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## Bangladesh and the Global Climate Debate

MASROORA HAQUE AND SALEEMUL HUQ

The yearly international climate change negotiations, also known as Conferences of Parties (COPs), are large and formidable affairs. Under the aegis of the United Nations Framework Convention on Climate Change (UNFCCC), government ministers, bureaucrats, and other delegates from developed and developing countries come to hash out compromises. Civil society organizations, activists, researchers, scientists, UN officials, journalists, students, and private-sector leaders come from all over the world to protest, network, and exchange ideas.

The negotiators discuss targets and mechanisms to reduce emissions and provide support for adapting to the adverse impacts of climate change, including technology transfer and financial assistance. Perhaps no other subject causes as much controversy as the issue of loss and damage and who should pay for it, given the questions of attribution and responsibility involved, and the potential demand for compensation from developing countries. Bangladesh, which is particularly exposed to the consequences of climate change and suffered two devastating cyclones in recent years, has taken a leading role at these negotiations in advocating new international commitments to support countries that bear the heaviest burden of loss and damage.

Harmful greenhouse gases such as carbon dioxide and methane are now overwhelmingly accepted as a major cause of climate change, accumulating through years of emissions since the Industrial Revolution. The term “loss and damage” refers to the real or future impacts of climate

change that have (or will have) an adverse impact on human and natural ecosystems. According to the Loss and Damage in the Vulnerable Countries Initiative, which was started by the government of Bangladesh in 2010, damages are taken to mean the negative impacts of climate change that can be repaired or restored, such as damage to infrastructure, homes, coastal mangrove forests, and so forth. Losses are total write-offs—destruction that can never be repaired or restored, such as the loss of freshwater, heritage sites, or human lives.

The world is suffering loss and damage from rapid-onset climatic hazards including cyclones, storm surges, and hurricanes, as well as slow-onset events such as salinity intrusion, rising sea levels, river-bank erosion, and drought. At the UNFCCC negotiations from 1992 to 2000, the main response to climate change was to call for mitigating or reducing emissions. Since industrialized nations are the largest emitters, the onus fell and continues to fall on them to reduce emissions. But world leaders started to realize that regardless of mitigation efforts, many countries, especially developing ones, were faced with myriad adverse impacts attributable to climate change. As a result, adaptation—activities required to adjust to or cope with these consequences—emerged as a second focus along with emissions reduction and mitigation, and was formally given a separate agenda at the negotiations.

Examples of adaptation to climate change include building structural components such as coastal embankments and polders, planting salt-tolerant rice varieties, moving elsewhere in search of employment, or raising the plinth of a house. The possible interventions depend on the particular climatic hazards faced by the region in question. Many of these adaptation activities may be undertaken by the community as a whole, with

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the support of local government officials, nongovernmental organizations, and community groups.

Increasingly, there is evidence not only that mitigation efforts are insufficient to prevent the ravages of climate change, but that adaptation efforts are also failing to meet the needs of the communities most affected. Where mitigation fails, adaptation must occur; where adaptation fails, loss and damage follow—the fallout from climate change that people cannot adapt to or cope with and that no amount of mitigation can prevent. This fallout includes both economic factors—those that have a market value, such as land, houses, and crops—and others that cannot be assigned a market value, such as loss of culture, customs, and heritage sites.

## A NATION AT RISK

Bangladesh has a relatively tiny carbon footprint: Its carbon dioxide emissions amounted to 0.4 metric tons per capita in 2010, compared with 17.6 metric tons per capita in the United States. The energy needs of Bangladeshis are modest: 55 percent of the population still goes without electricity. Yet the country is afflicted to an extreme degree by both slow- and rapid-onset climatic hazards. The World Bank estimates that climate change will lower the nation's agricultural GDP by 3.1 percent per year, for a cumulative \$36 billion in losses between 2005 and 2050.

Bangladesh's gross national income per capita in 2013 was \$1,010. It is a largely agrarian society, rice being the main staple food and agricultural product. It is also one of the world's largest exporters of readymade garments, which provide the country's largest share of export earnings.

Bangladesh is a tropical, largely low-lying country with most of its land four to five meters above mean sea level. It is bordered on the north, east, and west by India, and on the southeast by Myanmar; the south is entirely open to the Bay of Bengal. The country is densely populated, with about 156 million people living in an area of 147,570 square kilometers. It has an active delta region, with 230 major rivers running through the country; during the monsoon season, 70 percent of the country experiences flooding.

On November 15, 2007, a category 4 cyclone named Sidr hit Bangladesh's southwest coast. A

total of 3,406 people lost their lives, and another 1,001 went missing. People lost most of their livestock and pets. The Sundarbans, the world's largest mangrove forest, which dots the southern coast of Bangladesh, lost 22 percent of its total land area. The total economic loss from this catastrophe was \$1.7 billion, or 2.6 percent of Bangladesh's GDP, according to a World Bank report published in 2010.

Less than two years after Sidr, in May 2009, the same area was hit by Cyclone Aila, which killed 190 people, injured 7,103, and displaced over half a million. It destroyed land, crops, shrimp farms, fisheries, freshwater bodies, trees, homes, schools, tube wells, latrines, embankments, boats, and everything else in its wake. The most significant economic losses included planted crops, fixed assets, ecosystem services, and livelihoods.

Cyclones and storm surges of this level of frequency and intensity are exactly the kind of manifestations of climate change that the Intergovernmental Panel on Climate Change has

warned against. They have dire effects on society and increase the vulnerability of people who have little means to recover from the devastating impacts of these events. In an entirely rural area, the loss of agricultural

land, homestead gardens, and ponds meant that families faced losing their livelihoods and food security. Malnutrition among children became prevalent, and many were taken out of school to work and contribute to their household incomes. Many families migrated to already overpopulated cities, such as Khulna and Shatkhira, only to return after their housing needs were not met properly and incomes for manual labor proved insufficient.

Increased poverty from the loss of livelihood, opportunities, and assets afflicted those who owned the least resources. They had the highest degree of vulnerability and the least ability to recover from such terrible losses. In a poor country like Bangladesh, poverty and social inequality are further deepened after such disasters.

Perhaps the most destructive impact of cyclones is on salinity levels in the region—cyclones bring salt water from the sea inland. Salinity intrusion in Bangladesh's coastal belt is a complex phenomenon of man-made as well as climatic factors that have altered the quality of soil and water bodies

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for the worse. Salinity reduces soil fertility, so that vegetation and crops cannot grow either in home-stead gardens or in the fields. In Bangladesh, food security is associated with rice, and in parts of the coastal areas the level of salinity is so high that salt-tolerant rice varieties do not even germinate. Freshwater fish have completely vanished from the area. The salinity in the soil has made shrimp and crab farming the predominant livelihood option in certain parts of the coast. This causes huge tensions in the local community, as farmers with small plots are forced to lease them to wealthy landowners for a nominal rate. Furthermore, prolonged saline water use and consumption result in health issues such as high blood pressure, menstrual problems, and skin diseases.

Sea levels are rising gradually in the region, mainly due to two reasons: melting Himalayan glaciers and the slow expansion of water as the oceans warm. Rising sea levels affect agriculture, the mangrove ecosystem, livelihoods, health, water, and food security in the southern region of Bangladesh. Inundated lands are not suitable for agriculture—the predominant livelihood option—and waterborne diseases become prevalent, so many people are forced to migrate to urban areas in search of employment.

## DEALING WITH DISASTER

Although Bangladesh does not have a policy explicitly designed to address loss and damage, there are provisions for such contingencies in its national disaster and climate change policies. The government promulgated a National Plan for Disaster Management in 2010, taking a holistic approach that incorporates prevention, emergency response, and post-disaster recovery. In 2012, the government enacted the Disaster Management Act. The country's early warning system, combined with numerous cyclone shelters constructed over the past decade, has proved extremely effective in reducing the number of deaths from natural disasters.

Bangladesh was one of the first in the “least developed countries” category to complete a National Adaptation Program of Action after the UNFCCC called on nations to produce climate agendas for immediate attention and implementation. This process led to the creation of the Bangladesh Climate Change Strategy and Action Plan in 2009, formulated by the Ministry of Environment and Forestry. The plan sets forth a comprehensive policy that focuses on medium- and long-term

actions to tackle climate change. It is based on the following six pillars: 1) food security, social protection, and health; 2) comprehensive disaster management; 3) infrastructure development; 4) research and knowledge management; 5) mitigation and low-carbon development; and 6) capacity building and institutional development.

The government allocated \$300 million from domestic revenue in 2009–11 to fund these projects. Donors—mainly Britain, the European Union, and Denmark—have allocated \$125 million in additional funding. More than half of the money has gone into building infrastructure such as polders and embankments. Initiatives to promote food security, social protection, health, and low-carbon development receive most of the remaining funding. There has not yet been a thorough assessment of these programs. Some have done well; others have not. The focus should now be on building robust and transparent systems of sharing information on both funding and results.

## DISPROPORTIONATE BURDEN

The Industrial Revolution brought wealth and mechanization to Europe and North America but was also responsible for a growing dependency on fossil fuels whose toxic emissions cause climate change in the first place. The only way to protect the climate from changing further is to phase out the use of fossil fuels as soon as possible.

Historically, industrialized nations have had a larger carbon footprint than the developing and least developed countries, but the latter are now likely to suffer the brunt of climate change. The reasons for this include geographical location and weather—many of these countries are low-lying or landlocked; hot and tropical or arid; and prone to flood or drought. They also have weaker infrastructure and inadequate government capacity and resources, reducing their resilience.

The UNFCCC negotiations are focused on committing developed countries to reducing their emissions and providing monetary and technical support to developing countries. Since the burden of climate change falls disproportionately on developing and least developed countries, they are in a position to demand certain provisions to help them deal with its impacts. However, the developed nations have refused to allow any discussion on this topic because they fear that it will open the door to assigning liability for loss and damage, leading to claims by developing countries

for compensation. Developed nations refuse even to acknowledge the concept of compensation for loss and damage.

Since the birth of the UNFCCC in 1992, the Alliance of Small Island States has been demanding an insurance mechanism for the cost of climate change. They are faced with sea-level rises that can potentially engulf entire islands. Over time, this focus on loss and damage has gained legitimacy and some support from developed nations for research, but still has not received widespread acceptance. It is currently listed as part of the adaptation pillar of the negotiations.

At COP13, held in Bali in 2007, the words “loss and damage” appeared in the final negotiating text for the first time, opening the issue to research and inquiry. In 2010, at COP16 in Cancún, a work program was launched for enhancing understanding of climate-induced loss and damage. Two years later in Doha, the parties called for the establishment of institutional arrangements on loss and damage.

In 2013, COP19 in Warsaw established the Warsaw International Mechanism on Loss and Damage, which is the most significant development on this track to date. The mechanism is guided by an executive committee

comprising 20 members from parties to the convention, split evenly between developed and developing nations. The committee set up an initial two-year work plan with nine action areas. It must report back to the UNFCCC at COP22 in 2016.

The main goal of the mechanism is to address the loss and damage that the most vulnerable countries face due to both slow- and rapid-onset climatic events. It aims to make progress on three main fronts. The first is enhancing knowledge of the issue and approaches to managing risk, which involves looking at insurance as a mechanism to deal with loss and damage, among other risk mitigation strategies. The second is continuing dialogue and coordination among stakeholders working in loss and damage and in related fields. The third is increasing support through finance, technology transfer, and capacity building.

The mechanism was the result of intense arguments and negotiations culminating in a compromise that all parties could agree to. The main concession from the developed countries was to

finally agree to this kind of mechanism, after two decades of treating it as a taboo subject. For its part, the developing countries’ side conceded that there would be no mention of liability or compensation.

Shortly after COP16 in 2010, the government of Bangladesh approached the Climate and Development Knowledge Network (CDKN), a group of organizations led by the US accounting and consulting firm PricewaterhouseCoopers, to support and facilitate a better understanding of climate-induced loss and damage faced by vulnerable communities in the country. This resulted in the Loss and Damage in Vulnerable Countries Initiative, which aims to foster greater understanding of the issue and move the debate forward in climate negotiations. The initiative has also provided a clearinghouse for research that increases vulnerable countries’ capacity to identify possible measures to address loss and damage.

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## FAIR SOLUTION

COP20 in Lima in December 2014 and the latest UNFCCC meeting in Geneva this past February brought new developments in the loss and damage debate at the global level.

COP21 in Paris at the end of this year is expected to produce a landmark decision that will set the trajectory for climate change responses with a legally binding agreement. There are a number of important meetings on the road to Paris, the first of which was in Geneva. The second is to be held in June in Bonn, with more to follow later in the year.

The text from the Lima COP relegated the issue of loss and damage to the preamble, which makes the reference less binding than if it were in the main negotiating text. The Geneva text produced in February reads like a giant wish list of all the things countries want from the Paris agreement. However, there is more clarity in terms of what the developing countries seek from the agreement on the loss and damage front. Developing countries have also given an indication of how the existing Warsaw Mechanism can be anchored in the new agreement in Paris this year. The majority of developing countries is demanding that loss and damage be presented as a separate element in the agreement. Many developed countries, however,

are still trying to completely remove the issue from the negotiations. It remains to be seen which side will prevail.

The push to address loss and damage stems from real, devastating, and often irreversible impacts on the ground. Climate change threatens livelihoods, restricts economic growth, and is a major hindrance to fighting poverty. The resilient and resourceful citizens of developing countries have adapted to climate change in innovative ways while working hard to increase their earnings, achieve longer life expectancy, and provide better lives for their children. Yet many of these hardworking people have fallen back into poverty due to the damage caused by climate change, in both its rapid and gradual manifestations. In Bangladesh, they have lost their land to cyclones and riverbank erosion, while increased salinity means that vegetables and rice no longer grow in homestead gardens and fresh water is starting to become scarce. Livelihoods as well as food and water security are in jeopardy in communities that have just established sufficiency in those areas.

Loss and damage resulting from human-induced climate change are happening not just in Bangladesh but all over the world. The impacts of climate change are felt much more acutely in developing countries, which have contributed the least to its causes. The question of how to remedy

loss and damage therefore involves redressing a fundamental inequity.

The basic rights to which all humans are entitled, such as the right to a livelihood, property, health, and a safe environment, are eroded by climate change. Developing nations are making serious efforts to address these threats, but the impacts of climate change are so frequent and so powerful that these efforts are continuously falling short. This is why the issue of loss and damage deserves the full attention of the international community and should be treated as a separate agenda. For the Paris deal to be meaningful, it must include provisions for loss and damage.

The scientific community has stated time and again that lowering greenhouse gas emissions will also reduce loss and damage. The solutions to the causes of climate change are right in front of us, and so are the means to implement them. What is lacking is political will on the part of developed countries. In developing countries, research has fostered an understanding of the impacts of a changing climate. More research is imperative to identify possible measures to address loss and damage, but the overarching goal is tackling climate change in a much more effective and inclusive way that will have lasting, positive results for nations both rich and poor. ■