



# REIMAGINING THE HUMAN- ENVIRONMENT RELATIONSHIP

## Why Climate Change Matters for Human Security

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This paper forms part of the volume *Reimagining the Human-Environment Relationship* for Stockholm+50. This curated collection of ideas captures, interrogates, and elevates alternative paradigms of the human-nature relationship – existing and new, and from various disciplines and societies – creating a space to recast our relationship with the environment and inform future policymaking.

## About the Author

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## Introduction: Why Does Climate Change Matter for Human Security?

To date, climate change has been seen largely as an environmental challenge, but it is increasingly evident that it is one of the most pressing political and security issues of our time. The effects of climate change, such as more frequent natural disasters, long-term changes in precipitation and temperature, coral bleaching, and sea-level rise, can combine with other factors to increase the risk, prevalence, duration, or intensity of violent conflict. These impacts of climate change on international peace and security are already playing out and projected to increase.

According to the Intergovernmental Panel on Climate Change (IPCC), the additional pressures brought by climate change will increase vulnerability and the risk of violent intra-State conflict, especially in those places that are characterized by a history of conflict, marginalization and exclusion, and weak governance.<sup>1</sup> While earlier research in this field focused on the question of whether or not there was a link between climate change, peace, and security, research is now pivoting, arguably more usefully for programming purposes, towards more systemic understandings of climate-fragility risk dynamics. The scientific focus has duly shifted from questions of *if* towards the questions of *when* and *how* those pressures overwhelm States and societies, and contribute to conflict and fragility.

There is now a consensus that the relationship between climate change and conflict is, as with all other potential drivers of conflict, multifaceted and context dependent.<sup>2</sup> There is no determinist golden thread linking climate change to increased conflict and fragility. It is also probabilistic and comes with no counterfactuals so we can never actually prove that any given conflict would not have occurred in the absence of climate change.<sup>3</sup> That being the case, there is still a lot that the current research can tell us about the relationship between climate change and human security, which can help inform responses.

Context matters. Different climate impacts lead to different responses. Direct and indirect climate impacts, such as glacial melt, extreme weather events, and loss of biodiversity, affect the livelihoods of vulnerable communities, change migratory patterns, and strain the cohesiveness and capacities of States and societies in different ways. And it is when these knock-on consequences affect the means and motivations for violence that we see an effect on security.<sup>4</sup>

The myriad and compound linkages can be clustered into five broad risk pathways that describe the complex interactions between climate change and certain social, political, economic, and environmental drivers of conflict and fragility. These human security effects of climate change are already playing out today. However, we also know that the impacts of climate change will only worsen and, as such, we can expect that these impacts on conflict and fragility will also increase.

Despite these impending risks, our capacities to assess, manage, and address existing and emerging climate-fragility risks are lagging behind the evolving risk landscape. Moreover, we are very likely underestimating the scale and scope of climate-fragility risks.

This paper explores the mix of mediating factors with a view to understand and inform decision-makers on how these factors affect the capacity of individuals and institutions to adapt to climate change and manage conflict in a peaceful manner. It explains how managing these security risks requires action across the entire impact chain: mitigating and adapting to climate change; better

management of climate-induced heightened resource competition; and strengthening governance and bolstering social relations. And every dimension of these responses must be conflict-sensitive and climate proof.

Without the right responses, climate change will mean more fragility, less peace, and less security. But with comprehensive climate-security risk and foresight analysis to inform our understanding of how climate change interacts with social, political, economic, and environmental drivers of conflict and fragility, who is most affected and under what circumstances, we will be better placed to make the kind of risk-informed decisions that are integral to sustaining peace in a changing climate.

## Five and a Half Pathways

The complex linkages through which climate change impacts affect human security can be clustered into five pathways: the implications of climate impacts on competition over natural resources, adverse effects on livelihoods and human mobility, the conflict risks of climate-related food price spikes, to the implications on already weak governance mechanisms. In addition, it is also worth bearing in mind the adverse unintended consequences of poorly designed climate and security policies themselves (the half). A locally grounded understanding of the specific dynamics of any such pathway in a given context would lay the groundwork for informing the appropriate responses to stave off these risks.

### *Pathway One: Climate Change Impacts Change Access to and Availability of Natural Resources*

Local competition over natural resources such as land or water can escalate into violence. This is particularly the case where climate-induced changes in access to or availability of resources occur in a fragile social and institutional environment, which makes it difficult to manage or resolve competition and disputes in a peaceful way.

Conflicts between farmers and pastoralists in the Sahel and East Africa are a well-documented example.<sup>5</sup> Pastoralists have a long history of coping with climatic and weather variability, moving their herds according to changing seasons or weather conditions. With climate change, however, less predictable rainfall and the unprecedented levels of climatic uncertainty make it harder to maintain and adapt grazing routes. This can be problematic to traditional seasonally-dependant land and water arrangements between pastoralists and farmers. For example, pastoralists moving through farmland before a harvest rather than after due to climate stress can create disputes over destroyed crops that require herders and farmers to reach new agreements.<sup>6</sup>

It is important to stress that conflict does not come about due to cases of absolute scarcity, but rather it is a question of changes in natural resources availability and access, increasing competition, and lack of adequate governance and dispute resolution mechanisms. Risks of conflict linked to competition over natural resources are more likely when happening against the backdrop of a long history of social, economic, and political exclusion and marginalization.<sup>7</sup> At the same time, protracted conflicts leave dispute resolution mechanisms traditionally used to respond to natural resource management issues ineffective or disempowered.<sup>8</sup> In such situations, shifts in resource access and competition have a high potential to escalate into violent conflict.

While the research on this topic is somewhat overly focused on Africa, climate-induced changes in natural resource availability and access as well as increasing competition over resources are occurring around the globe. In the Pacific and Bay of Bengal, ocean resources such as coral reefs and fish stocks, which are the backbone of coastal economies and vital for sustaining traditional livelihoods, are under threat, driving up food insecurity and geopolitical tensions.<sup>9</sup> And in Afghanistan, disputes over natural resources, such as access to agricultural land and grazing pastures or the division of vital irrigation water, can and do turn violent, with almost four times more people experiencing violence from land disputes than having experienced attacks by militants.<sup>10</sup>

### **Pathway Two: Climate Change Contributes to Food Price Spikes and Food Insecurity**

According to the latest IPCC report: “food insecurity from food price spikes ... can lead to both domestic and international conflict, including political instability.”<sup>11</sup> Price hikes can coincide with existing drivers of violent conflict to lock-in a vicious cycle of fragility or conflict, which can in turn contribute to further food price increases and more unaffordable food fuelling grievances that underpin conflict.<sup>12</sup> Indeed, rising food prices and food price shocks have already contributed to protests and conflicts around the world.<sup>13</sup> The IPCC report confirmed this, finding that: “there is increasing evidence linking increased temperatures and drought to conflict risk in Africa (high confidence),” particularly in populations that depend on agriculture or are politically excluded.<sup>14</sup>

The issue is not limited to Africa. Global crop production is strongly concentrated in a few places, making supply chains, markets, and prices vulnerable to extreme events in major producing countries such as Russia, China, Canada, or the US.<sup>15</sup> And with our globally connected food markets, the knock-on economic and political implications of price hikes reverberate far and wide, particularly in countries importing a large part of their food.<sup>16</sup> This was all too visible during the global food price crises in 2007/08 and 2010/11, when staple crop prices shot up in a few months, due in part by drought induced low crop yields in key cereal producing countries.

These price spikes pressured many cereal-import dependent Arab States to put in place subsidies to keep food prices affordable. The rocketing food prices coupled with difficulties for governments to sustain stocks and subsidies combined with other political pressures and grievances contribute to wide-reaching instability.

It is worth underscoring that food prices may not be the root cause, but are often catalysts for protests and political unrest, often escalating into violence.<sup>17</sup> Nor is the pathway direct. Food prices are shaped by many factors like economic development and diversification, governance, State capacity, and history of conflict that all interact in determining if food insecurity escalates into conflict. But climate change is a major driver of variations in agricultural production and, thus, food prices.<sup>18</sup> Climate change is already increasing the duration and intensity of droughts, contributing to water scarcity, and increasing air temperatures, all of which stress crops and livestock.<sup>19</sup> And looking forward, climate science shows that production-related risks to agriculture and food prices are likely to rise significantly.<sup>20</sup>

### **Pathway Three: Climate Change Impacts Undermine Livelihoods and can Fuel Criminality**

Climate change impacts natural resource-dependent livelihoods most directly. For example, through a decrease in agricultural yields, the gradual unsuitability of traditional grazing grounds,

or the drying up of important water bodies. As well as threatening jobs connected with climate-sensitive natural resources, this can contribute to serious declines in agricultural production and erode food security.

Impacts on climate-sensitive livelihoods can also lead individuals to turn to alternative and illegal sources of income and increase mobility. Agriculture, livestock, farming, or fishing all depend directly on natural resources and are likely to become less reliable, reduced, or entirely lost due to changing climatic conditions. Areas that already face land and resource degradation are especially likely to be negatively affected by rising temperatures, changing rainfall patterns, or salinization. For many, this will create a need to find alternative sources of income.

In already vulnerable areas where the number of viable livelihoods is already limited, people can be pushed to turn to illicit activities or potentially violent crime in order to make a living. For example, in places such as Afghanistan or Colombia, there are examples of farmers turning to illicit crop cultivation because it is so lucrative, and because they are finding it harder to earn their living by farming legally due to climate change.<sup>21</sup> At the same time, military interventions often further restrict the number of legal livelihoods, as could be observed in parts Niger's Diffa Region around Lake Chad, where the army declared the cultivation of red pepper illegal, as they associated its cultivation with monetary flows to non-State armed groups.<sup>22</sup> Actions such as this one put additional pressure on individuals to employ any available coping strategy, even if illegal.

As climate change squeezes the number of legal opportunities to make a living, especially for youth, this can create prime conditions for the recruitment efforts of non-State armed groups, such as terrorist organizations.<sup>23</sup> Reasons are not limited to the offer of payment by armed groups for participation, but include the offer by armed groups of religious education, healthcare, and food provision. In areas otherwise underserved by governments, these services can be a highly effective incentive.

Livelihood vulnerability is also linked to many non-climate factors, such as unequal land distribution, insecure land tenure, unsustainable resource management practices, poorly developed markets, existing trade barriers, and inadequate infrastructure. Understanding the risk of conflict linked to climate necessitates grasping the role of governance in planning and regulating development, ensuring access to land, providing infrastructure support to mitigate risks from sudden-onset disasters, and promoting livelihood diversification.<sup>24</sup> It is not necessarily in the communities that face the most extreme environmental shocks where conflict may result. Greater risk lies with communities who lack the institutions, economic stability, civil voice, and social capital to withstand increases in the frequency and severity of climate change who will be most at risk of political instability of conflict.<sup>25</sup>

#### *Pathway Four: Climate-related Stresses can Fuel Displacement and Affect Migration*

In the face of stressed livelihoods, limited social capacity, and lack of social safety nets, people might also choose or be pushed to move. Climate change can influence migration in several ways – extreme weather events can trigger displacement, while loss of livelihood opportunities can contribute to internal migration to cities.<sup>26</sup> The IPCC confirms with high confidence that: “climate hazards are a growing driver of involuntary migration and displacement.” In general, climate change will intensify existing migration patterns.<sup>27</sup>

It is important to stress that migration in and of itself is not an inherent risk. Migration is an important adaptation tool and not a direct cause of conflict. However, in certain contexts, it can contribute to fragility. For example, the IPCC has high confidence that rural-urban migration to informal settlements on the outskirts of cities can lead to pockets of high human vulnerability, “where the capacities of local, municipal and national governments, communities and the private sector are least able to provide infrastructures and basic services.”<sup>28</sup> Additionally, “there is robust evidence and medium agreement that climate change can exacerbate existing tensions, which can in turn result in political violence and an increase in asylum-seeking.”<sup>29</sup>

Migration can also be a coping strategy, offering a viable opportunity to gain a livelihood, to reduce climatic vulnerability, and to reduce resource pressures and related tensions in the sending areas.<sup>30</sup> The literature does not support ideas of mass international migration following climate change,<sup>31</sup> and while poverty or losses following climatic impacts might even prevent mobility and trap poor population groups, movements from rural to urban areas are likely to increase.<sup>32</sup>

### *Pathway Five: Climate Shocks Could Undermine an Already Weak Social Contract*

Climate change increases in the likelihood and intensity of extreme weather events.<sup>33</sup> This in turn can increase grievances among affected populations due to the inability or (perceived) unwillingness of public authorities to provide adequate protection or relief in times of emergency – especially since climate impacts are forecast to substantially affect already vulnerable regions in Africa and Central Asia with low adaptive capacity.

Indeed, climatic shocks and the disasters that follow can either undermine or in fact improve relations between citizens and their government, as well as between citizens themselves, depending on how they are dealt with by responsible bodies. The IPCC finds that in water-stressed areas with existing tensions between population groups or States over a water source: “the impact of climate change on water resources might increase tensions, particularly in the absence of strong institutional capacity.”<sup>34</sup> This increased tension can bubble over into social conflicts, even protests, and riots.<sup>35</sup>

The political effect of such events depends on public perceptions of the commitment and capacity of authorities to assist affected groups, as well as on the ability of affected individuals to sustain levels of social cohesion – that is, to maintain trusting and cooperative relationships with each other.<sup>36</sup> Whereas people can feel aggrieved by a negligent State who was unable to keep them safe, they are equally likely to be supportive of a government that they see as effectively having kept them out of harm’s way.<sup>37</sup>

Extreme weather events can also increase the hardships people face, leaving them with less to lose and thereby reducing the opportunity costs for joining armed groups.<sup>38</sup> This is especially the case among those already marginalized and overlooked by the State. These dynamics have been shown to emerge shortly after a disaster in regions where individuals face political exclusion, low development, and high population.<sup>39</sup>

Timely and apposite disaster relief can, on the other hand, help to build or bolster the social contract between citizens and the State. But there are risks attached. Alongside considerable short- and long-term economic losses, disasters can tip governments into financial precarity due to the large sums of money to be invested to rebuild affected areas. Governments may reallocate finances,

often from social services<sup>40</sup> to meet post-disaster reconstruction needs. But such diversions will most negatively affect the poor – ironically those most vulnerable to disasters who are living in fragile contexts where infrastructure and service provision is already inadequate.<sup>41</sup> This can potentially aggravate existing grievances as well as stoke conflict risk.

In contexts where the State cannot free-up or divert finances to respond to a disaster, they might be forced to borrow.<sup>42</sup> As the frequency and magnitude of disasters continues to rise as climate change increases,<sup>43</sup> risk-prone areas might face steadily growing pressures that they cannot financially manage without spiralling borrowing rates, thereby inflating public debt and overwhelming capacity to provide basic State functions. Without international financial support, this can push them into defaulting on loans,<sup>44</sup> and even State failure.<sup>45</sup>

### *Pathway Five and a Half: Own Goals - Risks of Getting our Responses Wrong*

Climate change impacts aside, the side effects of poorly planned mitigation and adaptation can increase social tensions and conflict risks in and of themselves. In the face of rapidly unfolding climatic risks, the pace and scale of responses needs to be ambitious, but this pace and scale can bring with it risks when knock-on adverse consequences are not thought through.

As adaptation and mitigation policies are developed and scaled up in efforts to keep to Paris commitments, it also important to be attuned to unintended consequences of an intervention or policy, particularly on fragility risks.<sup>46</sup> Mitigation policies can be a source of grievance when approaches are seen as too constricting, non-consultative, or unfair. Europe has seen violent protests following environmental taxation that was seen as inequitably burdening the poor,<sup>47</sup> as well as civil disobedience and deepened political divides over a need for more ambitious climate change mitigation.<sup>48</sup> Mitigation or adaptation interventions can also be a source of risk when bad project design or implementation enables resource capture or corruption.<sup>49</sup> These issues are particularly likely to emerge around the mining for rare earths and resources required for low-carbon technologies,<sup>50</sup> land restoration or nature conservation efforts,<sup>51</sup> and in land acquisition for the production of biofuels<sup>52</sup> – all of which increase resource demand and reduce land access, which in turn threaten lives and livelihoods.

The implementation of adaptation measures can also create new and additional pressure on natural resources such as land or water, entrench existing inequalities in access to resources and increase livelihood insecurity. These impacts can reinforce existing grievances and compound to create conflict risks.<sup>53</sup> For example, the International Crisis Group shows how building wells to increase water security has repeatedly – albeit inadvertently – fuelled tensions in the Central Sahel as it heightened competition for access to land.<sup>54</sup>

Peacebuilding and peace enforcement can similarly worsen climate-related security risks. Stabilization interventions can undermine livelihoods and the climate coping capacity of local communities, for example by blocking access to markets, banning certain livelihoods, or fuelling displacement.<sup>55</sup> Peacebuilding and mediation also need to be climate-security risk informed. Natural resource access is often a lynchpin of peace agreements. Failure to take account of future climate impacts, sustainability of livelihoods, and climate-related changes in who will have access to what natural resources in the years to come can undercut the effectiveness of agreements in the medium to long term.



## Glass Half Empty? Underestimating the Scale and Scope of Risks

Although the quantitative scientific literature on the security impacts of climate change has grown exponentially over the past few years,<sup>56</sup> we know that we are very likely underestimating the scale and scope of climate-fragility risks.

One reason for this is that, due to data availability, political interest, or perhaps even opportunism, climate-security research to date has emphasized certain regions – predominantly Africa and rural settings.<sup>57</sup>

The Pacific, South Asia, and South America are among the most climate vulnerable in the world and susceptible to conflict and fragility, but have been largely absent from the research.<sup>58</sup> Urban areas, despite the reality of rapid population growth in climate vulnerable urban centres, and the very real and specific challenges of climate-related instability facing in urban contexts, are underrepresented in the literature.<sup>59</sup> Research has also so far focused on assessing relatively direct effects and types of risks, that are ultimately easier to verify, than indirect, cascading risks, which are far more significant to understanding implications on human security. In addition, much research assumes that climate-fragility risks will play out where the actual direct impacts of climate change occur. But in our globally connected world, climate impacts are felt through a range of global pathways, from international markets and supply chains, to migratory flows to shifts in aid recipient nations.<sup>60</sup> So, the knock-on consequences and the international reverberations of climate-fragility risks remain underresearched and insufficiently understood.

Moreover, a large part of the research in this field focuses on violent conflict often defined by a certain threshold of people killed, whereas only a few studies focus on latent fragility risks, such as increased civil unrest, criminality, intercommunal tensions, or falling trust in governments – all factors that are much harder to count in big data sets.<sup>61</sup>

The peer reviewed literature predominantly uses quantitative approaches that have been criticized for being reductionist. The grey literature provides more grounded evidence on the topic through documentation of individual cases in specific locations – primarily considering the recipients of an intervention or project, exploring the interactions of climate and security risks, and the points of entry for addressing them.<sup>62</sup> It is here that proposals for practical suggestions are found on how to programme across different dimensions of risk (climate and human security). However, evidence is limited by a lack of practical experience and long-term monitoring and evaluation processes, with most studies being limited to a project funding period of one to three years and not including assessment of impact well after a project has ended. Moreover, while rich in local level detail, individual agency publications tend to be narrowly focused at the local or subnational levels and are highly context specific with little scope for replication of lessons learned in other contexts. More support is needed to help transform this evidence through the application of rigorous research methods, so it can be used to inform policy.

To fully understand the scale of the problem and for these risks to be adequately represented in studies, peer reviewed academic studies that inform the IPCC need to be complemented with the latest localized, granular evidence from the field, as well as forward-looking scenario and foresight work that can inform policymakers' responses.

## What Needs to be Done?

Although our understanding of the climate-fragility risks has improved vastly in the past 15 years, our ability to assess, manage, and address existing and emerging climate-fragility risks lags far behind this ever-shifting risk landscape. Gaps remain in terms of localized risk assessments and context-specific, risk-informed responses on the ground.

Many conflict and crisis early warning systems have not fully integrated climate data in general and more specific data or (proxy) indicators for specific climate-fragility risks.<sup>63</sup> Even in cases where early warning systems have integrated environmental risks, climate change and its impact on conflict is often noticeably absent.<sup>64</sup>

In addition, the link between early warning actually leading to early action is weak. History has shown that having information available on the likely outbreak of violence or on other threats such as famine has not translated well into early or preventive action.<sup>65</sup> In a tragic example, the myriad of warnings from Famine Early Warning Systems Network (FEWSNET) over 11 months preceding the 2010/11 famine in Somali did not lead to action to prevent the catastrophe.<sup>66</sup>

One reason for the gap in action is a division or silo between the entity responsible for informing and the entity responsible for responding.<sup>67</sup> Early warning information might not be transferred to or taken up at the relevant governmental department at the appropriate level. Even if information is passed on and accepted at the appropriate level, political considerations and the negotiation of appropriate actions offer significant opportunities to delay or reduce responses.<sup>68</sup> Finally, and importantly, for early warning systems to produce well-informed and effective interventions, actors need to coordinate their approaches and should build on local knowledge and insight.<sup>69</sup> However, many current early warning systems are located at the international level, with few linkages to conflict situations on the ground.<sup>70</sup>

There have been recent efforts to develop integrated assessment methodologies that take into account climate and conflict risks. For example, the European Union-funded UN Environment Programme climate change and security project<sup>71</sup> has developed an assessment approach to identify climate-fragility risks in order to determine appropriate response measures that link climate change adaptation and peacebuilding and is currently testing it in Nepal and Sudan. An example of a comprehensive approach combining quantitative climate and hydrological data with qualitative, local conflict analysis is the assessment of the Lake Chad region “Shoring up Stability”<sup>72</sup> and the new risk and foresight assessment initiative Weathering Risk,<sup>73</sup> which represent steps towards making such an approach widely accessible. However, to date, such approaches are not widely used and most climate vulnerability assessments do not take into account conflict drivers or dynamics, and most conflict and fragility assessments do not include climate risks.<sup>74</sup>

The allocation of and access to climate finance also presents a problem to fragile contexts. While funding for crisis and conflict-affected countries, and for climate change adaptation, has increased significantly over the past years, this has not reached those contexts where climate and conflict risks intersect. Climate change adaptation funding for fragile contexts makes up a tiny part of total adaptation funding allocated by international bodies such as the Green Climate Fund, the Adaptation Fund, the Global Environment Facility, and the Climate Investment Fund. The ten most fragile countries receive a mere 4.5 per cent of all climate funding, falling far behind other nations.<sup>75</sup>

At the same time, most peacebuilding funding instruments do not specifically fund projects with a climate dimension or that foster integrated approaches to climate-fragility risks.

While there is no universal set of activities that provide climate change adaptation, peacebuilding, and development benefits in any given context, evaluations point towards a number of activity areas with the largest potential for integrated programming. Steps to develop climate-sensitive, resilient livelihoods, improve governance, and advance women's empowerment can serve as powerful peacebuilding tools.<sup>76</sup> Conversely, the IPCC finds that: "there is robust evidence that inequitable responses [*to climate change*] further exacerbate marginalization, exclusion or disenfranchisement of some populations, which are commonly recognized drivers of violent conflict."<sup>77</sup> Moreover, it finds that: "adaptation can provide a common goal reaching across political differences and be a part of building political trust and local cooperation between alienated communities."<sup>78</sup> Addressing inequality and marginalization, for example through promoting inclusive and equitable natural resource access and management, and strengthening social cohesion within and between groups are examples of 'no regrets' strategies that can help build resilience to climate change and conflict risks across most fragile contexts, regardless of climatic uncertainty.<sup>79</sup>

## Conclusion

Climate change is already having an impact on conflict and security in fragile contexts around the world, from the Lake Chad Basin to Nepal to Peru.

Though no conflict has a single motivating factor, climate has undeniable economic and social impacts from food and water insecurity, loss of livelihood, and forced displacement, to increased inequities and competition over natural resources that can act as drivers of insecurity and conflict. The IPCC affirms that the impact of climate change on human well-being, peace, and security will worsen,<sup>80</sup> especially for the poorest members of society. Many of the most affected live in already fragile States where underdevelopment is intractable and national capacity to manage climate risks is weak. In many countries, as climate change interacts with other features of the social, economic, and political landscape, there is a high risk of political instability and violent conflict.

As the latest climate models show how climate change impacts on human systems will increase, these impacts will, in certain contexts, continue to compound human insecurity and fragility risks. What determines whether, or indeed how, climate change will lead to violent conflict lies in the 'intermediary factors' that affect the relationship between climate and human security, things like poverty, effectiveness of governance and institutions, adaptive capacity, political inclusion, and financial management.

The latest IPCC report's findings therefore underscores the need to identify synergies between conflict risk reduction and climate adaptation, and address the root causes of these problems in unison.

This paper has outlined some of the complex pathways through which climate-fragility risks emerge. Even with better assessment capacity, managing these risks requires institutions and processes that can function across sectoral silos. Climate-fragility risks do not fit within the neat parameters of most existing institutions. The most effective responses are those that cross sectors and policy areas, in particular by integrating climate, disaster risk reduction, development, humanitarian,

stabilization, and peacebuilding efforts.<sup>81</sup> Single-sector responses will be less effective or, in the worst case – in dealing with one set of risks in isolation – can exacerbate other risks. A review of operations on the ground reveals such integrated responses are few and far between.<sup>82</sup> Most climate vulnerability assessments do not take into account conflict drivers or dynamics, while most conflict and fragility assessments do not include climate risks.<sup>83</sup> Most conflict and crisis early warning systems have yet to integrate climate data in general and more specific data or (proxy) indicators for specific climate-fragility risks either.<sup>84</sup> And even if climate-fragility risks were better included into early warning systems, historically the link between existing early warning and early or preventative action remains woefully weak.<sup>85</sup> Lessons from early warning systems show that to produce well-informed and effective interventions, actors need to coordinate their approaches and should build on local knowledge and insight.<sup>86</sup>

Learning from these lessons, a climate-fragility risk assessment approach would require strong linkages to conflict situations on the ground, and a central coordination mechanism to inform a wide variety of actors and avoid duplication of actions. Initiatives such as Weather Risk offer good capacities to identify and assess climate-fragility risks and feed actionable information back to decision-makers.<sup>87</sup>

There is much that can be done to ensure that climate change does not lead to increased conflict, insecurity, and fragility, even in the absence of downscaled climate forecasts at the subnational level. Addressing the root causes of vulnerability to climate change impacts – such as the lack of livelihood diversification, political marginalization, unsustainable management of natural resources, weak or inflexible institutions, and inequitable policy processes – can help ensure countries plan for uncertainty and peacefully manage a range of possible futures that climate change presents.

Managing climate-related security risks needs to be a core part of any and all efforts to achieve the 2030 Agenda, importantly, including efforts towards Sustaining Peace. But gaps remain in the evidence and our understanding of how to achieve the double dividend of building resilience to climate risks and conflict. We still lack of well-documented, scalable examples of how to achieve ‘multiple wins’ in order to support resilience-building. For example, what are the policies and programmes that have positive outcomes on peace, adaptation, and development progress?

For this to happen, we need to take three steps to ensure that understanding and addressing the links between conflict, climate, and the environment is central to building resilience in an ever-uncertain world. First, given the multiple levels of uncertainty – for example, how rainfall variability might affect livelihoods, what the knock-on consequences will be on peace and security, and how demographic changes will interact with these risks – a comprehensive risk assessment management approach is required. At the very least, such an assessment would help interventions do no harm – for example, ensuring that climate adaptation measures, such as increasing water access points – do not inadvertently make conflict dynamics worse by entrenching inequitable resource access between groups.<sup>88</sup>

Second, alongside better risk analysis, we also need to see enhanced take-up and use the findings. This requires increased capacity, resources, and buy-in. People need the knowledge and skills to know how to integrate climate-security risk analysis into policy and programming cycles, they need to know what the right questions to ask are, and whom they should ask. They also need to see this as part of their core business, not as a ‘nice to have’ or add-on. This requires training and structural

incentives – things like inclusion of climate-security into mandates and job descriptions – so that it becomes part of how performance is assessed.

Third, and critically, we need to ensure that we invest in monitoring and evaluating the implications of all programming on climate and security risks. Without adequate monitoring and evaluation, we do not know what potential programming co-benefits can be scaled-up, or unintended pitfalls to avoid. We also need to measure the impact of integrated climate-security risk-informed programming on building resilience to climate and conflict risks. With such evidence, we can build the business case for investing in risk-informed preventative action that donor agencies can back.

Efforts such as Weathering Risk<sup>89</sup> are an important step towards enhanced policy action to ensure conflict prevention initiatives take account of climate changes, and to use climate change adaptation in support of peace and stability. The Weathering Risk Peace Pillar takes a step further, putting in place impact evaluation measures to assess the value addition of integrating climate-security considerations into peacebuilding programmes. While practical steps – such as ensuring that all climate change adaptation is conflict sensitive, that all conflict programming takes account of medium- to long-term climate change predictions, and the monitoring and evaluation looks at impact on climate-security risks – are by no means a comprehensive solution to managing the risks posed by climate change to human security, they are a good start. Such an approach to reimagining the human-environment relationship will leave us better placed to sustain peace as we look to address the environmental challenges of the next 50 years beyond Stockholm+50.



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