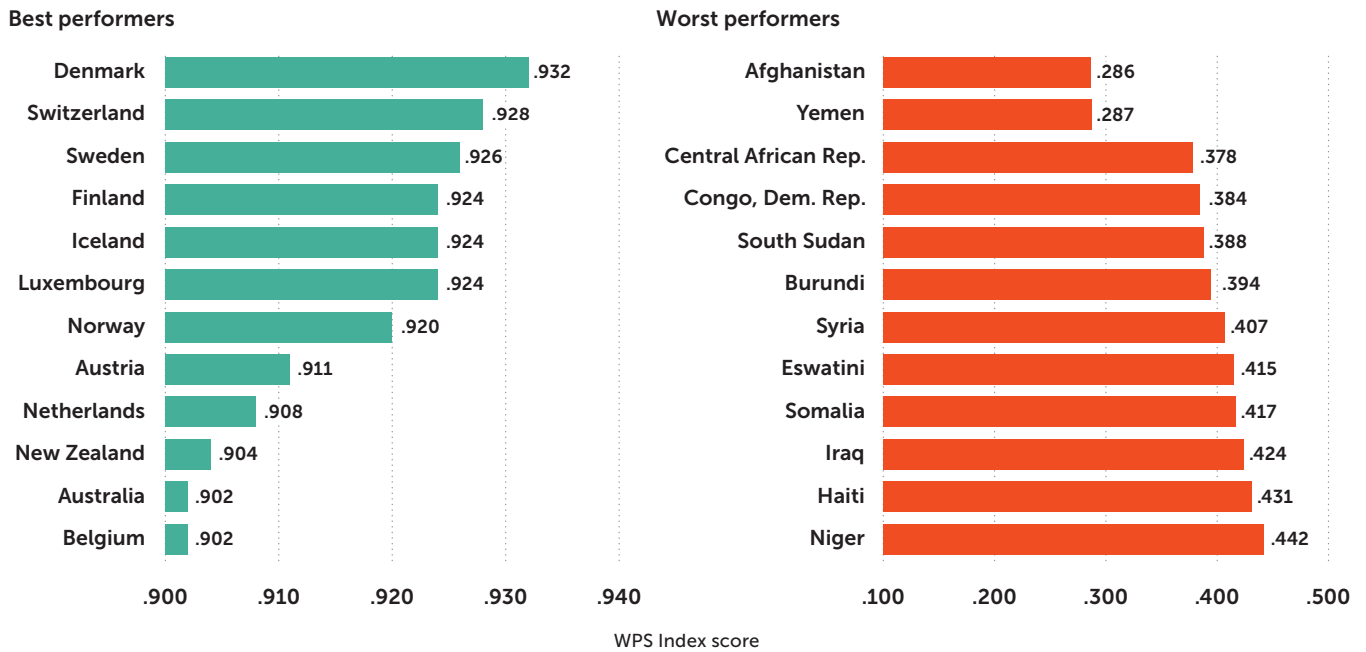


As the only index to bring together indicators of women’s inclusion, justice, and security, the WPS Index is a valuable measure of women’s status that can be used to track trends, guide policymaking, and hold governments accountable for their promises to advance women’s rights and opportunities.

The 2023/24 edition of the WPS Index—the fourth since the inaugural 2017/18 index—reveals glaring disparities around the world. Denmark leads the rankings, scoring more than three times better than Afghanistan, ranked at the bottom (figure 2). At the regional and country group

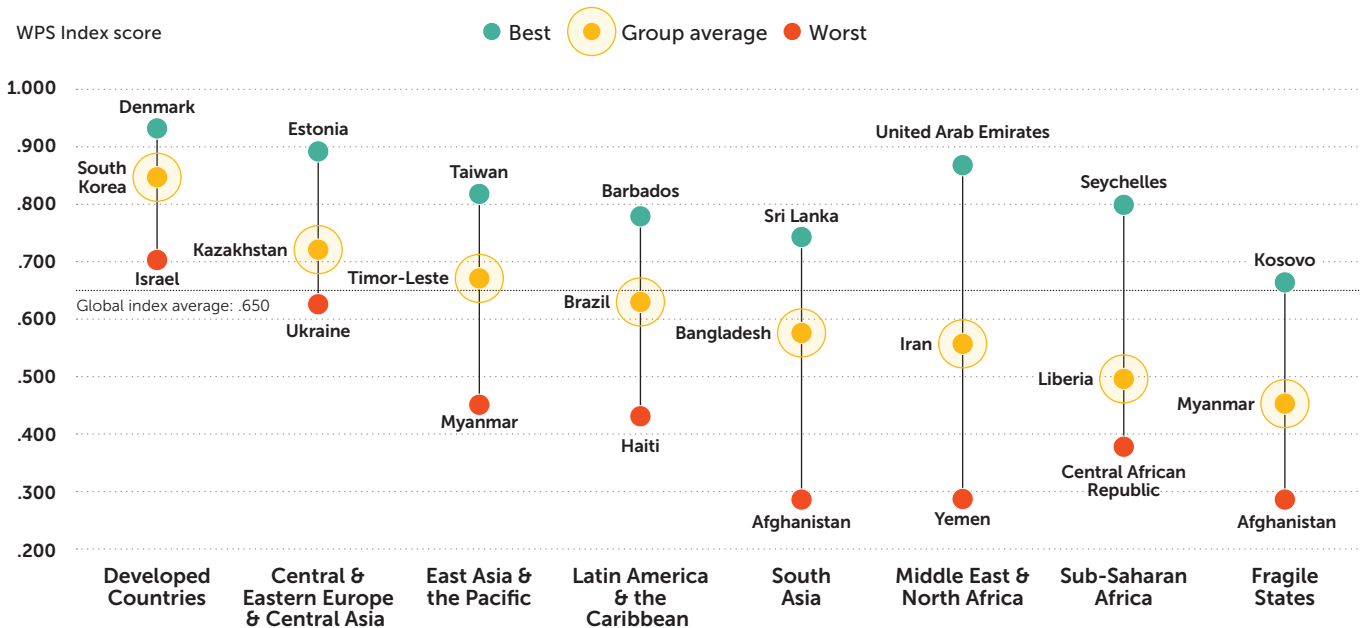
level, Developed Countries<sup>34</sup> and Central and Eastern Europe and Central Asia perform best on average, with Fragile States and Sub-Saharan Africa performing poorest (figure 3). Notably, all 20 bottom-ranked countries have experienced armed conflict since 2021.

FIGURE 2. The dozen best and worst performers on the WPS Index



Note: Possible index scores range from zero to one.

FIGURE 3. A wide range of performance across and within regions



Note: Countries in the Fragile States group are also included in their regional group.



### The ND-GAIN Index, SRI, and EPI: Measuring climate resilience

To explore the link between women’s status and climate change preparedness, we compared the WPS Index against three well-known climate indices: the Notre Dame Global Adaptation Initiative Index, the State Resilience Index, and the Environmental Performance Index.

- The **ND-GAIN Index** summarizes a country’s vulnerability to climate change and other global challenges in combination with its readiness to improve resilience.<sup>35</sup> The ND-GAIN Index ranks and scores 182 countries. It assesses countries’ current vulnerabilities to climate disruptions in six components: food, water, health, ecosystem services, human habitat, and infrastructure. It also considers their readiness to leverage private and public sector investment for adaptive actions, considering three indicators: economic readiness, governance readiness, and social readiness.
- The **SRI** was first published by the Fund for Peace (FFP) in 2022 and was created “to help identify strategic points of entry that can help to create synergy and momentum for greater resilience around the world.”<sup>36</sup> The FFP defines resilience as the “extent to which a country can prepare, manage, and recover from a crisis, relative to the severity of that crisis.” The SRI measures capacities and capabilities in 154 countries using seven pillars of resilience: inclusion, social cohesion, state capacity, individual capabilities, environment/ecology, economy, and civic space.
- The **EPI** is a joint project between the Yale Center for Environmental Law & Policy and Columbia University’s Center for International Earth Science Information Network.<sup>37</sup> The EPI ranks 180 countries on their national efforts to protect environmental health, enhance ecosystem vitality, and mitigate climate change using 40 performance indicators. These indicators measure how close countries are to meeting internationally established sustainability targets for specific environmental issues and are organized into 11 issue categories: climate change mitigation, air quality, waste management, water and sanitation, heavy metals, biodiversity and habitat, ecosystem services, fisheries, agriculture, acid rain, and water resources. These issue

categories are then grouped into three policy objectives: climate, environmental health, and ecosystem vitality.

Our results reveal strong and significant correlations between the WPS Index and all three climate indices, showing that countries where women are doing well tend to be better prepared to absorb the impacts of climate change, adapt to sudden crises, and protect environmental health and ecosystem vitality (table 1 and figure 4).<sup>38</sup> The correlation is strongest between the WPS Index and the ND-GAIN Index, followed closely by the SRI and EPI.

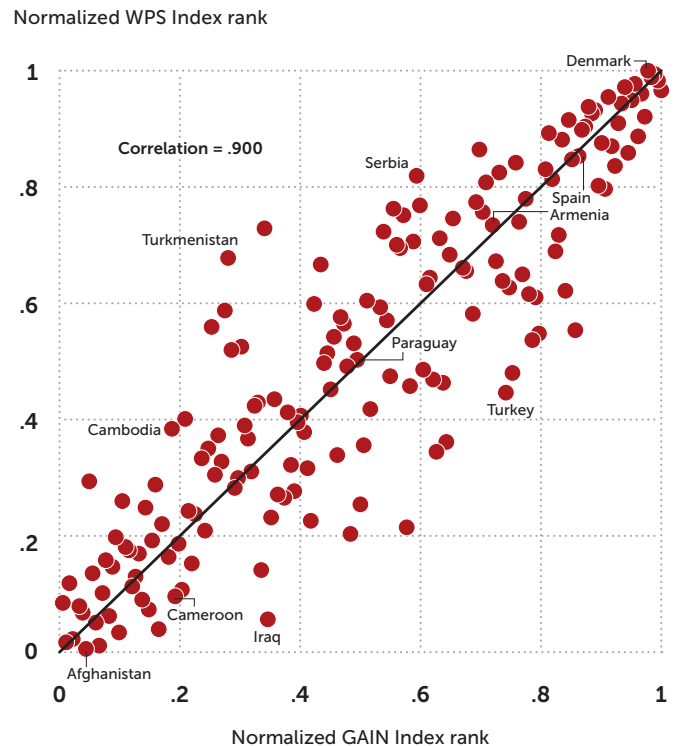
**TABLE 1. Correlations between the WPS Index and climate indices**

ND-GAIN Index	State Resilience Index	Environmental Performance Index
<b>0.900</b>	<b>0.888</b>	<b>0.717</b>

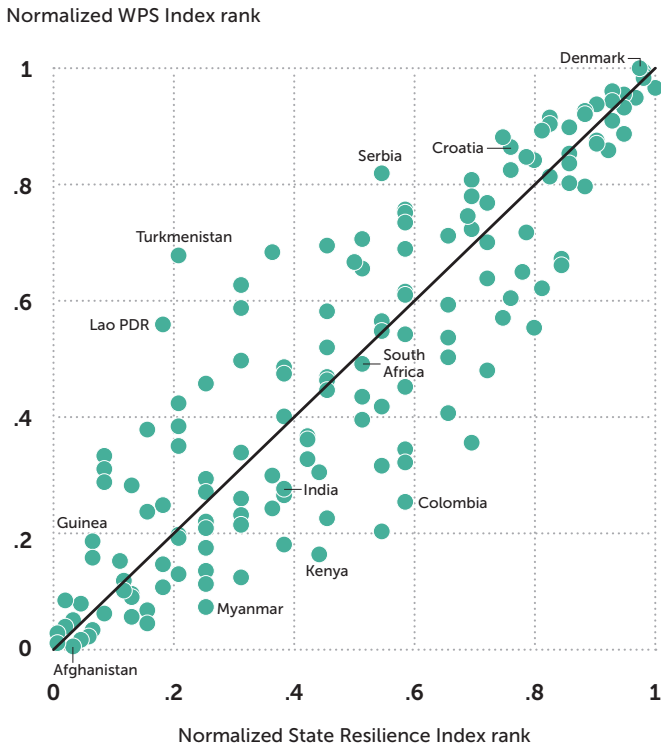
Note: Possible values range from 0 to 1, and higher correlation values indicate greater convergence. All relationships are significant at the level  $p < 0.01$ .

**FIGURE 4. Strong and significant relationships between women’s status and measures of climate resilience**

#### a. ND-GAIN Index

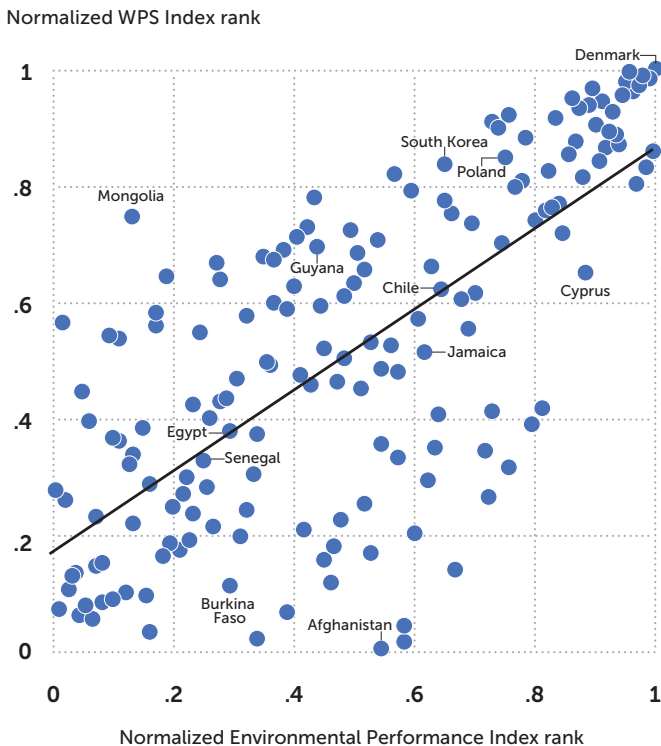


**b. State Resilience Index**



Note: The axes refer to country ranks, not index scores. On both axes, 0 represents the worst-performing country and 1 the best for the respective index.

**c. Environmental Performance Index**



Of the top 30 countries ranked on the WPS Index, 18 also rank among the top 30 countries on all three climate indices. At the other end of the spectrum, Burundi, Chad, Haiti, Madagascar, Mali, Nigeria, and Sudan rank among the bottom 30 countries on all four indices.

Notably, these climate indices are more strongly correlated with women’s status than they are with national income. These results suggest that women’s status matters more for climate resilience outcomes than wealth and income.

Of the top 30 countries ranked on the WPS Index, 18 also rank among the top 30 countries on all three climate indices.<sup>39</sup> Most of these countries are European, with the exception of Australia, Japan, and New Zealand. At the other end of the spectrum, Burundi, Chad, Haiti, Madagascar, Mali, Nigeria, and Sudan rank among the bottom 30 countries on all four indices. Of the remaining 23 countries in the bottom 30 on the WPS Index, 16 rank among the bottom 30 on two of the three climate indices.<sup>40</sup>

While specific mechanisms will vary by context, there are clear pathways that help explain why countries where women are doing well tend to be more climate resilient. We know that women experience climate insecurity differently from men due to structures of gender inequality and the gender norms that shape women’s roles in society. Women’s gender-differentiated knowledge, experience, and expertise offer critical perspectives on effective climate adaptation. A gender-blind approach to climate change action thus contributes to the further marginalization of women, girls, and other excluded groups; increases the risk of instability; and may even lead to the resurgence of conflict.

In order for women’s voices to be meaningfully included in decision-making around climate security, women must be treated as equal and valued members of society more broadly, which is why their inclusion, justice, and security matter. In other words, women’s meaningful participation in climate policymaking does not happen in a vacuum but rather depends on existing structures of inclusion and equality that enable women’s access to positions of power and influence. Conversely, barriers such as lack of access to education, cycles of poverty, discrimination in the law,

and risks of violence systematically contribute to the exclusion of women from decision-making roles. Without meaningfully including women in decision-making, cycles of both gender inequality and climate insecurity are more likely to be reproduced. Upholding systems of equality and access for women across all institutions and domains is the gateway to integrating their perspectives into decision-making and bolstering the effectiveness of climate security policy.

As governments and international organizations urgently strive to implement climate security policies, there is an urgent need for a stronger informational base—one that elevates the vital role of women and acknowledges that gender, climate, and security must be considered as interrelated factors. Recognition of these dynamics is key to understanding and promoting resilience to conflict and climate change.

## The Way Forward: Conclusions and Recommendations

Climate change heightens the risk of conflict and the severity of its impacts. In turn, conflict decreases the adaptive capacity to climate shocks and stressors.<sup>41</sup> This cyclical risk has effects from the global to the household scale. The most severe impacts of both conflict and climate change are felt by those who face other vulnerabilities, such as weak governance, unreliable income sources, and overlapping forms of marginalization.<sup>42</sup> While the links between gender, climate change, and security are increasingly recognized, the evidence base on the specific mechanisms that govern these interactions is still limited, and data is often not gender disaggregated.

The UN system and other multilateral forums need to engage much more systematically with research communities in the Global North, the Global South, and regions most impacted by the climate crisis. Research gathered and assessed by the Intergovernmental Panel on Climate Change (IPCC) presents a vast body of relevant evidence that can help inform policy and practice. There is, nevertheless, an ongoing need for systematized information in the form of easily accessible metrics—

such as the WPS Index, other indices of gender equality, the ND-GAIN Index, the SRI, and the EPI—to promote data-informed work across the gender-climate-security nexus. This will help to ensure that policy and practice are grounded in evidence that also captures women and girls' lived realities of climate, peace, and security. Indeed, progress on both the WPS and climate agendas can be accelerated by tools that track progress, identify where gaps exist, and provide benchmarks to hold decision-makers accountable.

The strong and significant relationships between women's status and multiple metrics of countries' climate resilience yield critical implications for policymakers working on any and all aspects of climate and security. Overall, policymakers must view investments in women as investments in climate change preparedness and response. Specifically, policymakers working on issues of climate and/or security must:

- **Leverage systematized information and metrics**—such as the WPS Index, other indices of gender equality, the ND-GAIN Index of climate adaptation, the State Resilience Index, and the Environmental Performance Index—to promote data-informed work across the gender-climate-security nexus.
- **Amplify women's voices** in climate adaptation efforts and policymaking. This should include local women leaders and women from diverse racial, ethnic, and socioeconomic groups to ensure that interventions are informed by and aligned with local priorities and experiences.
- **Scale up efforts to collect data** on how climate change poses gender-specific risks and to identify best practices for gender-transformative climate security action.
- **Recognize gender, climate, and security as interconnected issues.** Progress in one area leads to advancements in the other two. This includes mainstreaming gender-transformative goals with climate change security, adaptation, and mitigation policies.
- **Ensure that the gender dimensions of security and climate issues are prioritized** and integrated into security and climate policy as well as environmental peacebuilding.
- **Ground policy and programming on WPS and climate action in evidence-based research** conducted by the IPCC and other relevant organizations.



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- 38 Our analysis relies on Pearson’s correlation coefficient and compares country rankings on the WPS Index against these three climate indices. Since each index ranks a different number of countries, the ranks are normalized and adjusted for the total number of countries in each respective index.
- 39 Australia, Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Ireland, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, and the United Kingdom.
- 40 Afghanistan, Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Guinea-Bissau, Iraq, Liberia, Mauritania, Myanmar, Niger, Pakistan, Papua New Guinea, Somalia, Syria, and Yemen.
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