Climate and Church

How Global Climate Change Will Impact Core Church Ministries

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EXECUTIVE SUMMARY

The impacts of global climate change threaten all of God's creation and will make it more difficult for people of faith to care for those in need. With expected increases in drought, storm intensity, disease, species extinction, and flooding, the impacts of global climate change will increase the lack of food, shelter, and water available, particularly to those living in or near poverty. Although global climate change will affect all human populations across the globe, it will hit those living in poverty the hardest because they depend on the surrounding physical environment to supply their needs and have limited ability to cope to climate variability and extremes. According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, developing countries are expected to suffer the most from the negative impacts of climate change.[1]

Though many understand the devastating impacts that climate change will have on human communities around the world, few understand the impacts that climate change will have on core church ministries such as refugee resettlement, feeding the hungry, and disaster relief. The impacts of global climate change is already calling on the church to provide more financial resources and volunteer services to meet the growing needs of people in poverty in the U.S. and around the globe.

REFUGEE RESETTLEMENT. In order to maintain their current level of assistance, as global climate change increases the number of refugees, faith-based organizations and churches will need to dramatically increase their support to help refugees coming to the US. For instance, to maintain the same percentage level of support (40.6 percent) for refugees coming into the U.S., Church World Service and Lutheran Immigration and Refugee Service will have to support an additional 82,989 refugees each year, costing an estimated $278.4 million, six times the current budget for Church World Service and Lutheran Immigration and Refugee Service.

FOOD SECURITY. Through crop development and financial support many denominations and faith-based organizations provide food security for hundreds of thousands of people around the world. Fifteen faith-based organizations and denominations partner with the Foods Resource Bank (FRB), a non-profit program that works through projects in the U.S. to provide financial assistance to communities abroad, enabling them to become food secure.[2] In 2006, the FRB and its members contributed $2.5 million dollars to these impoverished communities.[3] Currently, National Council of Churches (NCC) affiliated denominations and communions account for more than 48 percent of FRB's funding. To meet the growing need in food security caused in part by global climate change, NCC-affiliated denominations and communions would collectively need to provide $2.24 million a year to developing countries, a substantial increase in current budget.

DISASTER RELIEF. As witnessed during Hurricanes Katrina and Rita, the faith community continues to serve as first responders to those impacted by disasters, providing essential food, water, and shelter to individuals who cannot fend for themselves. With an expected rise in severe hurricanes because of global climate change,[4] the

faith community will be asked to provide a greater amount of disaster relief, not just in terms of financial resources, but also in terms of human services such as temporary shelter, meals, volunteers for home and church repairs, counseling, and medical care. If, over the next 30 years, as the current trend indicates, more than half of hurricanes are category 4 and 5, to maintain the same level of financial support, the faith community will need to increase funding for relief and development by more than 42 percent. It is evident that the cost and damages by hurricanes will only increase, calling on the faith community to provide more support to congregations and communities in need.

The reality of the growing global climate change crisis calls for the church to be not just reactive in its response to global climate change but to prescribe to the world a need to reduce carbon emissions in order to prevent the catastrophic impacts of global climate change. Global climate change's impacts are already being felt and will continue to be felt, requiring the church and the larger global community to help impoverished communities adapt to the changes. However, these impacts can be lessened by reducing global carbon emissions globally and in our own communities. Churches can help mitigate carbon emissions by reducing their own carbon footprint and insist that businesses and governments do the same.

INTRODUCTION

While ultimate ownership of creation is God's, we have a responsibility to care for all of God's creation—both human and nonhuman. And as God's people, we have a responsibility to work for justice and protect the "least of these," those communities that are in need.

The impacts of global climate change threaten all of God's creation and will make it more difficult for people of faith to care for those in need. The increase in greenhouse gas emissions is warming the Earth to dangerous levels and will continue to result in increased drought, storm intensity, disease, species extinction, and flooding.[5] These impacts will increase the lack of food, shelter, and water available, particularly to those living in or near poverty. Although global climate change will affect all human populations across the globe, it will hit those living in poverty the hardest because they depend on the surrounding physical environment to supply their needs and have limited ability to cope to climate variability and extremes. Global climate change will reduce access to drinking water, limited access to food, and negatively impact human health particularly in countries such as Africa, Asia, and Latin America. According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, developing countries are expected to suffer the most from the negative impacts of climate change.[6]

"And the LORD God took the man and put him into the garden of Eden to till it and to keep it."
Genesis 2:15

"The balance of evidence suggests that there is a discernible human influence on global climate."
Intergovernmental Panel on Climate Change

Churches, acting as the body and heart of Christ, remain firm in their dedication to feed the hungry, house the homeless, welcome the stranger, eradicate poverty, and rescue those in crisis. As evidenced in the Gulf Coast after Hurricane Katrina, the Church rises to the challenges of the day and provides great service and comfort to those in need. However, global climate change, because of its sweeping and devastating impacts, challenges the Church

as never before. Christians are called to help those in need, which will increase to unprecedented numbers as a result of global climate change.

In many ways, the impending crisis of global climate change represents a moral failure on our part as stewards of God's creation and harbingers of justice. The United States, and other industrialized nations contribute more carbon emissions than their developing neighbors.[7] And, developing countries will more acutely feel the impacts of our carbon emissions. Our responsibility as Christians, to be good stewards of God's creation and to work for justice, means that we must address global climate change with a determined heart, mind, and voice.

GLOBAL CLIMATE CHANGE IMPACTS ON CORE CHURCH MINISTRIES

Local Christian churches traditionally work to minister to those in need through programs such as soup kitchens, crisis centers, food pantries, homeless shelters, and senior visitation. The larger church, as Christian institutions, have broader ministries that include refugee resettlement, disaster relief, and addressing international poverty and hunger. Though many understand the devastating impacts that climate change will have on human communities around the world, few understand the impacts that climate change will have on these core church ministries. The impacts of global climate change calls on the church to provide more financial resources and volunteer services to meet the growing needs of people in poverty in the U.S. and around the globe.

GLOBAL CLIMATE CHANGE AND POVERTY

Climate change and poverty are intricately connected. Studies indicate that people in poverty around the world will be the least able to deal with the effects of climate change. Increased drought, flooding, and disease will only exasperate the already dire conditions of those living in poverty. While those living in poverty in the U.S. feel the squeeze of global climate change, the negative impacts of climate change fall hardest on the impoverished in developing nations. The faith community plays a critical role in addressing poverty, acting as a voice for the voiceless and providing financial assistance when possible. Climate change both undermines current assistance and increases the need for support in the U.S. and abroad.

In Ethiopia and Kenya, two of the world's most drought prone countries, children age 5 and under are 36-50 percent more likely to be malnourished if they were born during a drought. In Ethiopia, an additional 2 million children were malnourished in 2005. Drought areas in sub-saharan Africa could expand by 60-90 million hectares with these dry land zones suffering losses of approximately $26 billion dollars.

- The additional number of people affected by malnutrition could rise to 600 million by 2080.
- An additional 1.8 billion people could be living in a water scarce environment by 2080.
- Up to 330 million people being permanently/temporarily displaced through flood.
- An additional 220-400 million people could be exposed to malaria.

REFUGEE RESETTLEMENT

Historically, people flee and become refugees to avoid persecution, war, terrorism, extreme poverty, famine, and natural disasters. The faith community in the U.S. has responded by working to ensure that refugees arriving in the United States have the financial resources to resettle here and support their families. Because of a predicted rise in famine, natural disasters, sea levels, catastrophic flooding, and expanding deserts as a result of global climate change, refugee resettlement in the United States is projected to increase over the years.[8] Church communities, therefore, will be called upon to provide for settling refugees in greater measure.

The United Nations University calculates that there were 19.1 million environmental refugees in 2005[9] and according to the International Federation of Red Cross, climate change already causes more population displacement than war and persecution.[10] It is estimated that if global climate change continues as projected, there will be as many as 50 million refugees in the world by 2010.[11] In 2006, there were 8.4 million known refugees in the world.[12] Of those, 41,279 came and resettled in the US.[13] It is estimated that approximately 245,708 environmental refugees will enter the U.S. each year starting as soon as 2010.

The religious community provides a great deal of support for refugee resettlement in the U.S. For instance, the Lutheran Immigration and Refugee Service, the second biggest refugee organization in the US, resettles about 12,000 refugees per year.[14] Church World Service, a sister organization to the National Council of Churches that provides relief, development, and refugee assistance, resettled 4,768 refugees in 2006.[15] In total, these two organizations helped resettle 16,768 refugees in 2006, which is 40.6 percent of the total number of the 41,279 refugees resettled in the U.S.

"Do not neglect to show hospitality to strangers, for by doing that some have entertained angels without knowing it."
Hebrews 13:2

Environmental refugees are individuals displaced from their homes because of sea level rise, expanding deserts, catastrophic flooding, and other environmental concerns.

In 2006, Church World Service and Lutheran Immigration and Refugee Service spent an average of $2,791 for each refugee. However, according to the World Health Organization, total estimated costs of initial resettlement in the first four months is closer to $8,000 per refugee.[16] Much of the additional funding and support for refugees comes from local organizations and offices supported by local church and community groups.

In order to maintain their current level of assistance, as global climate change increases the number of refugees, faith-based organizations and churches will need to dramatically increase their support to help refugees coming to the US. For instance, to maintain the same percentage

According to the United Nations Millennium Project Report (2005), more than 800 million people go to bed hungry every day, of which 300 million are children. More than 90 percent of these 300 million children are suffering long-term malnourishment and micronutrient deficiency. Every 3.6 seconds, another person dies of starvation and the large majority are children under the age of five. In addition, more than 40 percent of Africans do not even have the ability to obtain sufficient food on a day-to-day basis.

level of support (40.6 percent) for refugees coming into the U.S., Church World Service and Lutheran Immigration and Refugee Service will have to support an additional 82,989 refugees each year, costing an estimated $278.4 million, six times the current budget for Church World Service and Lutheran Immigration and Refugee Service.

As followers of Christ, we are called to care for those who wish to make a new home, as we are all strangers in this world (1 Peter 2:11). However, working to address global climate change sooner rather than later will protect our brothers and sisters around the globe by reducing the need for them to be displaced from their homes and their cultures because of environmental crises.

CLIMATE CHANGE, HUNGER, AND AGRICULTURE

Jesus commands us to care for those who are the "least of these"—the hungry, the thirsty, the poor, and the vulnerable. Yet, the world is filled with people who go to bed hungry and spend their days in thirst. Unfortunately, global climate change will exacerbate the issues of hunger and lack of access to water. Food production will be affected by rainfall, flood, drought, and changing temperatures.[17] Access to water resources will also be impacted by global climate change. Food and water shortages will hit people in poverty, especially those in least developed countries, the hardest.

"For I was hungry and you gave me food, I was thirsty and you gave me something to drink, I was a stranger and you welcomed me… just as you did it to one of the least of these who are members of my family, you did it to me."
Matthew 25:35, 40

The Church has a long history of providing food, clothing, and shelter to those in developing countries. One of the primary areas of focus is food security, ensuring that people have a way to obtain the calories they need every day. Through crop development and financial support many denominations and faith-based organizations provide food security for hundreds of thousands of people around the world.

Fifteen faith-based organizations and denominations partner with the Foods Resource Bank (FRB), a non-profit program that works through growing projects in the U.S. to provide financial assistance to communities abroad, enabling them to become food secure.[18] In 2006, the FRB and its members contributed $2.5 million dollars to these impoverished communities. Of that money, $1.2 million was donated by NCC- affiliated denominations and communions, the majority of which went to African communities and assisted almost a half a million people in their efforts to achieve food security.[19]

FOOD SECURITY: AFRICA IN FOCUS The Intergovernmental Panel on Climate Change's Fourth Assessment predicts that by 2020 crops yields will decline by 50 percent in Africa,[20] further exacerbating an already dire situation. With increased drought, rising temperatures, and more erratic rainfall, the UN Development Program predicts up to 600 million more people will face malnutrition.[21] Semi-arid areas of sub-Saharan Africa, which have some of the highest concentrations of poverty in the world, will face the danger of potential productivity losses of 26 percent by 2060.[22] Because Africa's local food production is necessary to ensure health and food security for its people, reduced water availability and rising sea levels

as a result of global climate change will have life-threatening impacts. If rain-fed agriculture yields are reduced by 50 percent,[23] 263.25 million people whose food security and livelihoods depend upon this type of agriculture will be negatively affected.

In addition, agriculture currently accounts for 30 percent of Africa's gross domestic product (GDP) and 50 percent of Africa's total export value.[24] Seventy percent of Africa's population depends on agriculture for their livelihood. In addition, 90 percent of the rural population depends on rain-fed agriculture for income and food security (65 percent of Africa is considered rural).[25] Economists suggest that crop revenues could drop by 90 percent by the year 2100 as a result of climate change.[26] In a continent whose agricultural production accounts for 30 percent of its GDP, this would have devastating consequences.

According to the UN Development Program, up to 332 million people in coastal and low-lying areas globally could be displaced through increased flooding and tropical storm activity. Over 70 million Bangladeshis, 22 million Vietnamese, and six million Egyptians could be affected by global warming-related flooding.

Because of the high prevalence of food security problems on the continent, the faith community focuses on food assistance in Africa. In 2006, almost 400,000 people were assisted in Africa by more than $1.5 million in funds by FRB.[27] Of those assisted by FRB in Africa, more than half of them will experience severe crop devastation and loss of food security in the future, forcing individuals to possibly flee their native lands and become refugees. Since FRB spends $4.12 per person,[28] to maintain their same level of support , they will need to increase their spending to more than $2.9 million dollars, 187 percent higher than their current level of financial support.

Currently, NCC-affiliated denominations and communions account for more than 48 percent of FRB's funding. To meet the growing need in food security globally, NCC-affiliated denominations and communions would collectively need to provide $2.24 million a year to developing countries, a substantial increase in current budget.

More than 2.6 billion people, representing forty percent of the world's population, do not have basic sanitation, and more than one billion people still use unsafe sources of drinking water. Five million people, mostly children, die each year from water-borne diseases.[29] Communities around the world are already struggling and global climate change will only exasperate these impacts.

Africa food security issues and the example of FRB provides an illustration of how global climate change will financially impact church ministries that aim to provide food security for millions around the world. The grim reality of global climate change will put additional burdens on these important ministries, taxing financial resources and leaving churches with a larger role to fill in order to provide for those who are in need.

Africa's population is approximately 900 million people with 65 percent of Africa's population living in a rural area (approx. 585 million people) 90 percent of that rural population depends on rain-fed agriculture (approx. 526.5 million people).

Water scarcity is already a major problem for the world's poor. The number of people impacted by water scarcity is projected to increase from about 1.7 billion people today to around 5 billion people by 2025, independent of climate change.[30] Climate change is projected to further reduce water availability in many water scarce regions, particularly in the subtropics, due to increased frequency of droughts, increased evaporation, and changes in rainfall patterns and run-off. According to a recent (2007) United Nations Development report, an additional 1.8 billion people will face water stress by 2080, with large areas of South Asia and northern China facing a grave ecological crisis as a result of glacial retreat and changed rainfall patterns.[31]

GLOBAL CLIMATE CHANGE AND DISASTER RELIEF

The raw fuel for tropical storms is a warm sea, so scientists predict that global warming, by driving up ocean surface temperatures, will intensify Atlantic hurricanes and typhoons. The numbers of category 4 and 5 hurricanes have doubled since 1970[32] and the percentage of category 4 and 5 hurricanes have steadily increased and now account for 30 percent of hurricanes as compared to 20 percent in the 1970s.[33] As warmer waters increase hurricane intensity, the U.S. and the rest of the world will experience greater loss of life and property damage. A recent study shows that the total number of hurricanes may also be increasing.[34]

"For he has not despised or disdained the suffering of the afflicted one; he has not hidden his face from him but has listened to his cry for help." Psalm 22:24

Millions of individuals around the world live in coastal areas that are threatened by an increase in storm intensity. In the U.S., many communities along the coast are living in poverty, forced to live on marginal flood plain lands because of cheaper real estate. These individuals and families with limited income are less equipped to evacuate when storms approach and are at a substantial disadvantage financially during recovery and rebuilding efforts. Few people can forget the devastating images of more than 20,000 people stranded in the city of New Orleans in the aftermath of Hurricane Katrina in 2005.

In 2007, for the first time in history, two category 5 Atlantic hurricanes made landfall, causing thousands of people to be displaced from their homes and killing several hundred people.[35] With an increase in category 5 hurricanes, there is also a corresponding increase in lives lost and property damage. While a category 3 hurricane costs an average of about $1 billion in damages, a category 5 hur-

ricane, according to the Saffir-Simpson Intensity Scale, costs an average of $6 billion, about 6 times the financial costs of a category 3 storm.[36]

As witnessed during Hurricanes Katrina and Rita, the faith community continues to serve as first responders to those impacted by disasters, providing essential food, water, and shelter to individuals who cannot fend for themselves. With an expected rise in severe hurricanes, the faith community will be asked to provide a greater amount of disaster relief, not just in terms of financial resources, but also in terms of human services such as temporary shelter, meals, volunteers for home and church repairs, counseling, and medical care.

An average Category 5 hurricane that hits the U.S. costs $15.8 billion dollars. Because of extreme flooding in New Orleans, total costs for Hurricane Katrina, a category 3 storm once it hit the U.S. Gulf Coast, equaled $84 billion. After Hurricane Katrina hit the Gulf Coast in 2005, NCC-affiliated communions and denominations contributed significantly to hurricane relief efforts, with a total of $250 million given for recovery efforts.

If, over the next 30 years, as the current trend indicates, more than half of hurricanes are category 4 and 5, to maintain the same level of financial support, the faith community will need to increase funding for relief and development by more than 42 percent. It is evident that the cost and damages caused by hurricanes will only increase, calling on the faith community to provide more support to congregations and communities in need.

COSTS OF CATEGORY 5 HURRICANES

1935 Labor Day Hurricane $90 million[37]

1969 Hurricane Camille $8 billion[38]

1992 Hurricane Andrew $38.9 billion[39]

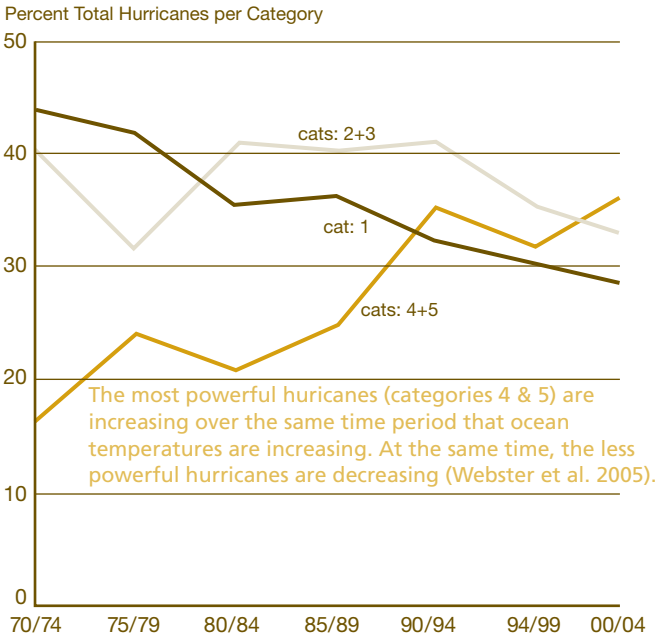
(dollars factored for inflation and are in 2007 US dollar equivalents)

RESPONDING TO GLOBAL CLIMATE CHANGE

Global climate change clearly impacts all of God's creation. Although human communities around the globe feel the effects of global climate change, least developed nations and people living in poverty disproportionately feel the impacts. The church community strives to especially serve these communities through ministries such as food assistance, disaster relief, and refugee resettlement. These church ministries will continue to keenly feel the impacts of global climate change and people of faith serving these communities will be looked upon to provide more financial assistance and volunteer services to those in need.

The reality of this growing crisis calls for the church to be not just reactive in its response to global climate change but to prescribe to the world a need to reduce carbon emissions in order to prevent the catastrophic impacts of

HIGHER PERCENT OF CATEGORY 4 & 5 HURRICANES WORLDWIDE



The most powerful huricanes (categories 4 & 5) are increasing over the same time period that ocean temperatures are increasing. At the same time, the less powerful hurricanes are decreasing (Webster et al. 2005).

THE INJUSTICE OF GLOBAL CLIMATE CHANGE ON COMMUNITIES OF COLOR

Global climate change will be more keenly felt by communities of color.[40] As Christians, we are called to work for justice and correct the injustices of global climate change.

- Asthma will increase because of global climate change and will disproportionately impact African Americans, which are nearly three times as likely to be hospitalized or killed by asthma than whites.
- African Americans are disproportionately impacted by deaths during heat waves and from worsened air pollution. Future heat waves will be most lethal in the inner cities of the northern half of the country, such as New York City, Detroit, Chicago, and Philadelphia, where many African American communities are located.
- Unemployment and economic hardship associated with climate change will fall most heavily on the African American community.
- According to a report from the Congressional Black Caucus Foundation, reducing emissions to fifteen percent below 1990 levels would mitigate these adverse health effects of climate change, while concomitantly decreasing air pollution related mortality, saving an estimated 10,000 African American lives per year by 2020.

global climate change. Global climate change's impacts are already being felt and will continue to be felt, requiring the church and the larger global community to help impoverished communities adapt to the changes. However, these impacts can be lessened by reducing global carbon emissions globally and in our own communities. Churches can help mitigate carbon emissions by reducing their own carbon footprint and insist that businesses and governments do the same.

Christians are indeed called to respond to those in need. As Christians, we are also called to protect God's creation from harm and to work towards a just and sustainable world. Addressing global climate change in our own churches, communities, and nation will bring about the justice and protection of God's creation that we seek.

THE IMPACTS OF GLOBAL CLIMATE CHANGE ON THE ELDERLY

The elderly, who are particularly vulnerable to changes in the environment, will, according to studies be disproportionately impacted by global climate change both here in the U.S. and abroad. The National Institute of Health and the Center for Disease Control are preparing for these climate impacts, which include: heat waves and noxious air (resulting from increased carbon dioxide in the atmosphere) as well as droughts, floods, and extreme weather events. In 2003, a heat wave killed nearly 15,000 people in France most of them elderly[41] and recent heat waves in the U.S. have killed hundreds of elderly around the country. Projections have indicated that if a similar heat wave to the one in Europe in 2003 were to hit the United States, more than 3,000 people would die in New York City in a day and thousands more in big cities across the country. The elderly in the U.S. and abroad are most vulnerable to the impacts of climate change and as the effects become more significant this age group will need assistance to cope.[42]

THE IMPACTS OF GLOBAL CLIMATE CHANGE ON YOUTH

Today's youth will be left with a crippled Earth if we fail to take action to curb our carbon emissions and prevent catastrophic climate change. Though scientists are just beginning to understand the impacts of climate change on the world's youth, early reports indicate that climate change will enhance the factors that already threaten children's health. Worsening air quality, extreme weather events, and more frequent and intense heat stress events all burden children disproportionately. Worsening air quality leads to a higher incidence of asthma. Extreme weather events threaten the lives of children who are more vulnerable to weather extremes, especially those living in developing countries who don't have the resources to escape impending disaster. Heat stress also overtakes young children whose bodies are unable to adjust as easily to changing temperature and who are unable to communicate that they are uncomfortable and overheating.[43]

Note: The calculations and projections referenced in this paper are estimates and are intended to provide a general understanding of the impacts of climate change on the churches ministries. This document is meant to serve as an educational piece for National Council of Churches communions and its members and is subject to change based on findings in the scientific community.

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