



## A Case Study on Climate Change and its Effects on the Global Poor

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### Abstract

The Intergovernmental Panel on Climate Change's report, *Climate Change 2007: Impacts, Adaptation and Vulnerability*, outlines the risks that climate change is and will continue to bring to human and ecological communities across the globe. The report suggests it will be the global poor who will face the most devastating effects of global climate change. In light of this report, this paper will endeavor to articulate an understanding of who the global poor are today and how they are increasingly marginalized and disaffected by a warming climate. It will then identify and look to the experience of one Christian community's contextual response to the current suffering of the poor in order to identify the theological principles being lived out in the praxis of the community. After these principles are identified, the paper will evaluate them for appropriation in a theological ethic that can serve as further inspiration for continued and future faith-filled responses to the emerging challenges of climate change on marginalized communities.

### Keywords

climate change, global warming, preferential option for the poor, poverty, religion, social justice

During September of 2007, researchers at the National Snow and Ice Data Center headquartered in Boulder, Colorado, reported that in just six days of observation, an area of Arctic sea ice the size of Florida melted away, revealing an unprecedented arctic melt rate along with the lowest amount of sea ice ever recorded (Sandell 2007: 1). Ice is melting. Weather patterns are shifting. Our global climate is changing. Scientific consensus on this reality was reached long ago and popular consensus in the United States is finally catching up.

Few doubt the scientific reality of climate change these days and its increasing intensity as changes make news headlines. In March of 2008 the Associated Press reported that a chunk of Antarctic ice, purportedly safely positioned on the Wilkins Ice Shelf for the last 1,500 years and seven times the size of Manhattan Island, suddenly collapsed into the ocean (AP 2008). Water usually

frozen for so long that it is considered “permanent” or perennial ice is melting and breaking records. NASA has reported that “perennial Arctic ice cover, as of February [2008], rests on less than 30 percent of the [Arctic] ocean,” a reduction in year-round ice that covered “more than half of the Arctic Ocean in the mid-1980’s” (Block 2008). “For the first time in recorded history, [during the summer of 2007] the entire Northwest Passage between the Pacific and Atlantic oceans was ice-free” (Block 2008). On 11 September 2009, Niels Stolberg, president of a German-based shipping company reports that two of their ships (ironically carrying “cargo for a power plant project” in Siberia) made history, calling “it the first time a Western shipping company successfully transited the Northeast passage” (Moore & Borenstein 2009). The reality of climate change and impending consequences is a reality becoming harder for Earth’s communities to ignore.

It is evidenced in facts like the few just mentioned and anecdotally in strange and more severe weather conditions many claim to notice. What, however, are the scientific community and their cadre of empirical data reports predicting will be the real-life effects of global climate change on human populations across the globe, especially on those communities least prepared to adapt to those changes?

The Intergovernmental Panel on Climate Change predicts some of the following under business as usual (IPCC 2007: 13): In Africa, rain-fed agriculture could be reduced by up to 50% in some countries by 2020, severely compromising access to food and leaving 25 million to 250 million people vulnerable to increased water stress. In Asia, diarrhoeal disease associated with more intense flooding caused by glacier melts in the Himalayas would increase along with the abundance and toxicity of cholera in South Asia.

Global climate change will have significant effects on human populations across the globe and human populations on every continent will feel the impact of those effects. However, not every continent will be affected in the same way and not every community has adequate resources to lessen the most disastrous effects.

According to an increasing number of scientific reports, including the report from the IPCC just mentioned, it will be the global poor who will face the most devastating effects of global climate change induced largely by the global affluent and it will be the poorest regions of the world with the least amount of resources to mitigate those negative effects.<sup>1</sup> The Reverend Jim Ball

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<sup>1</sup> Dr. Richard C.J. Somerville was a coordinating lead author for this report and describes the scientific value of this report in his later article on “The Ethics of Climate Change” when he says, “Mainstream climate scientists like me regard these reports as the gold standard in our field.

offers one faith based perspective by noting that, “If hundreds of millions of the world’s poorest neighbors could face increased hunger, floods, droughts, and disease, the call for those of us who seek to emulate the compassion of Christ can be nothing less than to work for strong and immediate action to curb global warming” (Pritchard 2007:11).

Though some in the faith community cling to the notion that climate change is a myth, those voices are quickly becoming weaker and fewer. Meanwhile, Christian ministers like Jim Ball are standing alongside Jews and Muslims and others in the collective moral call to create and pursue solutions to climate change. The growing support of faith communities for climate change action, mitigation and adaptation is witnessed in “An Interfaith Declaration on the Moral Responsibility of the U.S. Government to Address Global Warming,” that promptly followed the release of an IPCC report on climate change. We need more of this.

As the climate continues to change and as those changes continue to intensify and disproportionately afflict the global poor, it is imperative that communities of faith stand together and use all the available resources of their traditions to offer a response that resists the social injustices of global climate change and results in action that works to mitigate its most devastating effects on the global poor.

### **Who Are the Global Poor Today?**

Global climate change is not only the largest moral issue of our time, as Al Gore has notoriously opined in his documentary *An Inconvenient Truth*, it is also one of the largest social injustices of our time. It afflicts through the social institutions, organizations and structures of our global society in macro proportions and it afflicts the global poor most disproportionately. Why?

What makes the global poor so vulnerable to climate change? How are the global poor geographically threatened? How are they socially, politically and economically at risk to receive the wrath of climate change’s most disastrous effects? Why is it the global poor who will be most severely afflicted by the worst effects of global climate change? Who are the global poor?

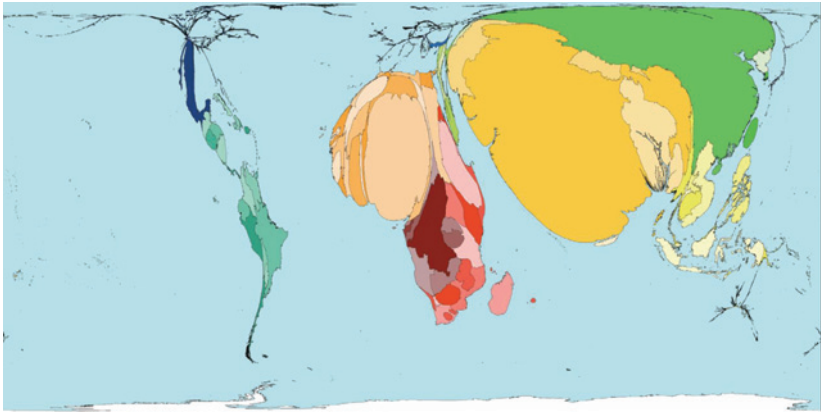
A term like “global poor” and a question like “Who are the global poor?” requires one to ask also, “What is poverty?” People of different socio-economic

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We use IPCC reports as textbooks for our graduate students, and they have been recognized as authoritative by national academies of science, by scientific professional societies, and most recently by the award of the 2007 Nobel Peace Prize.”

backgrounds and countries answer these questions differently. Poverty in the United States looks different from poverty in Africa or South Asia.

Poverty exists in every country in the world but some places in the world have a disproportionately higher number of people suffering from more extreme forms of poverty. One measure traditionally used to describe the most severe and extreme manifestations of global poverty is an income at or below \$1 a day. The following map inflates geographical locations where more people in a country live on \$1 a day and shrinks those locations where fewer people live at or below the \$1 a day economic marker:



*Figure 1.* Inflated Countries with People living on \$1/day or Less. Source: [www.worldmapper.org](http://www.worldmapper.org) © 2006 by SASI Group (University of Sheffield) and Mark Newman (University of Michigan).

The map clearly shows that if the traditional economic marker of \$1 a day is used to define poverty, then the majority of the global poor live primarily in South Asia and Africa. Poverty, however, exists in a variety of forms and a more complete description of poverty and the global poor ought to include more than just income level. It ought also to include access to at least some of society's other basic resources.

Dr. Vidyasagar at the University of Illinois at Chicago Medical Center offers one description of poverty that includes access to some of those basic resources. It is a more holistic description than the traditional \$1 a day description of poverty and is described as follows:

[Poverty] is a situation that places human beings in a state of hunger, sickness and powerlessness. Poverty is living one day at a time, with no access to basic daily needs of food, clean water, education and health care. Poverty is present in all countries, rich and poor; only the proportions differ (Vidyasagar 2006:326).

In a position paper developed by the World Health Organization's Regional Office for Africa, a Zimbabwean woman was asked how she would define poverty and she replied:

You want to know how I define poverty. How can you ask that question when you yourself can see that I live in poverty? The definition of poverty is already in front of you. Look at me, I stay alone, I do not have enough food, I have no decent clothes or accommodation, I have no clean water to drink nearby. Look at my swollen leg. I cannot get to the clinic as it is far for me to walk. So, what kind of definition of poverty do you expect me to give you, which is better than what you have seen with your naked eyes? (World Health Organization 1999:10).

Both Dr. Vidyasagar and the Zimbabwean woman offer definitions of poverty that extend beyond income level and similarly include a lack of access to a variety of other, often structural, social resources such as medical care, clean drinking water, and food. They offer definitions that put a human face on poverty and move the description of poverty beyond easily computed numbers and statistics.

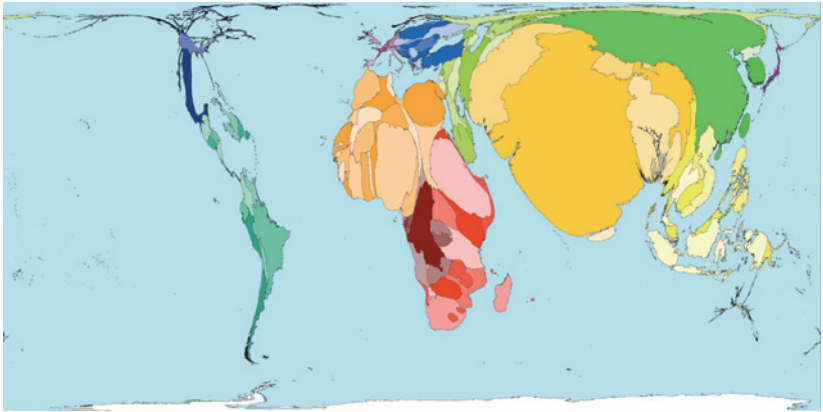
The difficulty with Dr. Vidyasagar and the Zimbabwean woman's more holistic description of poverty, when used as the basis for finding and counting the global poor, is that poverty becomes a very difficult social condition to measure and the global poor a hard population to count.

The Zimbabwean woman, however, feels her poverty is apparent and obvious to the "naked eye" and some efforts have nonetheless been made to quantify those conditions of poverty that are part of a more holistic definition of the term and of this unfortunately large population. The United Nations has developed a Human Poverty Index (HPI-1) for "developing" countries in an effort to include some sort of measurement of desired social dimensions like a long healthy life, pursuit of basic knowledge and a decent standard of living.

The HPI-1 attempts to quantify these qualitative dimensions of society by looking at the indicators of such dimensions. It measures the probability at birth of an individual not surviving until 40 in an attempt to measure one's chance at a long healthy life. It looks at adult literacy rates to measure the pursuit of basic knowledge and it measures the percentage of a population not using improved water sources as well as the percentage of children underweight for their age in order to get a snapshot at a country's potential to offer a decent standard of living for its citizens through clean drinking water and food availability (UNDP 2007:354).

The UN uses these numbers to calculate and measure human poverty in developing countries to form a more holistic understanding of human poverty than just lack of adequate income. Certainly, one's chances of surviving until age 40 cannot be the sole indicator of whether or not one is leading a long and

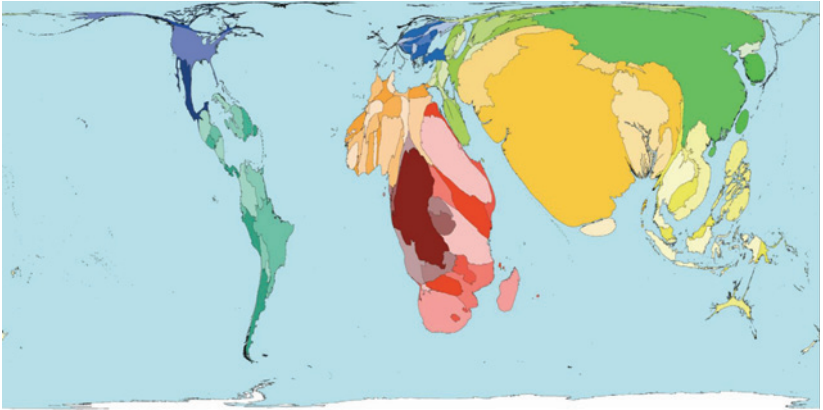
healthy life. It does, however, offer a readily available measurement that can be compared among countries and used in comparison alongside other measurable indicators to paint a more holistic view of poverty's geographical location. The following map is created in the same way as the former but uses the UN's HPI-1 to expand countries according to poverty or shrink them according to wealth as measured by the HPI-1:



*Figure 2.* Impoverished Countries Expanded According to the U.N.'s HPI-1. Source: [www.worldmapper.org](http://www.worldmapper.org) © 2006 by SASI Group (University of Sheffield) and Mark Newman (University of Michigan).

Looking closely at the two maps, one will notice that some countries are smaller and some are larger. Most noticeably, though, one cannot help but see the similarities between the two maps: both the African continent and South Asia are distractingly bloated. A look at the geographical location of global undernourishment is equally revealing, mapped similarly as follows in Figure 3.

Whether or not one uses the traditional \$1 a day income level, or the UN's HPI-1 that includes measurements of life expectancy, adult literacy, water quality, and weight of children, or basic undernourishment rates as measurements to find and describe the global poor living in the most extreme forms of poverty, their location in highest numbers is evident: the global poor, experiencing the most extreme forms of poverty as described in this paper and as best we can measure, seem to reside overwhelmingly on the African continent and South Asia. As our Zimbabwean woman might point out, this unfortunate reality is clear to the "naked eye" with just a glance at the data represented by these simple cartograms.



*Figure 3.* Countries Expanded According to Undernourished Population. Source: [www.worldmapper.org](http://www.worldmapper.org) © 2006 by SASI Group (University of Sheffield) and Mark Newman (University of Michigan).

### **How Are the Global Poor Socially and Structurally Marginalized by a Changing Climate?**

The IPCC has explicitly stated that, “Africa is one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity” (IPCC 2007: 13). The global poor residing in Africa and South Asia are particularly vulnerable because of these two significant reasons.

The ecosystems and weather patterns of Africa and also of South Asia will be uniquely impacted ecologically by climate change. Drought and desertification is expected to become increasingly more common and more severe in Africa due to rising temperatures and depleted water sources. Flooding and waterborne disease organisms are expected to increase in much of South Asia, due to melting snow and ice in the Himalayas.

Rising average global temperature, causing drought in some places of the world and flooding in other places, will continue to happen as a result of climate change regardless of human mitigation efforts in those respective places. This changing geographical, climatological and ecological reality will lead to a whole host of social, economic and political challenges as human communities work to sustain themselves in light of these changes. Those communities currently living in extreme poverty will have the least resources available to mitigate the anticipated challenges. The cartograms shared earlier illustrate the illicit poverty already existing on the African continent and in South Asia and

show that these communities lack the social resources that allow full human flourishing for many of their citizens today, much less the social resources to adapt to impending ecological disasters expected to accompany a changing climate.

One example of the profound effect of expected climatological and ecological changes across the African continent on social and economic systems will become manifested in food production. The IPCC's report on pan African agriculture grimly predicts, "Agricultural production, including access to food, in many African countries and regions is projected to be severely compromised by climate variability and change. The area suitable for agriculture, the length of growing seasons and yield potential, particularly along the margins of semi-arid and arid areas, are expected to decrease. This would further adversely affect food security and exacerbate malnutrition across the continent, making a bad situation even worse. In some countries, yields from rain-fed agriculture could be reduced by up to 50% by 2020." (IPCC 2007: 13).

Look again at the cartogram showing undernourishment on a global scale. Notice, again, how bloated the African continent is and how great the disparity in world hunger is in this part of the world. A reduction in several of these African nations' ability to grow food, by up to 50% by 2020 is a serious social problem rooted in a serious global problem. The social injustice of hunger and undernourishment will become even more difficult to confront when it becomes that much more difficult for people to feed themselves.

The impending economic disaster of whole communities dependant on agricultural investment for social stability is just as grim. It is hard enough when the vegetable crop in the family vegetable garden fails, leaving a family malnourished or unable to eat as healthfully as they ought. It is a larger social problem when the local grain farmer's crop begins to fail year after year, leaving his or her family with no income, no livelihood, and no future. The missing money those farmers would have otherwise used from the profits on their crops to purchase goods in the community will not be present to support and nourish local economies.

This ecological impact of drought on agriculture is and will continue to be dramatic, not just for farmers and their families, but also for the extended communities and the economies in which their money plays a role. The effect cannot help but ripple through the local economies those farmers support, in disastrous and devastating ways, resulting in additional and nearly unimaginable social injustices such as closing schools, hospitals and clinics, and family businesses.



The report estimates that between 75 million to 250 million people living on the African continent will be “exposed to increased water stress due to climate change” by 2020 (IPCC 2007: 13). When water is already a precious commodity for many communities living across the continent, what will this mean for a family who’s mother has to spend two or more hours of her day walking to the nearest water source?

What will she do when that water source dries up and the next nearest source is a four-hour walk away? Will she be forced to keep one of her daughter’s at home from school to help carry water? Will she be unable to provide adequate water for washing and cooking and drinking for her family? How will she be forced to choose what precious little water will be used where and when and what daily household tasks will and will not get done because she has to spend that much more of her day walking to the nearest water source? These are questions that will take on greater urgency for answers as the climate continues to change.

The IPCC also predicts shifts in the “range and transmission potential of malaria” across the African continent (IPCC 2007: 12). Malaria is a disease too familiar to too many people living across the African continent. As with a lack of clean drinking water and food shortages caused by drought, an increase in diseases and disease vectors also significantly disrupts family life, already weak local economies, local politics and social systems and promises to plague many African nations.

Fiona Kobusingye, a Ugandan woman and coordinator of the Congress of Racial Equality Uganda and the Kill Malarial Mosquitoes Now Brigade, shares her experience with and perspective on malaria:

I just got out of the hospital, after another nasty case of malaria. I’ve had it dozens of times. I lost my son, two sisters and three nephews to it. Fifty out of 500 children in our local school for orphans died from malaria in 2005. Virtually every Ugandan family has buried babies, children, mothers and fathers because of this disease, which kills 100,000 of us every year. Even today, 50 years after it was eradicated in the United States, malaria is the biggest killer of African children, sending 3,000 to their graves every day. (Kobusingye 2007).

As the climate changes and the transmission potential of malaria shifts around the continent, moving in and out of communities across the African continent, these realities that Fiona shares will likely grow worse. How disastrous might the disease become for a community when it begins afflicting those populations not currently prepared to prevent the disease—those not accustomed to sleeping under mosquito nets, not able to purchase those nets, and not equipped with hospitals and medical professionals to treat the disease?

The social, economic and political effects of this climatologically induced ecological shift will be no less significant than declining agricultural production and drought. The quantity of questions and the weight of their unknown answers is overwhelming.

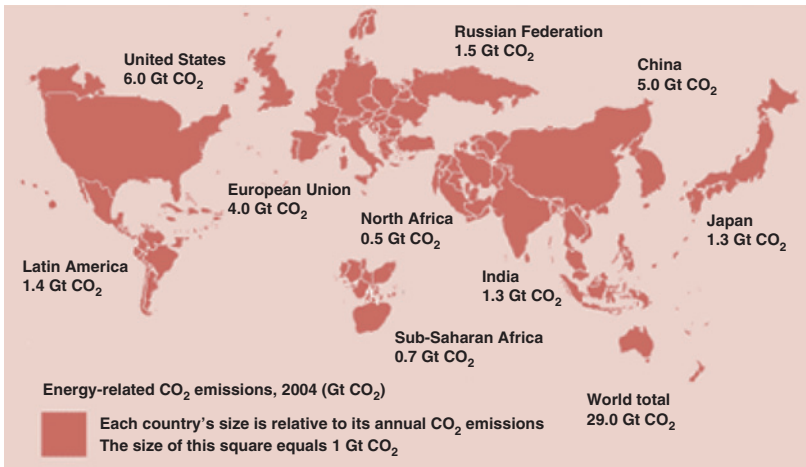
Unfortunately, malaria is not the only disease expected to play a significant role in climate change as it affects the global poor. Remember that many living in extreme poverty, live in South Asia and the effects of climate change will play a significant role on the ecosystems and climatology of this region of the world as well. The IPCC expects that “endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and South-East Asia due to projected changes in the hydrological cycle.” (IPCC 2007: 11).

Cholera is a diarrhoeal disease causing much suffering to its victims and people in South Asia are already too familiar with the disease as outbreaks are already beginning to both increase and intensify. An outbreak in the eastern Indian state of Orissa in 2007 killed at least 115 people and hospitalized more than 2,000 people (Bhubaneswar, Sanjaya 2007: 1). Flooding is expected to increase and potable fresh water sources are expected to decline in much of South Asia as well as in African mega-delta regions “due to large populations and high exposure to sea level rise, storm surges and river flooding,” resulting in sea water contamination of critical fresh water sources used for drinking and food production (IPCC 2007: 9).

The disease, loss of life and livelihood that the impending consequences of global climate change promise are shouldered unequivocally by the global poor and through very little fault of their own if fault can be placed in a population’s contribution to the increased levels of CO<sub>2</sub> emissions that cause and speed up the process of global climate change. The Human Development Report Office of the United Nations has observed in a 2007/2008 report that:

People in the rich world are increasingly concerned about emissions of greenhouse gases from developing countries. They tend to be less aware of their own place in the global distribution of CO<sub>2</sub> emissions.... The distribution of current emissions points to an inverse relationship between climate change risk and responsibility. The world’s poorest people walk the Earth with a very light carbon footprint. We estimate the carbon footprint of the poorest 1 billion people on the planet at around 3 percent of the world’s total footprint. Living in vulnerable rural areas and urban slums, the poorest billion people are highly exposed to climate change threats for which they carry negligible responsibility.

The same report publishes a cartogram that bloats nations responsible for a larger share of CO<sub>2</sub> emissions relative to nations contributing a lesser share of global warming emissions:



*Figure 4.* Expanded Countries with Larger Production of CO<sub>2</sub> Emissions. Source: Mapping Worlds 2007, based on data from CDIAC.

Comparing and contrasting this map with the former maps illustrating global poverty, one notices that this one bloats the United States and much of Europe and Japan while leaving the entire continent of Africa almost entirely unrepresented. It clearly shows the connection between wealth and responsibility for impending disasters expected to hit the global poor especially hard.

It seems that extreme global poverty, whatever its historical causes and however it is defined, will be exacerbated in much of the African continent and Indian sub-continent as the most disastrous effects of global climate change begin and continue to prey upon the social and economic vulnerability of the global poor. The social institutions, organizations and structures of our global society responsible for so many current social injustices, seem poised to continue on strong in the emerging social injustices that accompany a changing climate.

Global climate change is, without doubt, the largest moral issue, and quickly becoming the largest social injustice, of our time because it afflicts so devastatingly the most vulnerable human and ecological communities of our time through all avenues of our social and institutional structures. So what can be done? Specifically, how ought communities of faith, who consider service toward the global poor a core part of their communal identity, proceed? There are ethical responses and theological resources faith communities can draw upon from their experience in responding to current social injustices in order

to inform the theological and ethical response to the emerging social injustices that accompany climate change.

### **A Christian Contextual Response to the Cries of One Marginalized Community and Some Theological Underpinnings**

There is a need for communities of faith to build and articulate an ethic of social responsibility that hears and responds to the challenging cries of both the earth and the poor. Leonardo Boff and Virgil Elizondo note the harsh reality of these cries when they observe that:

The existence of rich and poor in our societies is in itself a form of ecological aggression. The rich consume too much, wastefully and without thought for the present or future generations; they have set up a technology of death to defend their privileged position, with nuclear and chemical arsenals that could, at worst, bring about biocide, ecocide and even geocide; furthermore, they defend a production system whose inner logic makes it a predator of nature. The poor, victims of the rich, consume less and, in order to survive, live in unhealthy conditions, cut down forests, contaminate waters and soil, kill rare animals and so on. With greater social justice they would be able to operate better environmental justice (Boff 1995: xi).

The immense slums of Kibera and Mathare, located in the city of Nairobi, Kenya and depicted in Fernando Meirelles' popular American film, *The Constant Gardner*, offer overwhelming images of environmental degradation that are both the cause and effect of the severe poverty and social injustices of those slums.

Observed from this author's research travels in Kenya are the connections between polluted waterways and a lack of access to clean drinking water. One cannot grow food on land coated in a layer of plastic bags several inches deep. One cannot eat food grown alongside streams of sewage and waste and remain healthy for long. Kibera and Mathare are places where the local environment is so severely degraded by poverty and human presence that those landscapes could not safely support and nurture genuine human living. The terrible circle of this reality is that environmental degradation is a result of poverty and human presence and that continued poverty and human presence results in greater environmental degradation.

In the reality of poverty, socioeconomic status is very much a determining factor in one's exposure to environmental degradation. Nairobi's poorest people are subjugated to the ravages of environmental degradation and the concentration of such a large number of poor people in one location increases

the devastation on the local environment and creates a cycle of poverty and degradation, degradation and poverty.

Let us return to Leonardo Boff and Virgil Elizondo and their claim that “greater social justice” begets “better environmental justice.” They continue by asking the very practical question, “[h]ow can we obtain a socio-economic system that will produce a decent sufficiency for all, within a development model worked out with nature and not against it, and in which the idea of the common good will also involve the common environmental good...” (Boff 1995: xi)?

To answer this question, consider the contrasting social justice scenario of Upendo Village within the same Kenyan context as a counter example to the Kenyan slums of Kibera and Mathare. Upendo village exists a few hours drive outside Nairobi and the slums. Upendo village is managed by a non-profit organization dedicated to ministry with less affluent people with HIV/AIDS, particularly women and children, and the village sprawls throughout the countryside, originating from the organization’s hospital and community development center at the community’s heart. Many of those empowered by Upendo, live simple lives and do not have much money or land. They rely on Upendo’s services for HIV/AIDS medication and this support helps afflicted families regain their health and the physical and emotional independence that comes with health, in order to more fully care for themselves and their families—to grow their own food in their own gardens and to sell their surplus or to work for money to buy basic supplies, send their children to school, etc.

Upendo does not create a culture of reliance as some other “development” nonprofits have and continue to develop by operating on a philosophy that sees “the poor” as merely those who are incapable of caring for themselves and in need of “saving” and charitable handouts by those who are better off in this world. Instead, Upendo operates on a philosophy of love for one’s neighbor and sees the poor among us as people who have different needs that are left unmet by the social and economic injustices that unfortunately exist in our current context.<sup>2</sup> Upendo works to create a new community of love that operates on an ethic of equity and mutuality, an ethic that is sometimes absent in the larger social and economic context. This ethic of equity and mutuality

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<sup>2</sup> “Upendo” is a Kiswahili word meaning “love” and the organization’s mission is to “...spread the Gospel message of love to women, men and their children, who have HIV/AIDS so that they can live with dignity, self-esteem, self-sufficiency and respect...” The organization is a project of the Assumption Sisters of Nairobi. [www.upendovillage.org](http://www.upendovillage.org)

manifests itself as a love for one's neighbor because it creates a community where the needs of the vulnerable and most needy are given priority so that, once those needs are met, they may be intentionally included in the larger community and thus able to participate in the functioning of the community.

Specifically, once the people in Upendo have access to the medications and care they need to help treat and manage their health, most are able to care for themselves and their dependents, to work in their gardens and at other employable tasks, to send their children to school, to run a household and to be an active participant in their social, economic, and political institutions. One of the reasons Upendo is able to create this sort of true development is because they are a not-for-profit organization that fundraises to provide the much needed medication that is foundational to their efforts and have the support of other faith communities like the Wheaton Franciscan Sisters based in the U.S. However, another significant reason for their success is that the land of those whom they empower is ecologically intact. It is useful in the cultivation of food crops, small animal production, and even clean water through rainwater runoff collection.

These families do receive the modest yet much needed help and support of Upendo for medication and some basic supplies but they are also able to maintain a significantly higher standard of living than those in the slums with a high measure of independence and autonomy because their local ecosystems are intact. They are monetarily poor yet they are able to grow and eat fresh, healthy, nutritious foods at little to no cost and their immune systems are not exposed to the constant onslaught of toxic air pollution and vast amounts of incubated human waste as are their slum dwelling counterparts.

Their poverty is spared the devastation of environmental degradation and their poverty does not degrade their local environment in the way poverty and human presence does in Kibera and Mathare. There is something more hopeful about the life situations of those in the countryside than those in the slums and ecological integrity may be a significant part of that hopefulness. There is environmental beauty in the countryside. There are flowers blooming along the road, food growing in the gardens, and healthy chickens darting between buildings. These things uplift and strengthen the human spirit in a way that plastic bags of human waste, streams of sewage and rabid dogs do not in the slums of Kibera and Mathare.

Upendo village creates a socio-economic and ecological context under which a decent sufficiency for all is a strategic pursuit, rooted in a theology that prioritizes love of neighbor and a preferential option for the poor and

socially marginalized and lived out in an ethic of equity and mutuality. It is a community where those with the greatest need receive the tools necessary for self-improvement. The vicious cycle of social injustice that feeds environmental degradation is hampered and greater social justice allows for better environmental justice. Upendo relies on an ethic of social responsibility that hears and responds to the challenging cries of both the earth and the poor. This example of a theological principle, namely a decent sufficiency for all, a love of neighbor and a preferential option for the poor and marginalized in our global community and lived out in an ethic of equity and mutuality for those communities, offers great potential to be appropriated in a theology that informs and inspires a faith-filled ethical response to the emerging challenges of climate change as far as those challenges affect marginalized human and ecological communities.

### **Working Toward Theological Principles and a Relevant Ethical Response to the Moral Challenges Accompanying a Changing Climate that Disproportionately Affects the Global Poor**

When doing ethics and theology, it is important for this author that my ethical and theological conclusions be rooted in the lived experiences of the people affected by those conclusions (usually the economically poor and socially marginalized) and also that those conclusions remain viable and exist in harmony with a scientific worldview. Admittedly, a turbulent childhood wrought with memories of food pantries, abuse and relative economic struggle within my own North American context and an undergraduate degree in the environmental sciences informs my theology and is the lens through which my ethic favors, or at the least leaves me biased toward, the perspective of the poor and marginalized and is consistent with a scientific worldview.

My bias toward a scientific worldview is one which several theologians publishing on ecological ethics not only support but also argue is necessary in evaluating theological principles, especially as they relate to the ecological crisis of climate change. Theologian Sally McFague suggests “that theology be done within the contemporary scientific worldview,” and theologian William French suggests not only that scientific articulations ought to inform religious moral responsibilities but also suggests that a scientific worldview can provide a new hermeneutical lens for reviewing our religious traditions and texts (McFague, 2009:3 and French, 2008:33). Roman Catholic Priest Thomas Berry and St. Thomas Aquinas have both affirmed the role of “natural earth sciences” in the process of informing theology and faith.

This paper has endeavored to prioritize this contemporary scientific worldview by relying heavily upon resources from the social and natural sciences in order to articulate an understanding of who the global poor are today and how they are negatively impacted socially and ecologically by climate change. It then draws on the lived experience of one faith community working within their own particular context to confront the significant social injustices accompanying the HIV/AIDS pandemic currently afflicting the African continent in order to derive praxis-based inspiration that has the opportunity to inform a theology and an ethic that can appropriately respond to emerging social injustices attributed to climate change.

With the theological principles of a decent sufficiency for all, a love of neighbor and a preferential option for the poor and marginalized lived out in an ethic of equity and mutuality for human and ecological communities identified, the challenge now is how these principles apply specifically to the challenges of a changing climate and how they can be utilized to bring about greater social justice in light of the injustices caused by a changing climate. Before doing so, however, the somewhat ambiguous term “social justice” ought to first be described. When doing ethics an articulated vision of where one wants to go is invaluable in helping one figure out how to get there.

Thomas Pogge, known for his contributions on the topic of global justice, associates social justice with the “equitable treatment of persons or groups,” affords some sort of assessment of “social institutions” and “presupposes a measure of human flourishing” (Pogge 2006: 31). A society that affords equitable treatment of persons, groups or communities by the institutions, organizations, and structures of society in order for those persons, groups or communities to flourish, is a good measure upon which any sort of progress toward social justice in many situations ought to be considered.

A more detailed envisioning of a just society, offered within this same vein of thought, describes a minimally successful society as keeping

its population healthy, peaceful, and contented. All members should have sufficient food to eat, a place to live, and a sense of participation in a shared community purpose. Everyone should have access to the collective wisdom and knowledge of the society, and should expect that life will be spiritually and emotionally fulfilling for themselves and for future generations. This in turn implies awareness, care, and respect for the earth’s life-support systems (Mander 1991: 25).

Theological, ethical, cultural, political, social and economic change and technological innovation must be critically considered by society and evaluated based on its ability to equitably advance the human institutions, organizations and social structures of society. A vision of social justice described in



this way essentially works actively and systematically to deconstruct the sort of poverty that both Dr. Vidyasagar and the Zimbabwean woman offer in their descriptions poverty. With an understanding of social justice thus articulated, an understanding that works toward the flourishing of life and describes where we want our theological themes to take us, it now makes sense to figure out how to get there. So what do we need to do with the theological principles described previously in order to help create institutions, organizations and social structures that treat both human and ecological communities equitably and contribute to the flourishing of life in light of a changing climate?

The theological principle of a decent sufficiency for all, understood through both the lens of a scientific worldview that considers ecological limits of our planet and the lens of one who offers priority to the basic needs of the poor and marginalized, is an appropriate place to begin. The problem of climate change is scientifically understood as a problem of too much carbon dioxide produced overwhelmingly and primarily by the consumption practices of the global wealthy. People of science often conclude that successfully mitigating climate change means an overall reduction in the consumption that causes CO<sub>2</sub> production. L. Kristin Page is a biologist who has published on the impending effects of climate change and uses her scientific lens to create three categories of marginalization that describe how a changing climate marginalizes communities.

One category of marginalization is that of those communities who become victims of extreme weather events such as hurricanes, flooding, heat waves, etc., that are naturally occurring events which are newly significant because climate change models predict their increase in intensity and frequency. A second category of marginalization includes many of those disasters already describe in this paper, such as disease transmission and food production disruption—the category upon which this paper has primarily focused. Her third category of marginalization describes those communities at risk of becoming climate refugees because they are losing their land primarily through rising sea levels.<sup>3</sup>

Page's work is an invaluable contribution to the ethical and theological discussion on climate change because it so excellently connects scientific and

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<sup>3</sup>) This is an area that needs significant further research as the ethical implication of scientific predictions on the topic are nearly overwhelming, but resides outside the scope of this paper. Norman Myers of Oxford University estimates there will be 150 million climate refugees over the next fifty years (1.5% of the predicted global population of 10 billion in 2050) in an article by Cam Walker.

ecological realities with communities of the poor and marginalized by constructing categories of marginalization tied to the ecological consequences of climate change. Page's research leads her to also conclude that it is the poor who suffer most greatly from climate change and that it is the affluent who "have the capacity to make the greatest change in resource use (Scott 2008: 33)." However, Page also concludes that "everyone will need to reduce consumption patterns," and a theology of a decent sufficiency for all that gives priority to the basic needs of the poor and marginalized requires that this statement of hers be nuanced in a significant way (Scott 2008: 33).

A theology that requires a decent sufficiency for all acknowledges that many communities worldwide do not consume enough resources and actually ought to consume more. In order for justice and basic fairness to prevail, according to the understanding of social justice articulated earlier, many people and communities ought to have better access to more food, clean water, energy, and other ecological resources, in addition to healthcare and education and all the associated material resources that are connected to these and other social resources and goods beyond basic resources and goods. Justice for people requires this expansion in basic consumption even if it is tied to increases in carbon dioxide. Justice for the earth requires that overall consumption and associated CO<sub>2</sub> emissions decline. So, justice for the earth and for all people is not about everyone scaling back equally, including those who are already lacking, but rather about some people consuming less so that other people may consume more.

A decent sufficiency for all requires that some scale back and some scale up and as Page observes, it is the global affluent that have the greatest capacity to curb resource use. The poor and marginalized are already too burdened to take up any of the global burden to reduce consumption. Any global solution must include a promise to the poor and marginalized for an increase in abundance and a promise to the earth for a decrease in overall consumption and CO<sub>2</sub> emissions.<sup>4</sup> A theology of a decent sufficiency for all communities, human and

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<sup>4</sup> From the standpoint of the global marginalized, it would be an unjust burden to require the poor to respond to climate change in the same way that we would expect the global wealthy to respond to climate change. Karen Lebacqz suggests that "since injustice is rooted in exploitation and oppression, justice as the process of correction of injustice takes shape primarily in rescue/resistance and in rebuke/reparations" depending on whether one is the oppressed or the oppressor (1987: 155). Lebacqz's vision of justice-making requires different action from and for different communities based on need and ability. In this case, the poor and marginalized ought to claim the basic resources they need for equitable living just as the global affluent are obliged to evaluate their resource consumption and eliminate unnecessary waste and consumption where possible.

ecological, begs an ethic that shifts consumption patterns around in such a way that all people have at least enough and that total consumption happens within the ecological limits sustainable by our planetary ecosystems. The space between each human community consuming enough and the ecological limits of our planet is the space in which the global affluent are ethically bound to enjoy the remaining abundance of resource consumption.

A love for one's neighbor is another theological principle that is lived out in the faith praxis of Upendo Village in their care for the poor and marginalized within their midst. Already, the first theological principle of a decent sufficiency for all and a priority for the poor and marginalized suggests that a love for one's neighbor, in light of ecological limitations, includes a promise of increase in abundance to those lacking and also a simultaneous duty on the part of the global wealthy to exercise increased restraint in wasteful consumption. A love for one's neighbor such as this, which includes consideration of access to society's resources, is fundamentally a discussion of not just ecology and ethics but fundamentally also a conversation of economics.

Michael Northcott is a scholar who has published on economics, ethics and climate change. His work, *A Moral Climate*, traces philosophical and economic thinking from Adam Smith to Rawls in an attempt to illustrate how these thinkers have evolved our society into one that has lost a strong sense of place and a desire for the common good—a sense and a desire whose absence Northcott sees as critically connected to the ecological crisis of climate change because these notions reflect ecologies of relationship that come with duties and obligations. Those duties and obligations create social norms that keep individuals from objectifying other people and places and from treating them as merely means to the ends of personal monetary wealth. It is the objectification of people and places for profit only and the exaltation of the right and freedom of people to participate in this process of objectification without boundaries and at the exclusion of the intrinsic worth of those people and places, that allows our economic institutions and structures to degrade human and ecological communities.

I share some of Northcott's critiques of this sort of unbridled economic system, and specifically his skepticism of the notion that "the market, combined with technological power, can redeem the peoples of the world from pain and suffering through the autonomous, self-regulating market system," but I also think that any tweaks to our market system in an attempt to make it more ethical without also addressing the root causes of the worldview that created and maintains this system, is premature (Northcott 2007: 7). This sort of economy results in great social resource imbalance and too often excludes the needs of the most vulnerable human and ecologically marginalized

communities, but tweaking the economic system without overhauling the theologies and worldviews that manage that system can be a good hearted attempt at solving a superficial problem rather than an address of a deeper root problem. Simply, our economic institutions fail poor and marginalized communities because the theologies and worldviews of society generally fail to embed us within an ecology of relationality with the duties that obligate us to love our neighbors by respecting their inherent value and autonomy.

Northcott identifies and discusses what he sees as the root causes of the ecological crisis and grounds them in theology and worldview. He says that “[a]t the heart of the pathology of the ecological crisis is the refusal of modern humans to see themselves as creatures, contingently embedded in networks of relationships with other creatures, and with the Creator” (Northcott 2007: 16). Here Northcott touches on what McFague describes in her text, *A New Climate for Theology*, as the niche theologians have to play within this dialogue. When people work out of a worldview rooted in “creatureliness,” there is a general sort of humility that tempers the unconstrained, irresponsible growth, power and wealth accumulations that I think Northcott sees inherently rooted in modern western economies. When humans recognize their connections with one another and with the ecosystems that sustain and nourish them, they recognize inherent responsibilities that come with those relationships and the limits that duty and mutual obligation play in relationality. When I acknowledge that I have neighbors and my theological worldview requires I love them, I turn to social mores, and as a person of faith I turn especially to my religious tradition as well, in order to contemplate my responsibility toward my neighbor and determine how I will live out my theological worldview in ethical praxis.

Faith communities serve, ideally, as the network of relationships through which individuals and groups work together to create, determine, debate and put into practice a shared theological worldview. These communities of faith vet theological principles via the lived needs and experiences of the community while simultaneously looking to their traditions for theological resources and direction in ethical praxis. This back and forth between academic theology and the ministry environment of the faith community and the community’s ethical praxis creates a cyclical two-way feedback loop where both inform each other and serve as resources for each other. Theology and ministerial communities positing or acting in complete isolation of one from the other deprives both of insightful resources. Therefore it is important to determine how the theological principles of a decent sufficiency for all, a love of neighbor and a preferential option for the poor and marginalized can be concretely lived out in an ethic of equity and mutuality for human and ecological communities.

It is especially important that the faith communities residing in more affluent areas of the globe, particularly in the United States where the national contribution to the global problem of climate change has been so significant, begin working to put these theological principles into an ethical praxis that results in concrete changes in and by the U.S. faith community's congregations.

Dr. David Rhoads and Andrea Orcutt are scholars whose work endeavors to use the resources of Christian ecological theology and put them into praxis within the ministerial context of seminaries and congregations. They offer concrete ideas and suggestions for these communities to implement and practice an ethic rooted in the theological principles of a decent sufficiency for all, a love of neighbor and a preferential option for the poor and marginalized.

Just as Upendo Village has vetted these theological principles as ethically appropriate for its community structure and development model in ministering to people living with HIV/AIDS within their Kenyan context, so too can U.S. congregations operate on an ethic rooted in these shared theological principles within the context of the modern ecological crisis caused by a changing climate. Rhoads and Orcutt believe that an ethic of social responsibility that hears and responds to the challenging cries of both human and ecological communities is lived out in congregations that:

Make creation care an integral part of services—liturgies, hymns, confessions, prayers, sermons, blessings, green worship space. Adopt a four-week “Season of Creation” in the [congregational] year.... Celebrate Earth Sunday.... Have a Blessing of the Animals. As worship restores an intimate connection with God and other humans, so worship should restore an intimate connection with the Earth. We will save that which we deeply love (Rhoads 2007: 19).<sup>5</sup>

These basic but critically important changes in worship structure help mold and shape the theological worldviews of congregants in such a way that Northcott and McFague argue is necessary for lasting, significant social change within and beyond the community of faith. Congregations must also attend to their wasteful abundance by addressing the sort of consumption that scientists like L. Kristin Page say is critical. They do so when they:

Make a model of buildings and grounds. Lower energy use, get off nonrenewable energy, use green cleaning products and lawn processes, limit water use, use earth-safe practices at coffee hour and meals, offer locally grown foods and fair trade products, use post-consumer paper products, coordinate earth-friendly

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<sup>5</sup> Visit [www.seasonofcreation.com](http://www.seasonofcreation.com) and [www.ncccecojustice.org](http://www.ncccecojustice.org) for resources on creating a season of creation and for celebrating Earth Sunday in Christian congregations.

transportation, limit trash, reuse/recycle.... Develop your congregation as an “environmental flagship.” (Rhoads 2007: 19).<sup>6</sup>

An effort to change the structures of worship and reduce the waste often accompanying U.S. congregational life is indeed a challenge but the faith community’s call to action must also be articulated in a way that implements a vision of social justice and works actively and systematically to shape the human institutions, organizations and social structures of the larger society existing beyond the faith community. To harness grassroots organization and use it in justice building, congregations can:

Cluster with other faith communities in [their] area. Call a summit of local environmental organizations. Rally [their] city or county to “go green.” Sponsor a workshop on “Greening Your Home” or “Greening Your Business.” Arrange action alerts, lobby representatives, protest polluters, expose environmental racism, restore habitats. Act together with wider networking organizations. (Rhoads 2007: 19).

These actions are steps in a direction that will allow faith communities to offer both a vision and a plan for justice in light of the social injustices that accompany global climate change. The theological principles and ethical actions outlined herein will not likely solve the largest moral and ethical dilemma of our time. They are, however, significant parts of a solution that can play a foundational role in one of what can hopefully be many faith-filled theological and ethical responses to the challenge of climate change.

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<sup>6</sup> See the Environmental Guide for Congregations, Their Buildings and Grounds at [www.webofcreation.org](http://www.webofcreation.org) or a how-to guide on addressing many of these issues within a congregation.

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