

Sri Lanka

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Introduction

Sri Lanka is a small island nation with a tropical climate located below the southern coast of India in the Indian Ocean. As a low-lying island, Sri Lanka is particularly vulnerable to the impacts of climate change through monsoons, sea level rise, and storm surges, especially along its coast. The economy is primarily based on the agricultural and manufacturing sectors which are mostly located in coastal regions. Climate change is likely to increase the frequency and intensity of extreme climatic events threatening food and water security as well as economic growth of the country.^{1,2}

As Figures 1 through 5 highlight, Sri Lanka has relatively low exposure to the impacts of climate change. The country primarily experiences climate related hazards from monsoons and cyclones along the northeast coastline as well as droughts in the southwest part of the island (see figure 2). In addition, high population density around the largest city, Colombo (see figure 3), and poor governance (see figure 5) lead to a high proportion of the population exposed to climate change risks.³ Calculations under the CEPASA program indicate that approximately 15% (i.e., 3.2 million people) of the country's population faces above average exposure. Further, roughly 4% (i.e., 900,000) of the country's population faces exposure 1 standard deviation above the regional mean.⁴

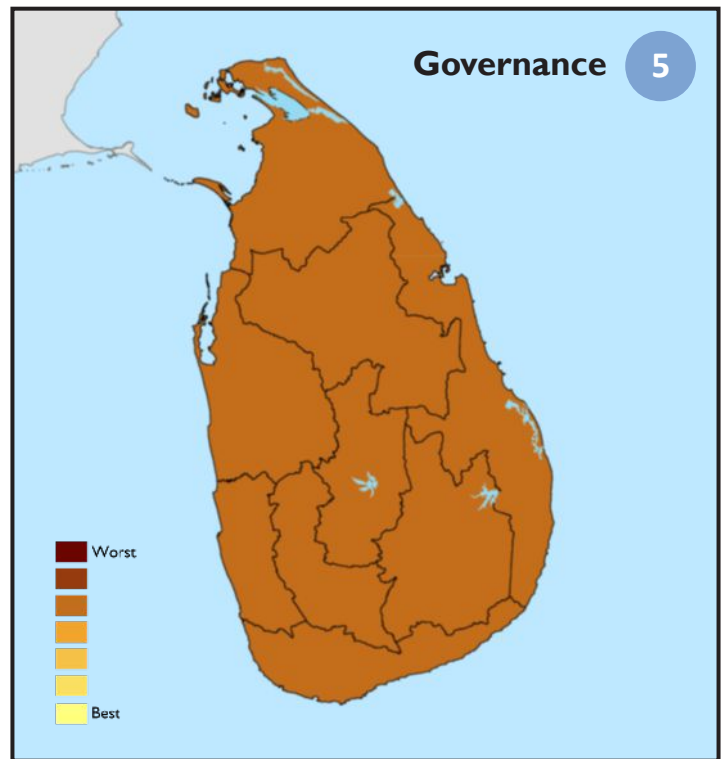
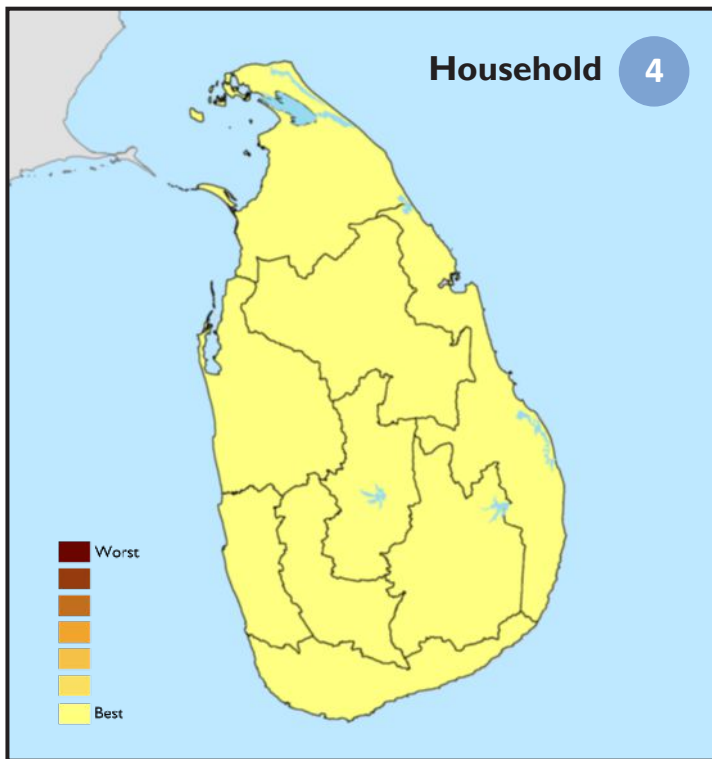
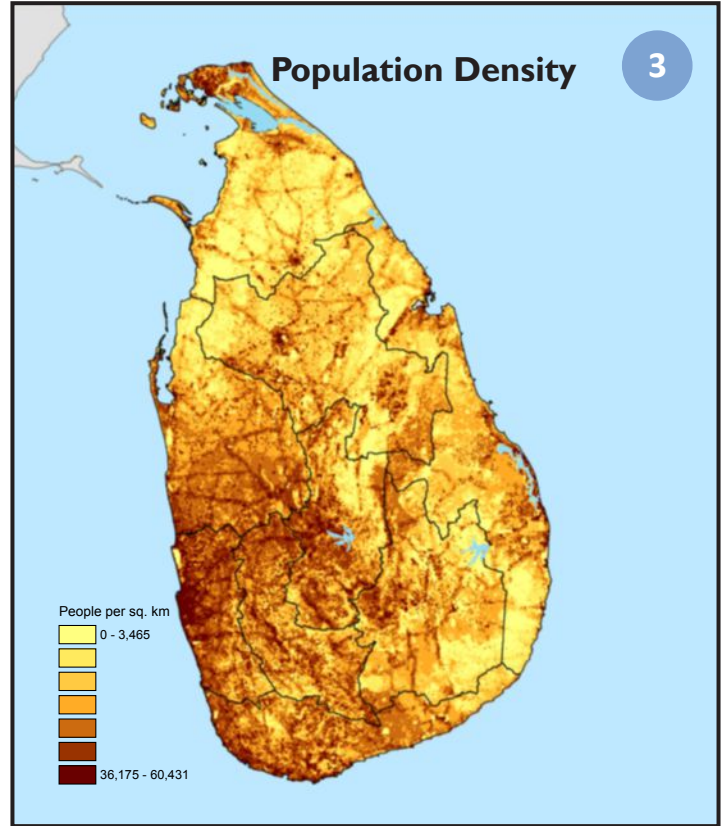
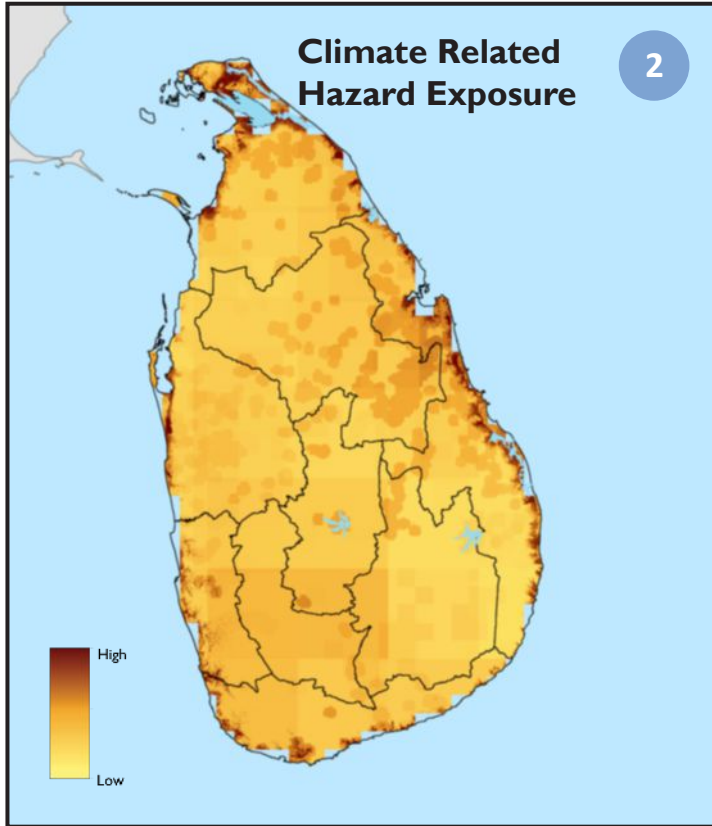
Natural Disasters and Climate Change Vulnerability

Sri Lanka is affected by yearly cycles of floods and droughts made more extreme by climate change. During the monsoon season, floods kill hundreds, displace thousands, and destroy livestock, stored food, agriculture, and infrastructure. Since 2000, Sri Lanka has experienced 28 different flooding and landslide events mostly caused by monsoon and cyclone events.⁵ In May of 2016, Cyclone Roanu hit Sri Lanka with the heaviest rains in a quarter century leading to mudslides, floods, and the displacement of 300,000 people and 200 deaths. The Sri Lankan Red Cross and military had to step in to provide emergency help to the affected areas, airdropping food and rescuing people from floodwaters.⁶

Drought also plagued the country in 2001, 2012, 2014, and 2016. During the winter of 2016- 2017, more than a million people experienced acute water shortages. In the south-central village of Kaluganga alone, more than 200,000 people were affected, lacking even access to clean drinking water. Drought conditions affected both agricultural yields as well hydropower. Normally during the winter the country would get at least 40% of its electricity from hydropower but as a result of the drought the country had to get 80% of its electricity



Data Sources: KOF Index of Globalization; World Bank World Governance Indicators; Political Instability Task Force (PITF); Polity IV Project; World Bank World Development Indicators; USAID Demographic and Health Surveys; UNICEF Multiple Indicator Cluster Surveys; Center for International Earth Science Information Network; UNEP/GRID-Europe; Viewfinder Panoramas; LandScan; Princeton University Terrestrial Hydrology Research Group



from coal and oil.⁷ According to the Disaster Management Center (DMC), only around 300,000 hectares out of a possible 800,000 of rice paddies were cultivated, largely because of a lack of irrigation water. A joint World Food Programme and government survey showed that “one out of five farmers and one out of four farm laborers is now classified as food insecure in the drought region.”⁸

The country’s disaster management agencies have failed to issue alerts or evacuation warnings during disasters in the past. To deal with the coming problems due to drought and flooding, Sri Lanka created a National Adaption Plan for Climate Change Impacts (NAP) in 2015 to be implemented over a ten year horizon. The NAP aims to mainstream the climate change adaptation to sustainable development of the country.⁹

External Assistance

Sri Lanka received a total of \$23.1 billion in foreign aid between 2000-2013 with \$1.9 billion going towards over 2,000 climate change adaptation and disaster reduction projects.¹⁰ Various nations, including India, Australia, Nepal, and Japan, have brought in aid supplies such as blankets, water purification tablets, and drinking water after major flooding events. Other aid has gone towards larger rebuilding and emergency preparedness projects. In 2015, the World Bank Board approved a \$165 million credit for Sri Lanka to increase access to piped water services and improved sanitation.¹¹ USAID has initiated a \$1 million program to provide safe disaster-resilient drinking water to local communities in Sri Lanka, expanding upon previous projects that have provided sustainable access to drinking water to those areas prone to droughts and floods.¹²

Sri Lanka is of particular interest to the U.S., China, and other major powers since more than 80% of the global seaborne oil trade transits through the Indian Ocean. The island sits in a region that will form the center of future world politics, strategy, and economics.¹³ Many countries maintain favorable foreign relations with the Sri Lankan government through development and disaster aid as well as maintaining strong commercial ties.

Governance

On May 18, 2009, after more than 26 years of conflict between the Sinhalese majority and the Tamil minority in the northeast, the Sri Lankan government defeated the Liberation Tigers of Tamil Eelam (LTTE). During the war, the LTTE had a history of attacks against civilians. Now, after years of violence in the northeast of the country and violence from the government, the country now no longer faces armed struggles.¹⁴ Since the end of the conflict, the government has been pursuing large-scale reconstruction and development projects to increase growth in war-torn areas. Sri Lanka has experienced strong economic growth after the end of the conflict as a result of peace and strategic policy for reconstruction and growth.¹⁵ Sri Lanka must now focus on climate change related disaster mitigation and adaption to prepare for future effects of droughts and storms on its people and economy.

Endnotes

- ¹ Global Facility for Disaster Reduction and Recovery (2011). Vulnerability, Risk Reduction, and Adaptation to Climate Change: Sri Lanka. Available at: http://sdwebx.worldbank.org/climateportalb/doc/GFDRRCountryProfiles/wb_gfdr气候_change_country_profile_for_LKA.pdf
- ² Economy Next (2016). Sri Lanka Export Crops At Risk of Climate Change. Available at: http://www.economynext.com/Sri_Lanka_export_crops_at_risk_of_climate_change-3-5603.html
- ³ Further explanation of our approach can be found in Busby et al. (2016)'s Climate Security Vulnerability in Asia v1.0. Available at: <https://www.strausscenter.org/cepsa-research-briefs?download=627:climate-security-vulnerability-in-asia-1-0>
- ⁴ These estimates were calculated using LandScan (2014) and our overall exposure layer.
- ⁵ CRED (2017). EM-DAT The International Disaster Database. Available at: http://www.emdat.be/advanced_search/index.html
- ⁶ The Guardian (2016). Sri Lanka landslides kill at least 73 with scores more missing. Available at: <https://www.theguardian.com/world/2016/may/21/sri-lanka-landslides-torrential-rains>
- ⁷ Al Jazeera (2017). Sri Lanka Hit By Worst Drought In Decades. Available at: <http://www.aljazeera.com/news/2017/01/sri-lanka-drought-170122092517958.html>
- ⁸ Reuters (2017). As Drought Slashes Rice Harvest, 900,000 face hunger in Sri Lanka. Available at: <http://www.reuters.com/article/us-sri-lanka-drought-hunger-idUSKBNI6K1HW>
- ⁹ Ministry of Mahaweli Development and Environment (2015). National Adaptation Plan for Climate Change Impacts in Sri Lanka. Available at: http://www.climatechange.lk/NAP/NationalAdaptationPlan_RevisedFinal.26.10.2015.pdf
- ¹⁰ AidData. Available at: <http://aiddata.org/dashboard#/advanced/project-list>
- ¹¹ The World Bank (2015). World Bank Supports Increased Access to Safe Drinking Water and Improved Sanitation in Sri Lanka. Available at: <http://www.worldbank.org/en/news/press-release/2015/06/29/world-bank-supports-increased-access-to-safe-drinking-water-and-improved-sanitation-in-sri-lanka>
- ¹² U.S. Embassy in Sri Lanka (2016). USAID Clean Water Project Expected to Benefit 100,000 in Disaster-Prone Areas and Communities Affected by Chronic Kidney Diseases. Available at: <https://lk.usembassy.gov/usaids-clean-water-project-expected-benefit-100000-disaster-prone-areas-communities-affected-chronic-kidney-diseases/>
- ¹³ Brookings Institution (2015). Why Small States Matter In International Politics: The Case of Sri Lanka. Available at: <https://www.brookings.edu/blog/order-from-chaos/2015/09/03/why-small-states-matter-in-international-politics-the-case-of-sri-lanka/>
- ¹⁴ US State Department (2016). Available at: <https://travel.state.gov/content/passports/en/country/sri-lanka.html>
- ¹⁵ The World Bank. Sri Lanka Overview. Available at: <http://www.worldbank.org/en/country/srilanka/overview>

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