

CLIMATE CHANGE IMPACT CASE STUDY:
Rohingya Refugees

SUMMARY

This case study explores the impacts of climate change on the Rohingya refugees who fled Myanmar's Rakhine state to Cox's Bazar, Bangladesh. Additional threats and impacts brought about by climate change will have cascading effects on this already marginalized and vulnerable population.

BACKGROUND

- There are over 900,000 Rohingya refugees in Cox's Bazar, Bangladesh. (United Nations, 2022)
- The main refugee camp, Kutupalong, dubbed the "world's largest refugee camp" is cramped and overcrowded
- Over 24,000 refugees have been re-located to Bhashan Char island in the Bay of Bengal. (United Nations, 2022)

DISASTER RISKS

- Cyclones, extreme rainfall (monsoon), landslides, and flooding
- Bhashan Char extremely vulnerable with remote location in Bay of Bengal

MAN-MADE HAZARDS

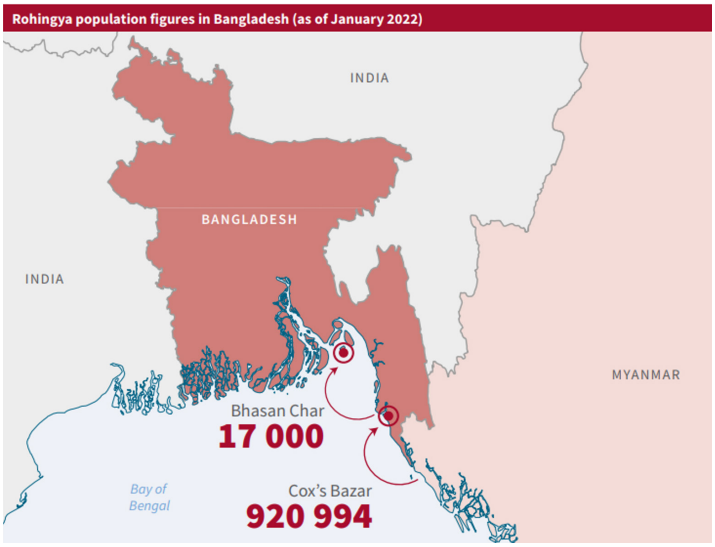
- Refugees used ground cover and forests for shelter materials and firewood which has led to deforestation and erosion
- Environmental degradation may put additional strain on host communities and may lead to conflict with the refugee population
- Water resources (may also lead to conflict with host community)
- Fires

OTHER ISSUES

- COVID-19
- Current political situation in Myanmar (military coup in February 2021) makes timely return less likely

CLIMATE CHANGE IMPACTS

- Bangladesh at risk to climate change due to location on Bay of Bengal and topography
- Cox's Bazar is already one of the most climate-vulnerable and disaster-prone areas in Bangladesh at risk of cyclones, heavy rains, rising sea levels and saltwater intrusion
- The Bay of Bengal region, especially Rakhine State in Myanmar and Cox's Bazar are projected to be the hardest hit areas in Asia by climate change in the next few decades
- Cyclones have been more frequent and severe. The majority of the cyclones that made landfall in Bangladesh in recent years have been in this area



Rohingya population figures in Bangladesh (as of January 2022). Source: United Nations (UN) Geospatial. 2020. Bangladesh map [online]. *https://www.un.org/geospatial/content/bangladesh-0*, modified to include UN Geospatial map for Myanmar (2020) available on *https://www.un.org/geospatial/content/myanmar-0* and data from the UNHCR Population Factsheet of 31 January 2022 available on *https://data2.unhcr.org/en/situations/myanmar_refugees*
Source: Food and Agriculture Organization of the United Nations (FAO), 2022, ReliefWeb. *https://reliefweb.int/report/bangladesh/bangladesh-rohingya-refugee-crisis-joint-response-plan-2022*

KEY POINTS

Current Situation

- Over 918,000 Rohingya refugees in Cox's Bazar and Bhasan Char, a small silt island in the Bay of Bengal (UN). All rely on humanitarian aid.(United Nations, 2022)
- Most of the refugees are located in Kutupalong, a "mega camp" that was created in August 2017 when more than 730,000 Rohingya fled Myanmar to Bangladesh within a few weeks. (Siegfried, 2022)
- Over 24,000 refugees on Bhasan Char island (United Nations, 2022)
- The government of Bangladesh plans to relocate up to 100,000 refugees to Bhasan Char under a controversial relocation plan. (UNICEF, 2022)
- An estimated 200,000 Rohingya already in Bangladesh had fled years before (Fearon, 2022)
- The gov't has built 1,440 buildings, including cyclone shelters on the island. The houses have been built four feet above the ground for added protection (Islamic Relief, 2022)
- The refugee population adds pressure on surrounding host communities, the government and the environment. This is already in a densely populated country at risk of natural disasters influenced by climate change.
- Rohingya population were originally from northern Rakhine state, Myanmar
- 34 densely populated camps are located at Ukhiya and Teknaf sub-districts. (UNOCHA, n.d.)
- Camps stretch across 6,000 acres and have a population density of 60,000 per square kilometer. (Grey, 2021)
- Other issues: COVID-19 pandemic, current situation in Myanmar (coup since early 2021) makes hope for speedy return less likely

Additional Background

- The Rohingya have faced decades of discrimination, statelessness and targeted violence in Rakhine State, Myanmar, forcing Rohingya over the border into Cox's Bazar in southeast Bangladesh. Significant numbers spread following attacks in 1978, 1991-1992, and again in 2016. (UNOCHA, n.d.)
- In August 2017 widespread violence triggered the largest and fastest refugee influx into Bangladesh. Since then, an estimated 773,000 Rohingya—have fled into Cox's Bazar. (UNOCHA, n.d.)
- In 1978 and 1991–1992 approximately 250,000 Rohingya fled to Bangladesh because of rising persecution and violence, but then were repatriated after pressure on the Burmese government from the international community as well as deteriorating conditions in the refugee camps in Cox's Bazar. (Ahmed et al., 2021)

Climate Change Impacts

- The entire region of the Bay of Bengal especially Rakhine State in Myanmar and Cox's Bazar are projected to be the hardest hit areas in Asia by climate change in the next few decades. In recent years, the majority of the tropical cyclones that made landfalls in Bangladesh were in this area. (Ahmed et al., 2021)
- Living in crowded camps in temporary shelters and affected by environmental degradation, the Rohingya refugees are vulnerable to climate change impacts
- If greenhouse gas emissions continue at the present rate, by 2050, Cox's Bazar will be the worst-hit district in South Asia as average temperatures rise and rainfall becomes disruptive (Vyawahare, 2018)

Natural disasters

- Monsoon season (June - October) results in widespread flooding and damage to shelters
- In July 2021, more than 21,000 were affected by flash floods and landslides. Almost 12 inches of rain fell in just 24 hours – around half the monthly rainfall average for July. Six refugees were killed while thousands more had their homes washed away or flooded. (This was preceded by fires in March). (Grey, 2021)
- Annual average rainfall in Cox's Bazar is 3770 mm (UNDP 2018), which is the second highest in BGD. (Ahmed, et al, 2021)
- Landslides – triggered by rains, exacerbated by deforestation. (Ahmed et al., 2021)
- Cyclone threat – climate change making extreme weather events more frequent and intense

KEY POINTS (CONT.)

Man-made threats

- Materials used for shelter and fuel for cooking fires in and around the camps led to environmental loss and deforestation
- Environmental degradation led to erosion and loss of topsoil making it harder to grow crops or replace the ground cover and forest
- According to the Bangladesh Forest Department, a total of 8,001 acres of forest were lost due to the impacts of the influx (Khan, 2022)
- Overcrowded camps lead to groundwater depletion and water pollution, resulting in limited water resources. (Fearon, 2021; IOM et al., 2022)
- Deforestation led to protection issues with refugees using up resources in and near the camps requiring longer distances to travel for acquiring resources, thus increasing risk of violence. Children were also kept out of school due to time spent gathering firewood. (Grey, 2021)
- UNHCR and partners introduced reusable liquefied petroleum gas (LPG) tanks which has resulted in a reduction in firewood use in the Rohingya and host communities. Reforestation efforts have also been ongoing. (Grey, 2021)
- Potential conflict with locals for dwindling resources

Fire

- To add to the dangerous conditions in the camp there is an ever-present fire risk, made extra dangerous due to the cramped, overcrowded conditions. There were at least two fires in 2022 and a major fire in March 2021 in which several people were killed and 45,000 displaced (United Nations, 2022)
- In 2021, over 150 fires were reported, the largest of which killed at least 15 people and burned down some 10,000 shelters. (Siegfried, 2022)
- The fire risk increases during the dry season which lasts from December until April. The fire risk in the dry season is followed by the risk of flooding and landslides in the cyclone and monsoon (June - October) seasons. (Grey, 2021; Siegfried, 2022)

Health

- Risk of water pollution, water-borne diseases, and transportation blockages which might limit the delivery of medical personnel and health supplies, during and after weather events. The Rohingya population already face limited access to medical care and resources.
- Disease outbreaks, particularly pandemics such as COVID-19, remain a health threat

Elephant Threat

- An interesting fact that also adds to the many risks facing the Rohingya refugees, is that the Rohingya are also subject to an elephant threat in the camps, with human-elephant conflicts common in the area, due to migratory patterns and destruction of the elephant's natural habitat
- At least 11 deaths and many injuries have been reported (Ahmed et al., 2021)
- Before the refugee influx, the Kutupalong camp area was designated for the habitat of the endangered Bangladeshi Asian elephant (Ahmed et al., 2021)

Situation in Myanmar

- Military coup in February 2021, makes it very unlikely the Rohingya will be able return home in the foreseeable future

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