

Climate Change, Resource Scarcity, and Security: Identifying Coastal Vulnerabilities and Building Resilience to Ocean Risk

"Climate change is a menace to livelihoods, to property, and to business, not least insurance companies....All these risks mean poverty will worsen and people will be forced to move from degraded lands to cities and other nations. That is why military minds around the world take climate change very seriously indeed as a threat multiplier with direct consequences for peace and security." United Nations Secretary General, António Guterres

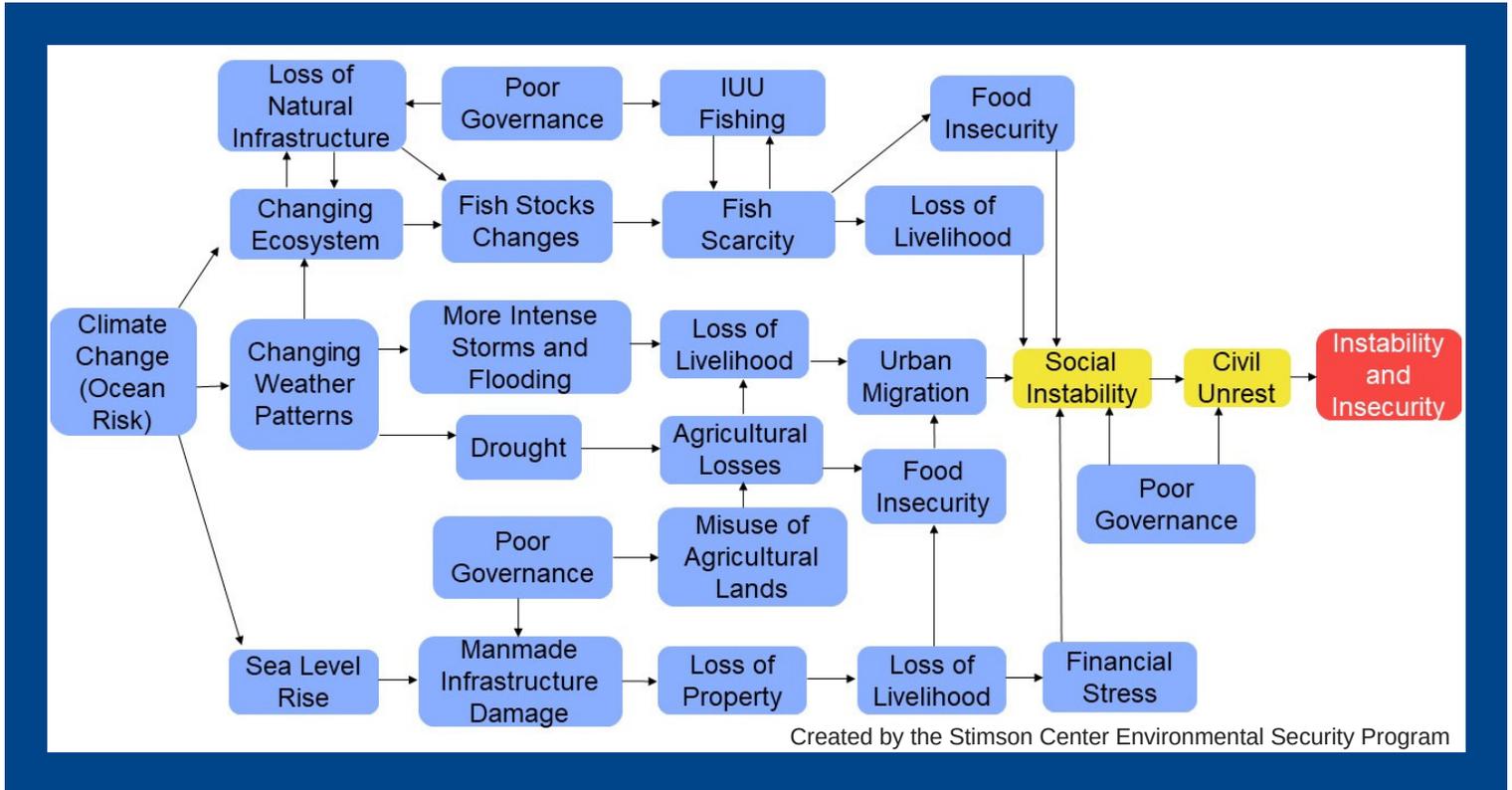
Climate change is producing more intense storms, droughts, rising sea levels, and impacting the fisheries that many rely on as their main source of food and jobs. Across many developing nations, drought is causing farmers, herders, and rural populations to migrate to cities. According to the UN, urban populations are expected to grow by 2.5 billion by 2050 with over 90% of the growth occurring in Africa, Asia, Latin America, and the Caribbean. Yet with 13 of the world's 20 largest cities located on the coast, and more than a third of the world's population living within 60 miles of the coast, urban coastal centers are facing increased ocean and climate-related risks and instability.

Climate change is already causing problems in coastal cities with more frequent floods and more extreme storms. The pressures on coastal regions, especially in the developing world, have the potential to increase social and political tensions thereby threatening the stability and security of these areas.

In 2013, in the Philippines, 6,000 people were killed from Typhoon Haiyan in which storm surges were estimated to be as high as 20 feet. After the storm, areas lacked food and critical supplies, which led some desperate citizens to attack and loot relief convoys. In the low-lying coastal city of Lagos, Nigeria, the population has grown from roughly 7 million people in 2000 to 21 million in 2017. In a recent USAID report, 70% of the 21 million people live in informal settlements, many of which sit along the waterfront. Flooding in Lagos will become more frequent as the effects of climate change are felt, and extreme and frequent flooding could displace millions of people, especially the most at-risk populations living near the waterfront. The destruction caused by storms and flooding, coupled with an influx of people to urban areas, not only threatens the safety of more people, but it also strains the government's ability to provide basic services to its citizens – ultimately fostering civil discontent, instability, and even conflict.

Climate change not only impacts people and the infrastructure of coastal nations and cities, but it also affects the health of coastal ecosystems including fisheries. Approximately 17% of the world relies on fish as their main source of protein, while in many coastal countries it can top 50-75%. In those places, communities are threatened by unsustainable and illegal fishing practices which further jeopardize their economic wellbeing and food security. Developing coastal nations, which often lack sufficient governance to enforce sustainable fishing, are even more vulnerable to fisheries loss.

Climate Change, Ocean Risk, and Coastal Security Causal Chain



When illegal fishing, climate change, and urban migration come together in coastal geographies, the associated risks can create social and economic issues for many developing coastal nations and threaten their overall stability and security. Building greater resilience to ocean risks requires an understanding of the interplay between social, economic, and environmental factors.

IN A NEW INITIATIVE

The Stimson Center, with support from AXA XL and other partners, will examine the interrelated issues to identify the coastal regions, countries, and cities most at risk to the effects of climate change and illegal fishing. Focusing first in the Caribbean countries of Jamaica and Saint Lucia, and later expanding to Southeast Asia and Africa, the Stimson Center's Environmental Security program will conduct research and build the tools to help governments and businesses predict and manage these risks. Stimson will investigate the issues through a holistic lens, focusing on interrelated factors, cumulative impacts, and associated drivers to quantify and better understand the security vulnerabilities in coastal developing nations. Using this threat matrix, Stimson will identify the geographic hot spots most vulnerable to instability and insecurity. Ultimately, the project will develop an Ocean Risk and Vulnerability Index and predictive threat maps that can be used by government and industry decision-makers to understand how best to build resilience into their policies and investment decisions, as well as design solutions that enable them to plan ahead for ocean risk scenarios so that they can mitigate these threats around the world.

About The Stimson Center

The Stimson Center is a nonpartisan policy research center working to protect people, preserve the planet, and promote security and prosperity. Please contact Sally Yozell for more details (syozell@stimson.org).

