

## CLIMATE CHANGE AND GLOBAL SOLIDARITY

# Adapting to a Harsher Climate

*In June 2015, Pope Francis issued a much anticipated encyclical on human ecology and the environment. In this pastoral letter, Pope Francis emphasizes the interdependent relationship between people and nature. He recognizes that humanity is faced not “with two separate crises, one environmental and the other social, but rather one complex crisis which is both social and environmental.”<sup>1</sup> In raising the profile of our interconnectedness with nature, Pope Francis reminds us that caring for the environment is an expression of our duty to one another. There are currently 3 billion people estimated to be at serious risk to the effects of climate change. Many of these people live in Least Developed Countries and Small Island Developing States, and their simple lifestyles contribute little to the problem we face. Pope Francis calls us to action—for our immediate response to their needs, but also for longer-term solutions which ensure the enduring benefits of nature for generations to come.*

In response to this call, we appeal to the government of the United States to take the following steps:

- Increase climate financing to address the needs of the 3 billion people most at risk to the consequences of climate change, ensuring adequate support, particularly to those living in Least Developed Countries and Small Island Developing States.
- Fulfill, and seek to exceed, the \$3 billion pledge to the Green Climate Fund, and, to enhance coherence and coordination, support its establishment as the premier global climate-finance institution.
- Provide climate-specific adaptation funds *in addition* to current and future multilateral and bilateral development and humanitarian assistance funding, and ensure transparency in the calculation of U.S. contributions.
- Promote people-centered approaches to adaptation funding that empower vulnerable populations with the tools and knowledge necessary to effectively create a dignified and sustainable future.
- Ensure that adaptation approaches are broadly consistent with the morally acceptable principles of good development, including transparency, accountability, local ownership and participation of civil society.

***We are an inseparable  
part of the living world,  
entirely dependent on it for  
every aspect of our lives.***

—Pontifical Academy of Sciences  
and the Pontifical Academy of  
Social Sciences, April 29, 2015

<sup>1</sup> Encyclical Letter LAUDATO SI' of the Holy Father Francis on Care for Our Common Home, June 18, 2015, Section 139, p. 104.

## WHY WE MUST ACT

Climate change poses a risk not only to the progress we have achieved in moving people out of poverty but also to the future ability of the world to feed itself.

The Food and Agriculture Organization has estimated that a 70 percent increase in agricultural production will be necessary if the world is to feed itself by 2050.<sup>2</sup> Currently, nearly 1 billion people in the world do not have enough food to lead healthy and productive lives—and climate change threatens further consequences for agricultural production and overall food security.<sup>3</sup>

As arable land and water become increasingly scarce, conflict looms, along with the potential for migration from the most affected countries and a repetitive cycle of costly emergency response.

## A CALL FOR GLOBAL SOLIDARITY

Such conflicts and human suffering are avoidable. As a wealthy and powerful nation, the U.S. has the means to prevent further deleterious consequences. As the number one per-capita emitter of greenhouse gases, we also have the moral responsibility.

In April 2015, religious, scientific and policy leaders gathering at the Vatican issued a statement calling for a fundamental change in our relationship to the environment—one that respects the principle of good stewardship and sustains the needs of future generations. The statement calls for an overhaul of our relationship with nature, to be “undertaken by cooperative, collective action at all levels—local, regional and global.”<sup>4</sup>

United action is our best hope for progress. Climate change is a classic “tragedy of the commons” in which no single user has an incentive to protect a common resource without assurances that other users will do the same. The U.S. and global community must act in solidarity to identify solutions for climate change and to equitably share the costs of implementing those solutions.

The changes that will prevent this tragedy from happening are within our reach—if we act together. Thus, as the world prepares to negotiate a global accord to address climate change, **we call upon the U.S. to exercise decisive leadership to commit to measures that will reduce the concentration of greenhouse gases in the atmosphere, and address the needs of the 3 billion people most at risk from the effects of climate change.**<sup>5</sup>



Lishan Emanuel of Ethiopia combats erratic rainfall with a pond he uses to collect and store rainwater for his family and animals. Photo by Kim Pozniak / CRS

2 Food and Agriculture Organization, *How to Feed the World in 2050* (Rome: FAO, 2009), 6.

3 Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report; Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva: IPCC, 2014), 6–19.

4 The Pontifical Academy of Sciences and the Pontifical Academy of Social Sciences, “Climate Change and the Common Good,” April 29, 2015.

5 CRS et al., *Tortillas on the Roaster Summary Report*, 14.

## POVERTY REDUCTION AND ENVIRONMENTAL PROTECTION ARE LINKED

Catholic Relief Services has promoted human dignity by serving poor and vulnerable people overseas for more than 70 years. In line with our framework of Integral Human Development (IHD), our approach recognizes the multidimensional nature of human development and posits that people can only thrive within the context of just relationships and a healthy environment.<sup>6</sup>

In our work overseas, we see this intimate connection between humanity and the environment expressed in the tangible ways of everyday life. In rural areas, the majority of the men, women and children we serve derive their livelihoods and their nourishment directly from the land. Many are smallholder farmers, 80 percent of whom are dependent on rain-fed agriculture to produce the food that feeds their families and provides income through local market sales.

Over the last decade, we have had to adjust our programming to address the increasing impacts of climate change in communities where we work. Already vulnerable people living in these places have limited resources to buffer them against crisis. Though their simple lifestyle has contributed the least to creating the problem of climate change, these small-scale farmers and fishers are most affected by its consequences:

- Droughts and floods have increased in frequency, resulting in losses to income, crops, livestock, homes and entire communities.
- Pests and disease are on the rise, threatening crops and human health.
- Shifting rainfall patterns leave farmers uncertain when to plant.
- Higher temperatures shorten crop lifecycles and increase plant stress, decreasing yields.

<sup>6</sup> "Integral Human Development," CRS Technical Resources, accessed June 5, 2015, <http://www.crsprogramquality.org/IHD/>.

**Table 1. Examples of projected climate change impacts on agriculture, forestry and fisheries**

PHENOMENON AND DIRECTION OF TREND IN WEATHER AND CLIMATE EVENTS	POSSIBLE IMPACTS ON AGRICULTURE, FORESTRY, FISHERIES AND ECOSYSTEMS
Warmer and fewer cold days and nights; warmer and more frequent hot days and nights over most land areas	Increased yields in colder environments; decreased yields in warmer environments; increased insect pest outbreaks
Warm spells and heat waves increasing in frequency over most land areas	Reduced yields in warmer regions due to heat stress; increased danger of wildfire
Heavy precipitation events increasing in frequency over most areas	Damage to crops; soil erosion; inability to cultivate land due to waterlogging of soils
Drought-affected area increases	Land degradation and soil erosion; lower yields from crop damage and failure; increased livestock deaths; increased risk of wildfire; loss of arable land
Intense tropical cyclone activity increases	Damage to crops; uprooting of trees; damage to coral reefs
Extremely high sea levels increase in incidence (excludes tsunamis)	Salinization of irrigation water, estuaries and freshwater systems; loss of arable land and increase in migration

FAO, Climate Change Adaptation and Mitigation in the Food and Agriculture Sector: Technical Background Document from the Expert Consultation Held on 5 to 7 March 2008 (Rome: FAO, 2008), <ftp://ftp.fao.org/docrep/fao/meeting/013/ai782e.pdf>.

## CLIMATE CHANGE AND SOIL FERTILITY: INCREASING SMALLHOLDER FARMER RESILIENCE

In 2012, a CRS study assessed trends and the expected effects of climate change in Central America.<sup>1</sup> Climate models examined maize and bean cultivation and projected the medium- and long-term effects of changing weather patterns on production. An important finding for policymakers is that soil quality is a key factor in determining crop resilience to climate change.



Degraded soils increase farmer vulnerability to the effects of climate change. CRS is supporting farmers across the globe to improve soil quality and water management practices.

Photo by Kim Pozniak / CRS

The chart at right compares production losses for poor versus good soils. Poor soils lack nutrients and organic matter. These deficiencies reduce rainwater infiltration and can contribute to weak root system

development, hindering water uptake by plants. As a result, crops—and smallholder farmers—are more vulnerable in both flood and drought situations.

CRS programs around the world are working with communities to restore degraded land and increase agricultural production through cost-effective soil and water conservation techniques. For more information see *Tortillas on the Roaster*<sup>2</sup> and *Watershed Development and Integration in Southern Malawi*.<sup>3</sup>

**Table 2. Predicted impacts on maize production by the 2020s, in four countries in Central America<sup>4</sup>**

COUNTRY	% CHANGE IN YIELDS	
	POOR SOILS	GOOD SOILS
El Salvador	-32.2	-1.1
Guatemala	-10.8	0.5
Honduras	-29.5	-11.7
Nicaragua	-11.0	-3.3

1 CRS, International Center for Tropical Agriculture (CIAT), International Maize and Wheat Improvement Center (CIMMYT), and the Howard G. Buffett Foundation, *Tortillas on the Roaster Summary Report: Central American Maize-Bean Systems and the Changing Climate* (Baltimore: CRS, 2012), <http://www.crsprogramquality.org/publications/2012/10/9/tortillas-on-the-roaster-summary-report-central-american-mai.html>.

2 Ibid.

3 Christopher Michael Reichert, *Watershed Development and Integration in Southern Malawi* (Baltimore: CRS, 2014), <http://www.crsprogramquality.org/publications/2014/9/26/watershed-development-and-integration-in-southern-malawi.html>.

4 *Tortillas on the Roaster Summary Report*, p. 14.

Poverty and injustice exacerbate the effects of a changing climate in these poor communities. The poorest farmers are left to till the poorest soils, and degraded land is less resilient, less able to compensate in the face of flood or drought.<sup>7</sup> Global inequality and the destruction of the environment are interrelated,<sup>8</sup> and demand a holistic, people-centered response. At CRS, the devastating effects we witness in our work and our mission to serve call us to action. Helping rural communities to adapt to a new reality of a harsher climate represents the heart of CRS' response to climate change. But as we work to increase the capacity of people to adapt, we see the need outstripping the available financial support.

7 Catholic Relief Services, International Center for Tropical Agriculture (CIAT), International Maize and Wheat Improvement Center (CIMMYT), and the Howard G. Buffett Foundation, *Tortillas on the Roaster Summary Report: Central American Maize-Bean Systems and the Changing Climate* (Baltimore: CRS, 2012).

8 "Cardinal Peter Turkson Delivers the Trócaire 2015 Lenten Lecture, Saint Patrick's Pontifical University, Maynooth," Irish Catholic Bishops' Conference, accessed June 5, 2015, <http://www.catholicbishops.ie/2015/03/05/cardinal-peter-turkson-delivers-trocaire-2015-lenten-lecture-saint-patricks-pontifical-university-maynooth/>.

## THE UNITED STATES MUST MOBILIZE GENEROUS FINANCING

The U.N. estimates that \$100 billion per year will be needed by 2020 to stem global warming and address adaptation needs. In response, the U.S. has pledged \$3 billion over 4 years to the newly established Green Climate Fund in support of developing country needs. Now the Obama administration must build political will among decision-makers and the American public to ensure the U.S. follows through on its promises.

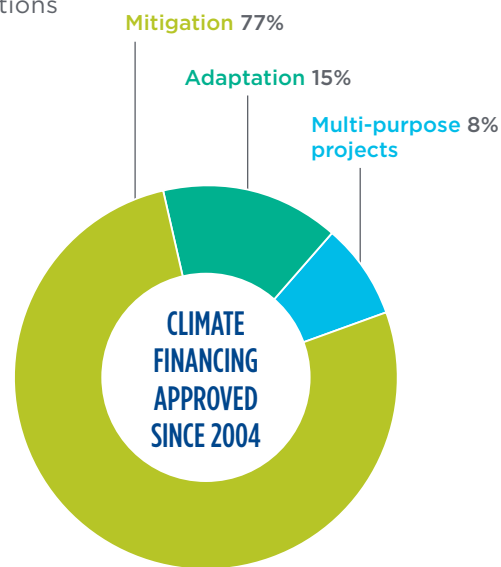
The presidential budget request includes \$500 million for climate finance via the Green Climate Fund for fiscal year 2016. CRS supports this modest first step, but it is not enough to meet the enormous financial gap.

**We encourage the administration and all policymakers to rally generous support for the Green Climate Fund and to help establish it as the preeminent global climate finance institution.** In taking decisive action, the U.S. will serve as a role model to other countries, both developed and developing. Given our status as a world power and the world's second-largest emitter of greenhouse gases, U.S. policymakers must understand that the world is watching—and demanding American leadership.

## INVESTMENTS IN ADAPTATION AND MITIGATION MUST BE BALANCED

To demonstrate that leadership, in addition to generous financing, the U.S. must raise the profile of adaptation and call the world's attention to the human face of climate change. Of the climate financing that has been mobilized to date, a very high percentage has been directed at curbing greenhouse gas emissions. Concerned by the extent to which people are already affected, many developing nations and civil society organizations have called for equal investment in mitigation and adaptation responses. Though the ideal ratio of investment is difficult to know, CRS' experience from our work overseas is that adaptation has been woefully underfunded, and a greater balance in financing is needed.

**The U.S. should increase investments in climate change adaptation to empower the 3 billion most at-risk people to prepare themselves, their homes, their farms and their communities to constructively cope with the potentially devastating change that is already happening.** Not only will such investment reduce unnecessary human suffering, it will also reduce the economic cost of chronic emergency response. The world's Least Developed Countries and Small Island Developing States are least able to finance their own adaptation programs. Many of the 3 billion people most vulnerable to climate change live in these places, and the U.S. should ensure adequate support to the people of these nations.



Source: Climate Funds Update 2013

## CLIMATE FINANCE MUST SUPPLEMENT EXISTING DEVELOPMENT ASSISTANCE

Ongoing development assistance programs already play a role in helping vulnerable people to adapt. CRS welcomes the Obama administration's mandate that all development assistance must become climate-resilient. Applying a climate-resilient lens to all development programming marks an important step in recognizing that environmental protection is fundamental to the elimination of poverty.

**We appeal to the administration, however, to ensure that funding for climate finance *supplements* existing development assistance.** Many developing countries are investing significant amounts of their comparatively modest national budgets to adapt and prepare for climate-related disasters. If the global community is to achieve the \$100 billion in financing that is required by 2020, all countries must be transparent and mobilize investments above and beyond current development assistance flows.

Finally, investments in climate change adaptation must follow morally appropriate principles of good development. These principles include ensuring transparency, accountability, local ownership and participation of civil-society organizations, including those that are faith-based.

## THE U.S. MUST EXERCISE DECISIVE LEADERSHIP

The world is in need of global leadership to prevent the crisis that climate change could become if left unaddressed. The United States, as the world's premier political and economic power, has an indispensable role to play and a moral responsibility to act.

Pope Francis's encyclical on human ecology reminds us of the relationship between concern for the poor and responsibility for the environment. He calls for us to recalibrate our relationship with nature and with each other. CRS looks forward to engaging with policy makers to support the changes that will enable that recalibration, leading to a just, sustainable and dignified future for generations to come.

*I would like to ask all those who have positions of responsibility in economic, political and social life, and all men and women of goodwill: let us be “protectors” of creation, protectors of God’s plan inscribed in nature, protectors of one another and of the environment.*

—Pope Francis,  
homily at St. Peter's Square,  
March 19, 2013

**faith. action. results.**



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