Myanmar

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Introduction

Since gaining independence in 1948, Myanmar has experienced long periods of military rule and a series of democratization movements. Myanmar’s overall national governance scores are by and large near the bottom for the entire South Asian region. Divisive religious violence adds to the challenges of its post-authoritarian governance. In addition, Myanmar is also one of the poorest countries in East Asia with a per capita gross domestic product of $1,244. In particular, the Rakhine State, which has the highly discriminated Rohingya minority, suffers from very low school attendance, access to drinking water, and malnutrition. The lack of stable governance, violence, and poverty leave large portions of the population vulnerable to climate change related disasters such as floods, rainfall fluctuations, and cyclones. The Rakhine state and the Ayeyarwady region are the most vulnerable mostly due to cyclones in low elevation coastal zones.

As shown in figures 1-5, Myanmar has a high overall vulnerability, one of the worst in the region. Extremely poor governance (see figure 5) combined with low household resilience and some regions of high climate related hazard exposure (see figure 2) produce high overall vulnerability. Calculations under the CEPSA program indicate that approximately 43% (i.e., 23 million people) of Myanmar’s population faces above average exposure.

Natural Disasters and Climate Change Vulnerability

Myanmar is one of the most vulnerable countries in the world to climate change as a large portion of the population lives in low lying areas susceptible to floods. There are two cyclone seasons in the Bay of Bengal along Myanmar’s coastline. The first cyclone season is between April and June, with a second peak occurring between September and early December, as the southwesterly monsoon retreats.

Droughts, heat waves, and seasonal changes also affect agriculture, water resources, forestry, and biodiversity in Myanmar. About 70 percent of Myanmar’s population is engaged in agricultural activities making climate change a serious risk to the livelihood of rural communities as well as the national economy.

In 2008, Cyclone Nargis killed over 140,000 in Myanmar. The storm was particularly deadly because it struck land at one of the lowest points in the country and then created a storm surge that reached 25 miles inland. UN officials estimated 1.5 million people were affected by the cyclone when it destroyed almost 95% of the houses and buildings in seven townships.
Overall Vulnerability

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
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Climate Related Hazard Exposure

Population Density

Household

Governance

People per sq. km

Worst

Best

Missing Data

Worst

Best

Missing Data
The cyclone’s path was especially destructive because much of the protective vegetation had been cleared. Over the past decade, the delta had lost most of its mangrove forests along the coast to shrimp farms and rice paddies which had served as natural defenses against violent storms.\(^6\)

Despite claims by Myanmar’s military government that it had adequately warned residents about Cyclone Nargis, critics contend the junta didn’t do enough, perhaps resulting in unnecessary deaths. Even though information was available about the expected time and location of landfall of the cyclone, a lack of coordinated effort on the part of the junta to evacuate low-lying areas left many people vulnerable. Junta officials and some weather experts claimed evacuating a large area with millions of residents would have been nearly impossible, given the poor roads, the distance to some villages, and the refusal of some families to leave.\(^7\)

According to the Grantham Institute on Climate Change and the Environment, “Cyclone Nargis was a catalyst for bringing adaptation preparedness, as well as bringing climate change onto the political agenda in Myanmar.”\(^8\) In 2012, Myanmar published a National Adaptation Programme of Action to Climate Change to establish possible adaptation projects to protect eight major sectors: Agriculture, Early Warning Systems, Forest, Public Health, Water Resources, Coastal Zones, Energy and Industry, and Biodiversity. However, due to resource constraints, very few of these projects have been implemented.\(^9\) When cyclone Komen hit in 2015, residents were once again caught by surprise and unsure how to evacuate. The government was still unprepared to respond when some of the worst flooding in decades affected an estimated 1.6 million people and destroyed 1.2 million acres of rice fields.\(^10\) Although the harm caused by cyclone Komen was significantly less than Cyclone Nargis, it highlighted once again the country’s lack of preparedness for adverse events.\(^11\)

**External Aid**

Between 2000-2013, Myanmar received $10.8 billion in aid with $1.98 billion going towards emergency response. Before 2008, civil conflicts in Myanmar made donors hesitant to provide aid; however the devastating Cyclone Nargis in May 2008 catalyzed a sharp increase in international NGO engagement. Of the $10.8 billion in aid Myanmar received between 2000-2013, $9.4 billion was received after 2008. In addition, $1.98 billion (18%) of the aid went towards emergency response efforts.\(^12\) The relief and recovery effort was primarily focused on the disaster-impacted Ayeyarwady delta where the UN, ASEAN, and the government of Myanmar oversaw the relief and recovery effort.

**Governance**

From 1962-2011, Myanmar was ruled by a brutal military junta which ran a tight authoritarian and isolationist regime. The regime subjected the opposition to imprisonment, violence, and harassment. Aung San Suu Kyi, prominent leader of the National League for Democracy (NLD), has been trying to bring democracy to Myanmar since 1988 and was under house arrest for 15 years. The Saffron Revolution in 2007 combined with the Junta’s massive failure during Cyclone Nargis led western leaders and rights groups to call for an intervention. The Junta created a new constitution in 2008 and then officially dissolved and established a civilian parliament in 2011. This new government was followed by waves of democratization as well as elections in which NLD gained a large portion of seats.\(^13\)
Despite this progress towards democracy, Myanmar faces the challenge of decades of violent conflict. Burmese society is very ethnically diverse with ethnic Burmans constituting two-thirds of its population and dozens of other ethnic groups with the Shan, Karen, Rakhine, and Mon as the largest. More than 20 non-state armed groups have fought for political autonomy since Myanmar became independent in 1948. Muslim Rohingya in Rakhine State as well as all Christian Kachins have faced extensive persecution by the state and Buddhist opposition groups.\textsuperscript{14} Human Rights Watch has accused authorities of ethnic cleansing against the Rohingya in 2012 as the military committed mass killings and burned down villages. The government, including Aung San Suu Kyi, have continually failed to investigate abuses against the Rohingya.\textsuperscript{15} After the violence in 2012, tens of thousands of Rohingya have fled the country to Bangladesh, Indonesia, and Malaysia while the government still refuses to accept the blame for the Rohingya exodus.\textsuperscript{16}

With a highly fractured ethnic state, slowly growing democracy, and increasing climate change related challenges, Myanmar government has its work cut out for it. The new government must take action to adapt to climate related challenges to prevent greater security risks from arising in the already very fragile state.
Endnotes


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.


8 The Grantham Institute on Climate Change and the Environment. Myanmar. Available at: http://www.lse.ac.uk/GranthamInstitute/legislation/countries/myanmar/


12 AidData. Available at: http://aiddata.org/dashboard#/advanced/project-list


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The Strauss Center's program on Complex Emergencies and Political Stability in Asia (CEPSA) explores the causes and dynamics of complex emergencies in Asia and potential strategies for response. In doing so, the program investigates the diverse forces that contribute to climate-related disaster vulnerability and complex emergencies in Asia, the implications of such events for local and regional security, and how investments in preparedness can minimize these impacts and build resilience. CEPSA is a multi-year initiative funded by the U.S. Department of Defense's Minerva Initiative, a university-based, social science research program focused on areas of strategic importance to national security policy.

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