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# POLICY SUMMARY: THE NEXUS OF FRAGILITY AND CLIMATE RISKS



**March 2019**

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Cover Photos:

USAID. 2017. A woman washes her clothes in the Dawa River, which is now the only source of water for internally displaced persons (IDPs) living in Kansale IDP camp in Somalia. The severe drought across Somalia and the Horn of Africa has caused a humanitarian crisis that threatens millions.

IOM. 2015. A family sheltering in a collapsed house destroyed by a flood in Rakhine State in Burma.

USAID/Tim Frank. 2017. Pastoralists move their herds across a dried-up river bed of Turkwel River in Lodwar, Kenya. This was the first time in more than 30 years the river has dried up, leaving thousands of communities without their essential water supply.

# POLICY SUMMARY: THE NEXUS OF FRAGILITY AND CLIMATE RISKS

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# INTRODUCTION

Coping with climate change and variability can be particularly challenging for fragile states. Fragility results when interactions between state and society fail to meet critical public needs, and the public accordingly perceives outcomes as illegitimate, ineffective, or both. Countries with high levels of fragility often have weak institutions and limited capacity to respond to climate-related challenges. Meanwhile, challenges posed by climate change and variability may heighten fragility **by further straining a state's** capacity to govern effectively and legitimately. Understanding where fragility and climate risks co-occur is important for both policy makers and development practitioners.

States with high exposure to climate hazards face multifaceted challenges. For individuals and communities, these challenges can include increased physical and livelihood risks, such as greater exposure to extreme events and greater fluctuations in agricultural yields. For government institutions, these challenges can include the need to redirect scarce resources toward adaptation or humanitarian response efforts. Responding to high exposure to even a single climate stressor can require substantial resources, infrastructure, and mobilization, and a country that has high exposure to multiple climate stressors may require those resources and capacities many times over.

For states affected by fragility, where institutions and mechanisms for meeting public needs are already strained, added climate challenges can affect many aspects of their capacity and legitimacy (see box on next page). Therefore, when states face fragility and climate risks simultaneously, both the challenges and their potential impacts are compounded.

## UNDERSTANDING CLIMATE TERMINOLOGY

Governmental, nongovernmental, and academic institutions use various climate terms interchangeably to reference similar phenomena. The climate terms used here follow [U.S. Government guidelines](#).

Climate stressor: **“A climate factor that can affect the functioning of a system. For example, rising temperatures and greater rainfall variability may affect agricultural productivity, with implications for food security” (USAID 2017, 25).**

Climate risk: **“The potential for negative consequences due to changing climatic conditions where the outcome is uncertain” (USAID 2017, 24).**

Climate exposure: **“The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected” by climate change and variability as a function of their location (IPCC 2014, 123).**

This document is a summary for policy makers based on a more detailed technical report that is available [here](#). The research, summarized here, does not seek to establish a causal relationship between climate exposure and instability. Instead, it identifies the locations where fragility and climate risks co-occur around the world. It assesses key global fragility and climate patterns and country-specific risks to assess how these dynamics may coalesce to foster instability, strain state capacity, and undermine human security. Since places with compound fragility-climate risks may be more vulnerable to governance failures and other crises that foster humanitarian emergencies or instability, understanding their distinct fragility and climate challenges could present opportunities and focal points for intervention and risk management.

It is hoped that the measures and metrics developed here provide new tools for assessing compound fragility-climate risks and associated opportunities for intervention. This study is the first publicly available quantitative effort to map the intersection of fragility and climate risks globally. It builds on the groundbreaking work commissioned by the G7 that developed an integrated framework for assessing compound fragility-climate risks.<sup>1</sup>

## DEFINING FRAGILITY

USAID defines fragility as **“the extent to which state-society relations fail to produce outcomes that are considered to be effective and legitimate.**

**“Inherent in this definition is the** understanding that fragility is a characteristic of state-society relations, not just of governing institutions. This definition also establishes fragility as a two-dimensional concept; both effectiveness and legitimacy are equally important to our understanding.

**“Effectiveness refers to the capability of the government to work with society to assure the provision** of order and public goods and services. Legitimacy refers to the perception by important segments of society that the government is exercising state power in ways that are reasonably fair and in the interests of the nation as a whole.

**“Finally, fragility affects state-society relations in gradations; i.e., it is not a condition that is either completely present or completely absent. By implication, countries with high levels of fragility can be expected to face steeper challenges in reducing extreme poverty than those with lower levels.”**

Source: USAID 2014, 2.

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<sup>1</sup> See Rüttinger et al. 2015. This report, *A New Climate for Peace: Taking Action on Climate and Fragility Risks*, can be found at [www.newclimateforpeace.org](http://www.newclimateforpeace.org).



# KEY TAKEAWAYS

1. Fragility is an important dimension in understanding the indirect pathways between climate risks and potential conflict outcomes. Considering state-society relations and the dynamics of legitimacy and effectiveness enhances our ability to identify and understand indirect pathways through which climate vulnerability is compounded and, conversely, where resilience efforts can have co-benefits for climate, environment, and conflict prevention goals.
2. Compound fragility-climate risks can heighten insecurity, but conflict is context-specific. Fragility and climate risks generally interact by increasing vulnerability to humanitarian crises and/or instability. However, even states with similarly high compound fragility-climate risks and similar rates of violence can host very different types of conflict. This reality underscores the central role that governance plays in the development of conflict.
3. State legitimacy is poor across nearly all states with high compound fragility-climate risks. Poor state legitimacy contributes more than poor state effectiveness to the overall fragility of these states, on average. Improving state legitimacy can thus be an essential element to increasing stability and reinforcing government-led efforts to address climate risks.
4. Many people around the world face high compound fragility-climate risks. The majority of highly fragile states have a large number of people or a large proportion of the population living in high exposure areas. Further, several moderately fragile states have among the highest numbers of people living in high exposure areas, posing grave risks to large numbers of people if fragility worsens and government response capacity declines in these countries.
5. Multiple climate risks often affect the same populations and institutions in highly fragile states. Populations in very high climate exposure areas generally face several overlapping climate stressors, which can heighten overall vulnerability and can place repeated stress on a range of institutions and social and economic systems.
6. Yet in a few highly fragile states, single climate stressors can be just as damaging as multiple hazards. Some highly fragile states face high exposure to a single climate stressor to a degree that risks exceeding their capacity to address it.



# OPPORTUNITIES FOR ACTION

Addressing climate risks in fragile states could simultaneously enhance resilience and reduce fragility. Poor state legitimacy—that is, public perceptions that the state is unwilling or unable to meet public needs—contributes more to the fragility of states, on average, than poor state effectiveness does. This trend is even more pronounced in states with high compound fragility-climate risks. State actions that respond to the public’s need for reduced climate vulnerability could thus simultaneously reduce both climate risks and the legitimacy deficits that often contribute most heavily to fragility in these states.

Climate responses will have the best prospects for success when they are directed through areas of governance where the state has the strongest capacity to act. Many states with high compound fragility-climate risks have improved their effectiveness in specific spheres in recent years, even while enduring high fragility due to poor or worsening state legitimacy. These states have thus been steadily building state capacity and, with it, an increasing chance of being able to effectively implement climate policies in the spheres where that capacity has grown.

In states affected by sustained conflict, institutional reforms in the political sphere are critical to reduce overall state weakness and therefore **strengthen the government’s** ability to respond to climate risks. Several states with high compound fragility-climate risks (e.g., Democratic Republic of the Congo (DRC), Nigeria, Pakistan, Sudan) are also embroiled in multiple long-term conflicts that both reflect and contribute to deep weaknesses in state capacity. The existence of sustained conflict signals the inability of the state to control its territory or advance reforms to address the political, economic, and social issues that lead to violence. These conflicts and associated state weakness will make it harder to effectively address climate risks without building institutional capacity to meet public needs and address the underlying issues that led to conflict.

Prevention efforts should focus on shoring up the capacity of states that today have *moderate* fragility and *very high* climate risks. Several moderately fragile states (e.g., Bangladesh, the Philippines) have a large number of people, a large proportion of the population, and a large land area all facing very high exposure. While these states are not highly fragile, climate hazards place an extreme stress on them in terms of both the population and the land area exposed, creating broad additional requirements for states already experiencing substantial other stressors that place them in the *moderate* fragility category. If fragility worsens in these states, large numbers of people could become more vulnerable to the very high climate exposure they already face.

# STUDY METHODOLOGY

## DEFINING CLIMATE EXPOSURE AND FRAGILITY MEASURES

The measure of exposure to climate-related hazards developed for this study uses historical data to assess exposure to six key climate stressors: cyclones, floods, wildfires, rainfall anomalies, chronic aridity, and sea-level rise. The measure captures the specific stressors that locations face and their accumulated exposure to the six hazards. This subnational measure identifies places that faced chronic exposure to these hazards in the recent past, using the most up-to-date sources for which globally comprehensive data are available. This report highlights *very high* and *high* exposure areas, as Table 1 describes.

Table 1. Measuring Climate Exposure: Criteria for Gauging Varied Levels of Exposure

<b>Very High</b>	Areas four standard deviations or more above the global mean exposure to climate stressors. <b>Approximately 6% of the world's population lives in <i>very high</i> climate exposure areas.</b>
<b>High</b>	Areas one standard deviation or more above the global mean exposure to climate stressors. About <b>14% of the world's population lives in <i>high</i> climate exposure areas.</b>

Table 2. Measuring Fragility: Criteria for Assessing State Effectiveness and Legitimacy

TYPE	EFFECTIVENESS	LEGITIMACY
POLITICAL	<ul style="list-style-type: none"> <li>Quality of public service</li> <li><b># of coups d'état in last five years</b></li> <li>Government tax revenue as % of gross domestic product (GDP)</li> </ul>	<ul style="list-style-type: none"> <li>Competitiveness of political participation</li> <li>Citizen participation in selecting government</li> <li>Asylum requests as % of population</li> </ul>
SECURITY	<ul style="list-style-type: none"> <li>Intensity of ongoing armed conflict</li> <li>Size of displaced population</li> <li>Proportion of country affected by conflict</li> </ul>	<ul style="list-style-type: none"> <li>State use of political terror</li> <li>Presence of militant groups against the state</li> <li>Number of rivaling military organizations</li> </ul>
ECONOMIC	<ul style="list-style-type: none"> <li>GDP per capita</li> <li>Poverty headcount ratio</li> <li>Primary commodity exports as % of total</li> </ul>	<ul style="list-style-type: none"> <li>Control of corruption</li> <li>Rule of law and property rights protection</li> <li># of days to start a business</li> </ul>
SOCIAL	<ul style="list-style-type: none"> <li>Infant mortality rate</li> <li>Child immunization rates</li> <li>% of population with access to improved water source</li> </ul>	<ul style="list-style-type: none"> <li>Military expenditures as % of GDP</li> <li>% of parliamentary seats held by women</li> <li>Life expectancy at birth</li> </ul>

The fragility measure developed for this study is a country-level measure in which overall fragility reflects an accumulation of scores on a range of effectiveness and legitimacy indicators. It provides a comprehensive fragility measure while avoiding use of existing fragility measures that include environmental indicators<sup>2</sup> and thus should not be overlaid on climate stressors. The measure assesses state effectiveness and legitimacy in the political, security, economic, and social spheres (Table 2).

<sup>2</sup> See, for example, the Fragile States Index at [www.fundforpeace.org/fsi](http://www.fundforpeace.org/fsi).

Effectiveness indicators assess the capacity of public-sector institutions and practices. Legitimacy indicators assess the degree of direct or indirect public support for government arrangements, officials, and practices. Based on the accumulation of these scores, each state is given an overall fragility score and classified in one of five fragility categories: *low*, *some*, *moderate*, *high*, and *highest* fragility (Table 3).<sup>3</sup> This report emphasizes highly fragile states, defined here as those in the *highest* and *high* fragility categories in 2014.

This fragility measure includes countries with populations over 500,000, as this is the population threshold for some of the underlying indicators used to create it. Some countries with populations under this threshold, which are thus not captured in this fragility measure due to data availability, may still face fragility risks (like the Solomon Islands) or climate risks (like Kiribati and other small, low-lying island nations).

Table 3. Fragility Categories with Examples of Countries at Each Level

FRAGILITY	EXAMPLES OF COUNTRIES AT EACH FRAGILITY LEVEL
Highest	Sub-Saharan Africa: Central African Republic, Chad, DRC, Eritrea, Mali, Nigeria, Republic of the Congo, Somalia, South Sudan, Sudan, and Zimbabwe Middle East: Iraq and Yemen Southern Asia: Afghanistan, Burma, and Pakistan
High	Sub-Saharan Africa: Angola, Burundi, Cameroon, Côte d'Ivoire, Equatorial Guinea, Ethiopia, Guinea, Guinea-Bissau, Niger, Sierra Leone, and Uganda Middle East and North Africa (MENA): Egypt, Iran, Libya, Mauritania, and Syria South and Southeast Asia: Cambodia, India, Laos, and Timor Leste Western Hemisphere: Colombia and Haiti Eurasia: Ukraine
Moderate	Sub-Saharan Africa: Kenya, Liberia, Madagascar, Mozambique, Rwanda, Senegal, and Tanzania North Africa: Algeria South and East Asia: Bangladesh, China, and the Philippines Western Hemisphere: Bolivia, Cuba, Ecuador, Honduras, and Venezuela Eurasia: Azerbaijan, Russia, Turkmenistan, and Uzbekistan
Some	Sub-Saharan Africa: Benin, Burkina Faso, Djibouti, Gambia, and Malawi Western Hemisphere: Guatemala, Mexico, and Paraguay Eurasia: Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan

Note: This report focuses on highly fragile states falling in the *highest* and *high* fragility categories.

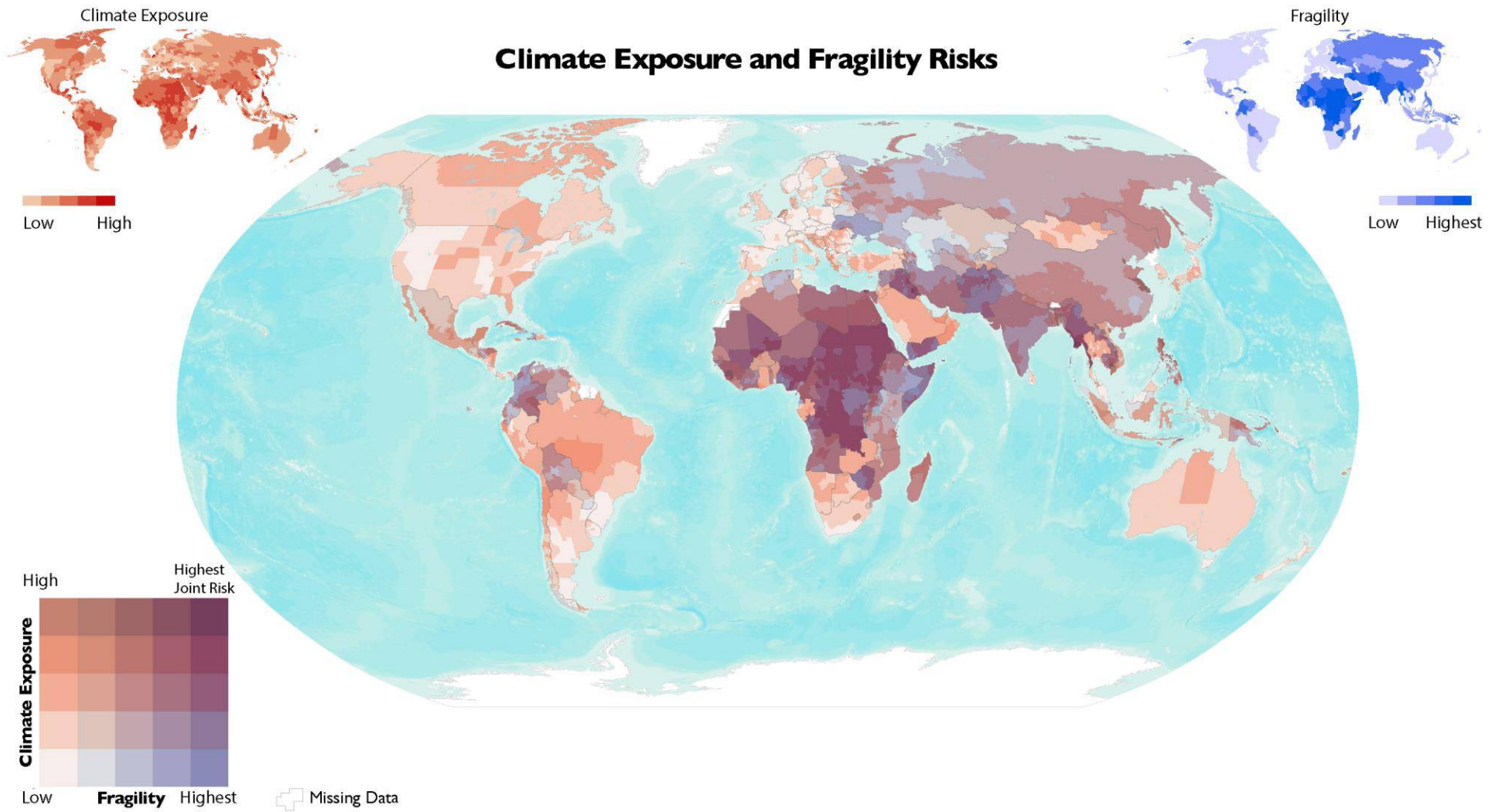
Data source: Kishi and Linke 2016.

## MAPPING CLIMATE EXPOSURE AND FRAGILITY RISKS

Figure 1 shows the distribution of climate exposure, fragility, and the nexus of fragility and climate risks around the world. This map allows comparison of countries across all fragility categories on a single map. However, it loses some granularity in the subnational climate exposure data, which must be aggregated to be combined with the fragility data. Additional maps showing higher levels of granularity in the subnational climate exposure data are available in the [full report](#).

<sup>3</sup> This study uses open-source data to create a fragility measure that is similar in composition and outcome to USAID's internal methods and framework for analyzing fragility (see USAID 2005 and ARD Consortium 2005). See Appendix B in Moran et al. 2018d.

Figure 1. Distribution of Climate Exposure (top left), Fragility (top right), and Compound Fragility-Climate Risks (center)



Climate exposure data sources: Global Precipitation Climatology Centre; UNEP/GRID-Europe; Viewfinder Panoramas  
 Fragility data sources: 2014 data from Center for Systemic Peace; CIA; Gibney et al.; Kaufmann, Kraay, and Mastruzzi; Miller, Holmes, and Kim; Pilster and Böhmelt; Political Instability Task Force; Marshall, Gurr, and Jagers; U.S. Committee for Refugees and Immigrants; World Bank; Compilation of armed conflict datasets and consultations with conflict experts

# SUMMARY OF FINDINGS

This study seeks to identify the locations where fragility and climate risks intersect globally. Since places with compound fragility-climate risks may be more vulnerable to humanitarian emergencies or instability, understanding the distinct fragility and climate challenges they face could present opportunities and focal points for intervention. To do so, this study examines both population and territory exposed to climate risks in fragile states.

This research does not seek to establish a causal relationship between climate exposure and instability, in part because the varied timeframes and spatial resolutions across the exposure and fragility data do not lend themselves to that kind of analysis. Moreover, evidence suggesting that conflict occurs as a direct result of climate-related or climate-sensitive factors is contested in the broader literature<sup>4</sup>; scholars and practitioners are increasingly studying the indirect pathways between climate stressors and conflict outcomes through factors such as economic growth, food prices, and migration. **Explicitly considering state fragility in this analysis is thus key, as a government's ability to manage these economic and social processes can impact whether a population becomes more or less vulnerable to the climate risks it faces.** Analyzing compound fragility-climate risks can highlight how these factors interact and also how they manifest in individual countries. The following key findings contribute to a better understanding of both risks and opportunities for intervention.

1. Most highly fragile states have a large number of people and/or a significant share of the population facing high climate risks.

While highly fragile states as a group do not have a disproportionately larger percentage of their populations exposed to higher climate risks than non-fragile states, in fragile states that *do* have larger numbers of people exposed, the numbers are significant. A majority of highly fragile states, 26 out of 39, have a large number of people and/or a large proportion of the population living in *high* exposure areas (Table 4).

*Large numbers of people:* Twenty-one highly fragile states have more than 1 million people facing *high* climate exposure (only the top ten are shown in Table 4). These states are predominantly located in sub-Saharan Africa. Nine highly fragile states have more than 1 million people facing not just *high* but *very high* climate exposure. Notably, these states with large numbers of people facing *very high* climate exposure are primarily in South and Southeast Asia and in the MENA region.

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<sup>4</sup> Adger et al. 2014.

Table 4. Highly Fragile States with Large Numbers of People in High or Very High Exposure Areas

	Number of people in <i>high</i> climate exposure areas		Number of people in <i>very high</i> climate exposure areas
India	118.6 million	India	44.1 million
Nigeria	41.4 million	Egypt	13.7 million
Egypt	33.2 million	Burma	8 million
DRC	19.4 million	Nigeria	4.5 million
Burma	15.9 million	Cambodia	3.1 million
Cameroon	8.1 million	Iraq	2.3 million
Guinea	7.2 million	Pakistan	1.7 million
Cambodia	6.8 million	Iran	1.1 million
Pakistan	6.5 million	Colombia	1.04 million
Sierra Leone	5.6 million		

Data sources: Kishi and Linke 2016; Smith, Krishnan, and Busby 2016.

*Large proportions of the population:* In eight highly fragile states, more than 25 percent of the population lives in *high* climate exposure areas. In six highly fragile states, at least 10 percent of the population lives in *very high* climate exposure areas (Table 5).

Table 5. Highly Fragile States with Large Portion of Population in High or Very High Exposure Areas

	Proportion of population in <i>high</i> climate exposure areas		Proportion of population in <i>very high</i> climate exposure areas
Sierra Leone	100%	Cambodia	20%
Guinea	64%	Mauritania	18%
Cambodia	45%	Egypt	16%
Cameroon	39%	Burma	15%
Egypt	39%	Sierra Leone	11%
Burma	29%	Libya	11%
Mauritania	28%	<i>Global average</i>	6%
DRC	26%		
<i>Global average</i>	14%		

Data sources: Kishi and Linke 2016; Smith, Krishnan, and Busby 2016.

Importantly, several moderately fragile states (e.g., Bangladesh, China) have among the largest numbers of people facing *very high* exposure. In the case of Bangladesh, these numbers also represent a sizable portion of the population. While these states are not highly fragile today, climate hazards place an extreme stress on their populations, creating broad additional requirements for states that are already experiencing enough other stressors to place them in the *moderate* fragility category. If fragility worsens, these states will have large numbers of people made more vulnerable to the *very high* exposure risks they face.



## 2. Several highly fragile states have extensive land areas at risk.

Another way to assess compound fragility-climate risks is by the extent of territory in fragile states that is highly exposed to climate hazards. Most of the highly fragile states with large land areas facing high exposure are in sub-Saharan Africa, with the remainder located in Asia and North Africa and one in Latin America (Figure 1). Four of these states—Burma, Cambodia, Guinea-Bissau, and Sierra Leone—have sizable portions of territory facing not just *high* but *very high* climate exposure (Table 6).

Table 6. Highly Fragile States with Large Portion of Territory in Very High Exposure Areas

	Proportion of territory in <i>very high</i> climate exposure areas	Population implications
Sierra Leone	18% of territory	Fewer than 1 million people (11% of population) in this area
Cambodia	11% of territory	3.1 million people (20% of population) in this area
Guinea-Bissau	9% of territory	Fewer than 1 million people (6% of population) in this area
Burma	5% of territory	8 million people (15% of population) in this area

Data sources: Kishi and Linke 2016; Krishnan, Busby, and Smith 2016.

## 3. Multiple and overlapping climate stressors often affect the same population and location.

Populations in *high* and *very high* climate exposure areas face not just a single type of climate stressor but *several* overlapping climate stressors in that location—from riverine flooding and coastal inundation to droughts and wildfires. However, the specific climate risks vary across highly fragile states with large populations in *very high* climate exposure areas, as Figure 2 shows.

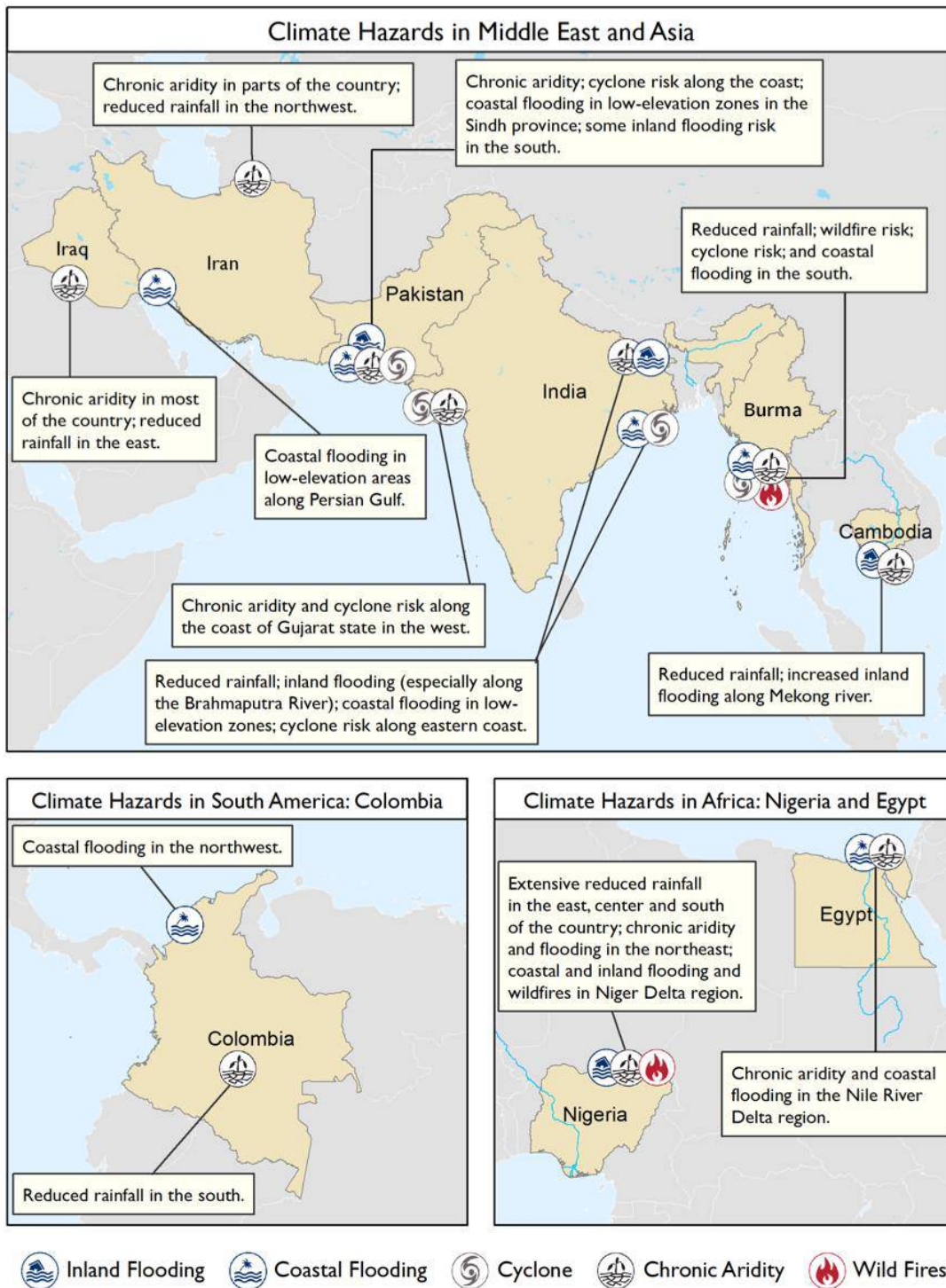
## 4. Single climate stressors can be just as damaging to some fragile states as multiple hazards.

This study seeks to identify highly fragile states with high exposure to *multiple* climate stressors. However, it is important to note the few highly fragile states that face high exposure to a *single* climate stressor to a degree that risks exceeding their capacity to address it. These states do not show up as highly exposed in terms of the multi-hazard climate exposure emphasized in this study, yet this is an additional aspect of compound fragility-climate risk policy makers should consider. In the *highest* fragility category, examples include:

- *Yemen*, which has high chronic aridity in much of its territory, relatively nascent state institutions challenged by ongoing civil conflict, and deep societal insecurities stemming from poor water management policies and inequitable access to water resources;
- *Mali*, which has high chronic aridity over much of its territory, compounded by deep social tensions and multiple long-term conflicts involving the state and varied nonstate actors; and
- *Republic of the Congo*, which has experienced reduced rainfall over much of its territory in the last 25 years alongside poor economic development and recurrent political instability.



Figure 2. Examples of Overlapping Climate Stressors in Fragile States



Note: These maps are intended to provide examples of climate stressors in several highly fragile states across the globe and are not a comprehensive description of all climate hazards in all highly fragile states. Detailed maps of subnational climate risks are available in this study's full report (Moran et al. 2018d).

Data sources: Busby et al. 2016; Krishnan, Busby, and Smith 2016.

5. States with similar climate risk profiles can experience different types of conflicts.

The geography of conflict suggests that there is not a direct relationship between exposure to climate risks and the distribution of conflict.<sup>5</sup> If conflict *were* clearly driven by climate changes, one would expect patterns in the forms, locations, and goals of conflict to align with particular climate patterns. However, considerable heterogeneity arises in conflict patterns across regions that environmental factors alone cannot explain. This finding underscores the role that governance plays in the development of conflict, and it also highlights the analytical value of understanding compound fragility-climate risks. This is seen in several ways.

First, even in states with similarly high compound fragility-climate risks and similar rates of political violence, conflict differs greatly. This underscores that the politics that give rise to competition in one country are unlikely to be the same as those in another country. This can be seen in the Sahel, where:

- *Ethiopia* hosts longstanding rebel conflict and experiences new conflict pressures related to representation and land planning;
- *Sudan* struggles with local, armed organization against the state as well as with political challenges emerging from elite conflict and disputes with civil society;
- *Chad* hosts “overflow” conflict from neighboring states; and
- *Mali* experiences accumulated challenges from Islamist, secessionist, elite, and civil society contentions.

Second, **some states with high compound risks, such as India, experience higher rates of “social” or “civic” conflict, such as** riots and protests, in areas where the reach of the state is sufficient to address challenges. A high rate of these types of instability can suggest that the basis for positive state-society relationships is present, but the mechanisms for communication and reform require further support.

Third, several states with high compound fragility-climate risks host multiple, long-term conflicts. Examples include DRC, Nigeria, Pakistan, and Sudan. These patterns of very high, sustained political violence challenge and exert pressure on **institutions at all levels, from national to local. The state’s** failure to reduce the violence suggests that national institutions are too weak to address the key political, economic, and social issues that lead to conflict.

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<sup>5</sup> See Figure 7 in Moran et al. 2018d, which shows that different types of conflict occur in places facing similar climate risks and, further, that **conflict occurs in places that face climate risks as well as those that do not. This aligns with the IPCC’s 2014 report, which** concluded that there is not consistent evidence that conflict occurs as a direct result of climate-related or climate-sensitive factors; see Adger et al. 2014.

# OPPORTUNITIES FOR DEVELOPMENT PRACTITIONERS

Understanding where fragility and climate exposure overlap and interact can help identify interventions to reduce compound risks. Among states with high compound risks, three groups emerge from the analysis as having extensive but distinct exposure challenges. These groups offer opportunities for engagement and/or intervention. While the key findings of this research focus on highly fragile states, opportunities exist to catalyze change in countries across the fragility spectrum.

## GROUP 1: ACT NOW AND LEVERAGE FINANCE

These are <i>highly fragile</i> states where more than 1 million people, more than 10% of the population, and a sizable portion of territory face <i>very high</i> or <i>high</i> climate exposure.	
Examples of countries in this group:	
Burma, Cambodia	Very high climate exposure
Angola, Cameroon, Chad, DRC, Egypt, Guinea, Iraq, Libya, Nigeria, Sierra Leone, South Sudan, Sudan, Uganda	High climate exposure

### IMPLICATION

Climate hazards place extreme stress on these states in terms of the population and land area exposed, which could narrow livelihood choices and place broad additional requirements on already fragile states. Addressing exposure risks dispersed over a sizable portion of the territory is likely to require significant investment. Nevertheless, the large *numbers* of people affected could draw international investments and offer political incentives to act, and large *percentages* of populations affected could draw domestic political will to respond to public needs. This creates potential for aligning international and domestic priorities and leveraging key sources of finance while ensuring conflict sensitivity is enshrined in the approach.

### EXAMPLE

Nigeria faces among the highest compound fragility-climate risks globally. It has very high fragility and suffers from **ongoing conflict that severely limits the state’s ability to respond to climate challenges. At the same time, environmental stress contributes to the severity of land conflicts and food shortages the country now faces. Nigeria’s current crisis in the North**, for example, reflects internationally declared emergency conditions and famine risks that are not caused by climate factors alone but also by longstanding environmental stress coupled with poor national management of the security, economic, and social conditions in that region. While the North endures chronic aridity and high overall climate exposure, this famine risk appears to be primarily driven by political violence that disrupts harvests and

aid supplies, rather than by climate factors alone. Likewise, the escalating security situation in the Middle Belt involves a highly climate-exposed region where the state has provided only limited response to growing food insecurity and ongoing tensions between Fulani herders and non-Fulani farmers over the use of land and water resources. Similarly, rising tensions in the climate-exposed Niger Delta reflect a longstanding secessionist movement driven in large part by disputes over state management of oil revenues, deteriorating environmental conditions, and economic development challenges.

While Nigeria is pursuing climate actions through international frameworks for national adaptation **planning, the country’s ability to address its widespread, diverse climate risks depends greatly on its state capacity and societal resilience.** Yet, **the country’s fragility** has increased considerably in recent decades. **Nigeria’s crises in the North, Middle Belt, and Niger Delta highlight how compound risks can heighten populations’ insecurity by increasing their vulnerability to humanitarian emergencies and conflict.** **Nigeria’s ongoing crises also highlight that opportunities to change the country’s trajectory do exist,** particularly at the institutional level, and may be best leveraged in nontraditional ways that can yield benefits for both peace and climate adaptation.<sup>6</sup>

## GROUP 2: IDENTIFY TARGETED AND PRIORITIZED INVESTMENTS

These <i>highly fragile</i> states have either a large number of people <i>or</i> large proportion of the population facing <i>very high</i> climate exposure, concentrated in small portions of the state.	
Examples of countries in this group:	
Colombia, Egypt, India, Iran, Iraq, Libya, Mauritania, Nigeria, Pakistan	Very high climate exposure

### IMPLICATION

The concentrated nature of this *very high* climate exposure could be an opportunity to prioritize targeted interventions that address the specific climate risks affecting a large population in a very small area. Yet many states in this group also have chronic, unaddressed risks from high exposure in less densely populated parts of the state. Interventions in these states should thus consider not only high-profile, densely populated areas but also less densely populated, high exposure areas where national fragility dynamics impede effective responses.

### EXAMPLE

Colombia experiences *very high* climate exposure concentrated in small portions of the country and *high* fragility that stems largely from political violence related to both longstanding and new sources of conflict. In the populous coastal Colombian city of Barranquilla, a large number of people in a concentrated area face *very high* exposure to routine flash flooding. Positioned in a low floodplain next to the Magdalena River Delta, the city faces substantial flooding risks from storm surge and riverine flooding, which is made worse by limited government planning and responses to address these risks. For example, the city lacks rainwater storm drains, so the population experiences flash flooding through city

<sup>6</sup> See Moran et al. 2018c for this study’s report on Nigeria.

streets during heavy rains. This combination of climate risks and state mismanagement leads to loss of life, infrastructure damage, and decreased economic productivity. The concentrated nature of this population exposure could be an opportunity for targeted interventions to address specific climate risks **affecting a large population in a very small area**. **Colombia’s effective political institutions, well-developed social service delivery systems, and strong regulatory foundation for economic policy position the state to improve its regulatory capacity in the other areas where it is currently deficient and to effectively address these issues.**<sup>7</sup>

### GROUP 3: MONITOR EARLY AND AVOID ESCALATION

These <i>moderately fragile</i> states have <i>very high</i> climate exposure.	
Examples of countries in this group:	
Bangladesh, China, Ecuador, the Philippines, Russia, Venezuela	Very high climate exposure

#### IMPLICATION

Moderately fragile states like China, Ecuador, Russia, and Venezuela have acute risks with a large number of people or a large proportion of the population facing *very high* climate exposure in a concentrated **portion of the state’s territory**. **Other moderately fragile states like Bangladesh and the Philippines face a confluence of risks, with a large number of people, a large proportion of the population, and a large land area facing *very high* climate exposure.** Climate hazards thus place extreme stress on these states that are already experiencing other substantial stressors that place them in the *moderate* fragility category. If fragility worsens, and these states are not able to effectively address the climate risks in these areas, large numbers of people could become more vulnerable to the very high climate risks they already face.

#### EXAMPLE

Bangladesh is widely recognized as facing among the highest levels of climate exposure globally. Yet its resilience depends not only on building its capacity to address its specific climate risks, but also on mitigating the fragility risks that prevent the state from operating in an effective and responsive way. Instability in the country stems from a national conflict between two political parties, urban public discontent, and rural communal violence. The national conflict between rival political parties has been accompanied by cycles of violence during elections and by increasing activity from extremist groups capitalizing on the political turmoil to gain ground. These growing political and security challenges have left the state unable to maintain consistent control in urban areas and uninvolved in managing land conflicts in rural areas—both areas that face myriad and growing climate hazards. This combination of domestic forces is made even more precarious by the recent influx of Rohingya refugees from Burma, who are now living in overcrowded tent camps in highly climate-exposed areas along Bangladesh’s southeast coast. Thus, while Bangladesh has built state capacity to respond to climate hazards like cyclones and floods and has reduced state fragility in the social and economic spheres, continued **progress could be hampered if the state’s fragile political and security situation is not addressed.**<sup>8</sup>

<sup>7</sup> See Moran et al. 2018b for this study’s report on Colombia.  
<sup>8</sup> See Moran et al. 2018a for this study’s report on Bangladesh.

# RECOMMENDATIONS FOR POLICY MAKERS

The instability associated with fragile states, which is generally a product of ineffective and/or illegitimate governance, is exacerbated by climate- and weather-driven pressures. For identifying development solutions, it is therefore notable that across all levels of fragility, countries have on average larger deficits in legitimacy than in capacity.<sup>9</sup> In other words, deficits in the legitimacy of the state—reflecting public perceptions that the state is unwilling or unable to meet public needs—contribute more to the fragility of states, on average, than capacity deficits do. Across nearly all states assessed to have high compound fragility-climate risks, state legitimacy remains poor. This insight offers an important opportunity to policy makers. It suggests that state actions designed to respond to the public interest in reducing climate vulnerability could have the dual effect of reducing climate risks and also boosting perceptions of legitimacy, thereby reducing fragility. With that in mind, opportunities to reduce or mitigate compound fragility-climate risks include:

Take advantage of opportunities to increase perceptions of governance legitimacy, including where lack of attention or investment is generating grievance, through timely, rapid, and effective responses to weather- and climate-induced risks to affected populations. Building preparedness capacity to address climate risks from floods, for example, can render the impacts of these events less deadly and less costly over time. Such investments also reinforce **the state's efforts to address climate challenges more proactively than reactively**. At the same time, this can contribute to increased state effectiveness and, if done in ways that are perceived as responding to public interest, can also enhance perceptions of legitimacy where all affected populations benefit from government support.

Focus on core areas of strength where the state has the greatest capacity to respond. The strongest facets of governance in a state (whether in the political, security, economic, or social spheres) present an opportunity for action to reduce fragility. Colombia, for example, demonstrates consistently strong effectiveness in the social and political spheres. Those advantages, combined with its improving legitimacy in the economic sphere, reflect core areas of strength where the state has greater capacity to advance policies to address public needs. As such, the country can draw on its political institutional capacity to adopt—and its social service capacity to implement—policies aimed at preventing climate hazards from becoming disasters, thereby reducing risks from both fragility and climate challenges. For example, on the climate side, planning, zoning, and environmental policies to address specific climate risks for each region can reduce vulnerabilities, while establishing a legislative framework that discourages internal conflict displacement into high climate exposure areas.

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<sup>9</sup> For examples of this trend, see this study's Bangladesh and Nigeria reports in Moran et al. 2018a and Moran et al. 2018c.

Focus on actions that reduce both fragility and climate exposure. **Colombia's experience** underscores how compound fragility-climate risks can heighten the insecurity of populations by increasing their vulnerability to humanitarian emergencies. In highly fragile states with a large number of people facing *very high* climate exposure in a small area—as in Barranquilla—the concentrated nature of this population exposure is an opportunity to build institutional capacity to deliver a targeted outcome that benefits many people. To take advantage of expertise and momentum, these targeted interventions could be extended to less densely populated parts of the country that also face risks from high climate exposure exacerbated by ineffective government management of those risks.

Integrate climate adaptation measures into activities focused on governance strengthening, conflict reduction, and other programs targeting fragility. Examining compound fragility-climate risks may present a broadened set of strategies for reducing fragility. For example, in Nigeria, poor state legitimacy contributes more to state fragility than poor state effectiveness does. State actions that are perceived as fair and also respond to public needs to reduce climate vulnerabilities, such as investments aimed at improving equal access to clean water, could reduce both climate risks and the legitimacy deficits that drive fragility in Nigeria.

Focus on local governance and political dynamics to understand how instability may emerge. Within this context of overlapping risks, it is critical to note that future instability may be characterized less by large-scale battles between organized groups and more by increasing disorder that is low-level, persistent, and diffuse, perpetuated by agents ranging from the local to the international. Understanding how compound fragility-climate risks can contribute to future instability thus requires determining the links between local groups, their operations, and their relationships to larger national or international groups; determining the goals and constraints of these groups and how these tie into the local landscape of instability; and, finally, determining the likelihood that social improvements will reduce the resilience of extreme ideologies and recourse to violent conflict. In the near term, analysts should expect more instability due to the increasing number of political transitions and challenges to power. The risks of instability in particular states are embedded in forms of governance and existing political competition locally, nationally, and regionally—all of which can be affected by the kinds of strains that climate stress and fragility can place on people and their governments.



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