The Climate Debt

What the West Owes the Rest

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Growing up in a pastoral community in northern Kenya gave me a certain clarity about the climate crisis, a clarity born not from abstract understandings but from visceral experience. In 2000, a drought killed much of my father's cattle herd and destroyed our neighbors' livelihoods. I helped distribute parcels of food to starving people knowing that the supplies might keep them alive only until the next inevitable dry spell. In northern Kenya, droughts used to occur once every ten years. But in the last few decades, their frequency and severity have increased thanks to climate change. Droughts now occur once every two to three years, and they will likely become even more frequent, threatening nomadic pastoralism as a viable way of life.

It was devastating to see herds built over many years wiped out in one season. My neighbors had nurtured and cared for these animals. They were vital for my community's livelihood and prosperity—and its future. Like many people in my community, I don't have a conventional pension plan of stocks and shares; I have some goats and camels. When I have the resources, I add a camel to the flock.

It always breaks my heart to see the bodies of dead camels during a drought. Cows are normally the first to go—they are not very resilient to the changing climate. Sheep follow. Goats are much hardier, which is why I keep some in my flock back home. When they start dying, you know it's a serious drought. But camels are so tough and so capable of enduring through droughts that their dead bodies are signs of a real disaster, of a terrible tragedy unfolding in the surrounding communities.

The over five million pastoralists who live in northern Kenya face an increasingly desperate situation. The way of life that has supported them for centuries—herding animals in the rangelands—could soon evaporate thanks to climate change. Consecutive droughts in recent years have devastated livestock populations, forcing hundreds of thousands of herders to give up their traditional lifestyles and move, as unskilled workers, to sprawling towns. They are not alone. Climate change has imperiled or disrupted the lives of millions of people in developing countries around the world.

Herders in Kenya, farmers in Bangladesh, and fishermen in the Mekong River basin are not responsible for this crisis; the rich countries are. Not only do those nations emit more carbon into the atmosphere per capita than poor countries do, but also their very wealth and stature rest on a century of emissions and environmental degradation. And yet it is people in the developing world who disproportionately suffer. For them, climate change is not a theoretical matter but the difference between having dinner or going hungry, having a home, however ramshackle, or not having a roof over their heads at all.

In Western capitals, meanwhile, well-meaning officials are beginning to share the sense of urgency, holding

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increasingly frequent summits and speaking of a "climate emergency." But none of this has translated into meaningful change: greenhouse gas emissions, temperatures, and sea levels continue to rise. Moreover, wealthy countries have struggled to reckon with the fundamental injustice of climate change, the fact that those least responsible for its cause now bear the brunt of its consequences.

The most straightforward way that developed nations can address that inequity is through financial transfers and technological support to developing nations. As part of negotiations under the aegis of the UN Framework Convention on Climate Change (UNFCCC), wealthy countries have agreed in principle to provide $100 billion a year by 2020 to assist their poor counterparts—hardly enough to help developing nations adjust to the effects of climate change, receive compensation for loss and damage as a result of extreme weather, and transition to low-carbon economies. Even that funding has not fully materialized, and its lack of implementation suggests a continuing imbalance between the rich and the rest. Rich countries are far more interested in forcing poor countries to cut their own emissions than they are in helping protect them from the ravages of climate change. The economies of developing countries must indeed cut emissions and transition to low-carbon sources of energy. But while that process plays out, many in the developing world will remain vulnerable to a crisis they did not make.

A COMPOUNDING DEBT

The average American is responsible for the emission of as much carbon dioxide per year as are 581 Burundians, 51 Mozambicans (who last year were buffeted by typhoons that scientists have attributed to the warming of the Indian Ocean), or 35 Bangladeshis (who are threatened by both rising sea levels and increasingly erratic rain). That may be the starkest contrast, but in emissions of greenhouse gases by country, there remains a wide gulf between rich and poor.

According to the latest UN statistics, which date from 2017, the United States alone emits over 5.3 billion metric tons of carbon dioxide per year—that's 16.2 metric tons per person. The European Union emits over 3.6 billion metric tons, around seven metric tons per person. By contrast, the per capita emissions of all lower- and middle-income countries combined (including large, rapidly developing ones, such as Brazil, China, India, Nigeria, and South Africa) are only 3.5 metric tons per year. Drilling down further reveals even wider chasms. Although China has become the biggest emitter in the world in absolute terms—at over ten billion metric tons—its per capita rate of 7.4 metric tons is still less than half the U.S. rate. India emits 2.3 billion metric tons a year—a substantial sum—but its per capita rate is only 1.7 metric tons. Beyond the Asian giants, the rest of the developing world emits even less. The one billion people of sub-Saharan Africa, for instance, emit around 823 million metric tons of carbon dioxide per year, a per capita rate of 0.8 metric tons, about one-20th that of the United States.

But these figures reflect merely one year of emissions. For well over a century, countries in Europe and North America—as well as the likes of Australia and Japan—have been pumping carbon into the atmosphere. The former NASA

scientist James Hansen has estimated that those countries were responsible for 77 percent of all carbon emissions between 1751 and 2006. The United States alone produced 28 percent of carbon dioxide emissions in that period. Other estimates reveal similar disparities: according to the German database PRIMAP-hist, developed countries were responsible for 68 percent of carbon dioxide emissions between 1850 and 2016.

These disparities chart the rise of developed countries at the expense of others. The history of climate change is one of compounding injustices. The wealth of the Western countries was built on the riches and natural resources extracted from their colonial empires, a process that motivated—and in turn was fueled by—the burning of coal, oil, and gas and vast deforestation. The Industrial Revolution may have produced crowded, smoke-filled cities full of people with chronic health problems, but over time, it ensured that future generations in industrialized economies would grow up in relative privilege compared with people elsewhere, who were often living under colonial rule. The consumption of fossil fuels lies at the root of global inequality.

The end of World War II ushered in the period of decolonization, but the dynamics of the imperial age persisted. In a 2008 report published by the National Academy of Sciences, a team of economists and ecologists calculated just how much more greenhouse gas emissions from the developed world harmed the developing world—in the form of floods, storm activity, and other events associated with climate change—than emissions from the developing world hurt the developed world. Between 1961 and 2000, emissions from poorer countries caused $740 billion worth of damage to wealthier countries, whereas emissions from richer countries caused $2.3 trillion worth of damage to poorer ones.

Beyond the direct economic damage, climate change disproportionately slows economic growth in poorer countries, further widening the gulf between them and wealthy countries. A 2019 study, also published by the National Academy of Sciences, found that in most low-income countries, higher temperatures are more than 90 percent likely to have curbed economic output. In sub-Saharan Africa, climate change has reduced the per capita GDPs of Burkina Faso, Niger, and Sudan by more than 20 percent.

THE BURDENS OF ADAPTATION

This great fossil-fuel-powered wealth disparity makes it harder for poorer nations to protect themselves from the consequences of climate change. The inequality materializes in some obvious ways: developing countries lack the resources to build infrastructure to guard against deadly storms, rising sea levels, and intense heat waves. But it also strikes at the core of economic production in much of the global South. Many places still depend on agriculture and ways of life wedded to the rhythms of the climate. For example, more than half of all people in Africa rely on farming for all or part of their livelihoods. They are especially vulnerable to climate disruptions.

For poor countries, meeting the costs of adaptation—measures that help people adjust to the changing climate—remains impossible. In parts of India, for instance, those measures might include raising homes onto stilts to lift

them above floodwaters and relocating whole communities farther inland, away from flooded coasts. In Bangladesh, saltwater intrusion has killed crops and livestock, so farmers need to both acquire varieties of saline-resistant seeds and rear animals that can tolerate shifting conditions, such as saltwater ducks. In Nicaragua, coffee growers have found that higher temperatures and greater rainfall have destroyed up to 40 percent of their crop, so many have been forced to turn to cacao instead.

In Africa, the demands of adaptation to climate change are particularly acute. Despite accounting for only 15 percent of the global population and just two percent of energy-related carbon dioxide emissions, sub-Saharan African countries currently shoulder nearly 50 percent of global adaptation costs, according to the African Development Bank. At an African Union summit in February, South African President Cyril Ramaphosa pointed out that despite their scarce resources, African countries are spending between two and nine percent of their GDPs dealing with the effects of extreme weather. "Adaptation is a global responsibility," he insisted, calling for greater financial support from the developed countries that caused the crisis in the first place.

BROKEN PROMISES

Ramaphosa's statement was not particularly radical. When nations gathered to grapple with the threat of climate change at the Earth Summit in Rio de Janeiro in 1992, wealthy countries themselves recognized that they were more liable than the rest of the world for global warming. The UNFCCC, which was agreed on at the summit, enshrined the concept of "common but differentiated responsibilities," the understanding that the countries that had spewed the most emissions in the past needed to lead the way in curbing emissions in the future. The path to a solution seemed relatively simple back then. Scientists would identify the level of emissions that needed to be cut, the world's developed countries would divide the required cuts among themselves, and climate change, the reasoning went, would slow and cease.

But for many years, wealthy countries refused to fully admit to the scale of the problem, dragging their feet on agreeing to legally binding treaties. The 2009 UN Climate Change Conference, in Copenhagen, which many observers hoped would produce meaningful results, collapsed after rich nations tried at the 11th hour to ram through a lopsided deal without the participation of most other countries. The failure of Copenhagen has had lasting implications: had the developed world begun the turn to low-carbon economies a decade ago, such a transition would have helped the rest of the world follow suit, saving untold lives and billions of dollars and avoiding the current crisis.

Following the breakdown of the Copenhagen summit, international negotiations limped on, delayed both by rich countries and by oil-exporting countries such as Saudi Arabia. At the 2011 climate summit in Durban, South Africa, wealthy nations advanced a new approach that insisted that all countries—not just the historical polluters but also poor nations that had done very little to cause the crisis—had to submit plans to cut emissions. This shift allowed wealthy countries to escape from the binding rules of the previous regime,

established by the Kyoto Protocol in 1997, which had sought to build an effective multilateral, rules-based emission-reduction system.

In return for signing on to this new global paradigm, developing countries would receive over $100 billion a year starting in 2020 to help them take measures to adapt to floods, fires, and storms and to support their transitions to low-carbon economies. That sum represented a very modest contribution from wealthy countries considering the resources at their disposal: the United Kingdom alone is planning to spend $137 billion to build a new high-speed rail line from London to Manchester via Leeds.

In 2015, countries met again to coordinate on combating climate change, this time in Paris, and the wealthy countries reaffirmed their commitment to provide financial support to poor countries for adaptation and transitioning away from fossil fuels. But the cumulative emission-reduction pledges that accompanied the Paris agreement were far too weak to achieve the deal's stated goals.

And $100 billion per year is nowhere close to what is required to cover the costs of adapting to climate change and transitioning to greener economies in the developing world. Adaptation alone would cost over $180 billion annually today (and even more as time goes on). If the developed world does not increase its funding beyond the $100 billion per year that has been promised, temperatures are likely to rise by 2.7–3.5 degrees Celsius by 2100—well above the threshold of 1.5–2.0 degrees Celsius agreed to in the Paris agreement. (And even a two-degree rise is nothing to gloat about: an increase of that amount would likely displace hundreds of

millions of people and spark heat waves, droughts, coastal flooding, and storms.) The Paris agreement does include commitments to increase levels of funding every five years, but it's not clear if wealthy countries will meet those additional targets given that they have yet to reach the 2020 goal.

Distressingly, it's not even clear that rich countries will meet the modest goal of $100 billion per year. Already, they have missed multiple deadlines in gathering the initial tranche of money. After the election of President Donald Trump in the United States and of Prime Minister Scott Morrison in Australia, both countries reneged on their commitments. Donors successfully replenished the Green Climate Fund—the largest international fund dedicated to helping developing countries adapt to and mitigate the effects of climate change—last year, with $9.7 billion in pledges committed by 27 countries, including 14 countries that doubled their previous contributions. But let's be clear: the money raised so far has not come from straightforward grants from state coffers. Instead, it consists of a collection of loans, private-sector financing, and funds for long-standing projects in overseas aid budgets. The motley nature of this funding has not inspired confidence in the developing world about the sincerity of the wealthy countries' commitments. By all estimates, the mandated $100 billion will not be assembled by the deadline of next November at the next major UN climate summit, in Glasgow. If the money fails to materialize, then poorer nations will have a hard time trusting any of the diplomatic promises of the rich.

LET THEM MITIGATE?

Another major problem with the funding on offer from rich countries is its emphasis. Most of the proposed funding is focused on mitigation efforts: ensuring that developing countries don't burn fossil fuels at accelerating rates by reforming their economies. The funding for adaptation—helping poor nations handle the effects of climate change—amounts to just about 20 percent of all the money governments have set aside. That disparity reveals a depressing truth: although rich countries want to stop poor countries from emitting greenhouse gases, they have shown less interest in protecting those countries' people and property.

Moreover, a third category of funding is proving even harder to generate: compensation for past damage. In many parts of the world, it's no longer possible to simply adapt to a new climate. It's not possible, for instance, to adapt if rising sea levels have submerged your entire island or if you have permanently lost your farmland to desertification. Because these losses are disproportionately the consequence of rich countries' greenhouse gas emissions, those countries are morally bound to help compensate for them. This principle was formally accepted in 2013, when all the parties to the UNFCCC supported the creation of the Warsaw International Mechanism for Loss and Damage Associated With Climate Change Impacts, a forum to discuss the realities of loss due to climate change and ways of addressing those losses. But it has no legally binding provision to compel wealthy countries to compensate poor ones. When poor countries press their wealthier counterparts on pushing the

matter forward, the rich world closes ranks, with even supposedly progressive bodies, such as the EU, happy to stand shoulder to shoulder with the Trump administration in preventing compensation for loss and damage from moving from theory to practice. At the Madrid climate summit last year, the United States, with Russia's support, ruled out agreeing to and implementing a concrete plan to increase financing for loss and damage. Other rich countries, including Australia, Japan, and some member states of the EU, sheepishly followed suit, leaving vulnerable countries without the help promised to them in 2013.

Since the signing of the Paris agreement in 2015, a number of prominent world leaders have dismissed the importance of addressing the climate emergency—not just Trump and Morrison but also Brazilian President Jair Bolsonaro and Russian President Vladimir Putin. Other leaders known for their green rhetoric have failed to turn talk into serious action. Canadian Prime Minister Justin Trudeau prides himself on his green bona fides, but he persists in allowing the exploitation of his country's oil-rich tar sands. As a result, a country with 0.5 percent of the world's population may use up, through oil exports and their associated emissions, 16 percent of the planet's rapidly disappearing carbon budget, the maximum amount of carbon dioxide that can enter the atmosphere before causing an increase in the global temperature of 1.5 degrees Celsius.

But even the public emphasis on mitigation hides a more disquieting reality. Although wealthy countries urge mitigation in the developing world, they continue to funnel taxpayer money to fossil fuel industries. Last year, the International Monetary Fund estimated that global subsidies for fossil fuels amounted to as much as $5.2 trillion in 2017, up from $4.7 trillion in 2015. If just a fraction of that money were diverted to climate change adaptation and mitigation, it could transform the fortunes of vulnerable countries. To make matters worse, when rich nations do invest in poor countries, they end up spending billions of dollars propping up fossil fuel industries there. A 2018 report by the research and advocacy organization Oil Change International showed that between 2014 and 2016, 60 percent of international public aid for energy projects in Africa was spent on fossil fuels—principally through investments in oil and gas infrastructure—with only 18 percent directed to renewable sources such as wind and solar energy. As China, the United States, and countries in Europe increasingly turn to cleaner energy at home, they remain content to condemn countries in Africa and elsewhere to a fossil fuel future.

At a January summit on ties between the United Kingdom and African countries, British Prime Minister Boris Johnson announced that his country would stop using aid money to fund coal projects abroad, and an official government press release for the event highlighted increased funding for clean energy. But a few days later, it emerged that 90 percent of the energy deals concluded at the summit were in fact for fossil fuels. Even as renewable energy sources are becoming cheaper, easier to deploy, and more able than ever to help decarbonize the world's

power supply, the developed world still strives to help its companies profit from unsustainable fossil fuels in the developing world.

Of course, it's also the case that many developing countries are convinced that they need fossil fuels to modernize and raise their standards of living. Over 358 coal plants are under construction around the world. For much of human history, economic growth was directly tied to energy use; the more energy a country produced and consumed, the more its economy grew. For many poor countries awash with problems, including insufficient energy production, following the fossil-fuel-laden course that wealthy nations took is the path of least resistance. Wealthy countries should drastically slash their emissions to allow what's left of the carbon budget to go to poorer countries. That imperative is also why funding for adaptation and for loss and damage is so important. If wealthy countries won't curb their emissions rapidly enough, they are morally obligated to at least help pay for the consequences of their actions in vulnerable countries.

THE GLOBAL SOUTH WRITES BACK

Societies may finally be breaking the link between energy and growth. In the past six years, the global economy has grown by 23 percent, but energy-related carbon emissions have grown by only three percent. The development of renewable energy means that growth and prosperity are no longer found at the bottom of a coal mine or in a barrel of crude. Researchers at the management consultancy McKinsey & Company have calculated, for instance, that in Vietnam, renewable energy is already cheaper to use than coal. In the same way that Africans have leapfrogged the landline telephone and gone straight to mobile phones, with the right investment and support, the developing world can leapfrog fossil fuels.

But to realize the opportunities of a low-carbon economy, developing countries need an unprecedented increase in financing ahead of the 2020 climate summit in Glasgow. The wealthy nations of the world, whose stature and high standards of living rest on a history of pumping greenhouse gases into the atmosphere, must help encourage the global shift to decarbonized economies to limit the rise in the global temperature to 1.5 degrees Celsius, in accordance with the Paris agreement's more ambitious goal.

Developing countries can help write the end of the story of the climate crisis. Their new approaches to generating growth can break the vicious cycle that has created the climate emergency. African nations are on the cusp of sweeping economic development over the next 50 years, and there is no need for those economies to follow in the footsteps of Europeans and North Americans. The continent has more wind, sun, and geothermal energy than anywhere else in the world. But to harness the resources available to them, Africans and others in the developing world need the financial and technological support from those who sickened the climate in the first place. There is still time for the world to avoid dropping off the cliff. To steer clear will require establishing fairness in a global system that has trampled the poor at every turn.