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The Slow Violence of Climate Change in Poor Rural Kenyan Communities: "Water is life. Water is Everything."

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Abstract. Climate change is the most pressing global environmental problem and the most unyielding worldwide environmental injustice of our time. Although some social workers have begun to address climate change, this literature is centered on its generalized impact, rather than its specific effects on vulnerable populations. As a concept, slow violence offers a frame to understand the slow occurring effects of climate change on the global poor. This study used an ethnographic approach to examine the effects of climate change on two poor rural Kenyan communities. Findings discussed include the consequences of droughts, the connection between droughts and deforestation, failed governmental responses, problematic foreign aid responses, and local adaptive measures for survival by affected Kenyan communities. These findings support the argument that social work should be more involved in mitigating the unjust effects of climate change, and a variety of actions are presented.

Keywords: Environmental justice, international social work, community-based research, climate change, slow violence, ethnography, Kenya

Environmental social workers have long supported the inclusion of environmental problems among practice concerns by arguing that the profession must advocate for healthy environments and against environmental injustice (Coates & McKay, 1995; Dominelli, 2012; Hoff, 1994; McKinnon, 2008; Miller, Hayward, & Shaw, 2012; Peeters, 2012; Rogge, 1994; Silver, 1994; Tester, 1994). Currently, the most pressing global environmental problem as identified by climatologists, environmental scientists, and social workers alike is climate change (Dominelli, 2012). Although social work scholarship is beginning to address climate change, this literature largely centers on explaining its generalized effects, rather than documenting its impact on affected communities, particularly poor communities that are projected to suffer the most (Hetherington & Boddy, 2013).

The Slow Violence of Climate Change

Justice is a central value of social work, and thus issues of environmental degradation that disproportionately affect the poor, like climate change, are within the profession's purview. The frame of slow violence offers a means to understand the slow-occurring and unjust burdens of climate change (Nixon, 2011).

Climate change occurs as a result of releasing carbon emissions through industrial processes and fossil fuel consumption combined with decreasing the Earth's ability to absorb carbon dioxide through deforestation (Dominelli, 2011; Huegler, Lyons, & Pawar, 2012). The resulting build-up of gaseous chemicals in the atmosphere traps infrared radiation causing air temperatures to rise (the greenhouse effect) which leads to climate change. While the climate naturally varies, climate change involves accelerated shifts that are long-lasting (perhaps permanent), unnatural, and caused by human behavior (Dominelli, 2012).

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The effects of climate change are wide-reaching and include altered precipitation patterns, ocean acidity levels, ocean currents, sea levels, glacier melting rates, and soil fertility (Dominelli, 2011). These changes are already occurring even though the global mean temperature has risen just 0.8°C above pre-industrial levels (World Bank, 2012). The projected rise of over 4°C by 2100 indicates that the future effects of climate change will be devastating. Because local ecosystems are tied to climatic patterns, climate change has profound effects on people's lives. Climate change is linked to extreme weather events, increased floods and droughts, food and water insecurity, and conflict over remaining resources (Clark, 2008; Cronin, Shrestha, & Spiegel, 2008; Edwards, 2008; Heine & Petersen, 2008; Huegler et al., 2012; Morton, Boncour, & Laczko, 2008; Van der Geest & de Jeu, 2008; World Bank, 2012). However, the specific nature of these consequences has yet to be explored fully.

Climate change is a global injustice (Beck, 2010). The poor in developing countries suffer the most even though they bear little responsibility for the crisis (Basher, 2008; Beck, 2010; Huegler et al., 2012; IPCC, 2014; Morton et al., 2008; The Green Belt Movement International, 2009). Climate-affected communities are forced to adapt to climate change in order to survive (Besthorn & Meyer, 2010; The Green Belt Movement International, 2009), but many have few resources and thus low capacities for risk reduction or response (Basher, 2008; IPCC, 2014; Morton et al., 2008; World Bank, 2012).

Wealthy industrialized countries that have caused climate change through burning fossil fuels to support their economies offer climate-affected communities little in support to mitigate their suffering. In fact, in the latest Intergovernmental Panel on Climate Change (IPCC) full report (IPCC, 2014), the World Bank estimates that affected poor countries will need \$100 billion per year to cope with the effects of climate change. This figure was deleted from the shorter summary that was sent to all world leaders, however, due to pressure from wealthy nations who argued that doubling of foreign aid is impossible in the current economic climate (Gillis, 2014). Subsequently, affected poor countries were outraged by this IPCC report omission. Due to this lack of international will to respond on behalf of poor countries, the environmental injustice of climate change is perpetuated.

Climate change is a form of slow violence on the worldwide poor (Nixon, 2011). Unlike other forms of environmental injustice that are visible with immediate consequences (e.g., a toxic spill in a poor neighborhood), slow violence occurs gradually and across time and space. Conditions for sustaining life are not immediately destroyed, but rather slowly degraded. For example, climate change, an often-cited form of slow violence, has delayed effects like the slow rise in global temperatures that leads to the slow spread of deserts. This is in contrast to highly visible environmental problems like a tsunami with immediate effects. Slow violence is silent, amorphous, undramatic, and hidden (Cock, 2014).

Newly coined by Nixon (2011), the concept of slow violence is built on related concepts. Slow violence is influenced by structural violence, which broadened issues of violence beyond the personal and focused on the confluence of power and systemic violence that creates inequalities (Galtung, 1969). Slow violence broadens concepts of violence as well to include the complexity of violence enacted slowly over time due to changes in the environment (Holterman, 2014). Slow violence is reflected in the work of Rachel Carson (1962) who described death by inaction to environmental degradation. Slow violence focuses on the

accumulating impacts of environmental degradation due to reparative inaction as well (Nixon, 2011). Slow violence is further influenced by Wangari Maathai (2010) who argued that slow-occurring environmental degradation is a form of reduction in human security. Slow violence also emphasizes the social effects and dangers of environmental degradation (Nixon, 2011).

Slow violence is connected to the environmental justice movement through the joint assumption of the connection between environmental degradation and power imbalances (Martinez-Alier, 2014; Nixon, 2011). Thus, the primary victims of environmental injustice and slow violence are also the primary victims of injustices of class, gender, race, and locale, with the poor in developing countries the most affected group (Nixon, 2011). As such, assessments of slow violence must include the related oppressive systems of the particular context including market fundamentalism, sexism, racism, ethnocentrism, and repression (Holterman, 2014).

Slow violence is so entangled with injustice that it is often only seen by the affected poor (Nixon, 2011). Because victims of slow violence lack power, resources, and outside assistance, slow violence tends to be exponential and a "threat multiplier" for the poor (Nixon, 2011, p. 2). Thus the slow violence of environmental degradation in combination with poverty, social exclusion, and resource insufficiency leads to deeper poverty and increased likelihood of eventual death.

Because of slow violence's invisibility, victims are undercounted and environmental degradation underestimated (Nixon, 2011). Indeed, the necessity for action is often hidden and the affected communities' needs ignored. Thus the fundamental challenge in addressing slow violence is making it visible. In fact, Nixon (2011) explicitly called for stories from invisible people affected by invisible problems to illustrate the effects of slow violence. However, few studies have incorporated slow violence to date. The intention of this study is to offer stories from communities affected by the slow violence of climate change in Kenya.

The Kenyan Context

This paper draws on six months of fieldwork in Kenya and inductively explores how the slow violence of climate change impacts two local communities. Sub-Saharan Africa will be increasingly burdened by climate change. Local climates are predicted to dramatically shift over time, in many places so radically that their climate classification may change entirely (World Bank, 2012). Lower crop yields and continued loss of arable land will increase malnutrition and stunting (Brown, Hammill, & McLeman, 2007; Thornton, Jones, Ericksen, & Challinor, 2011; World Bank, 2012). Epidemic diseases will spread due to water contamination, and malaria zones will expand (World Bank, 2012). Competition and conflict over scarce resources will increase. These effects of climate change will likely lead to reduced economic growth, degraded agricultural and industrial outputs, and increased political instability. These effects are all examples of slow violence that will slowly degrade the environment and lead to the deaths of many people.

Further, many Sub-Saharan Africa communities have few resources and already face other challenges such as widespread poverty (Basher, 2008; Morton et al, 2008; World Bank, 2012). Thus, climate change will intensify pre-existing vulnerabilities for already-struggling communities in this region, including Kenya (Beck, 2010; Heine & Petersen, 2008; World Bank,

2012). Thus, in accordance with the operational principals of slow violence, the sociopolitical environment around the slow violence of climate change in Kenya must be explicated.

Kenya has long been considered a beacon of success in the region. Kenya never devolved into civil war, never supported a brutal dictator, and never experienced genocide. Kenya supported Western capitalism since independence, luckily landing the country on the right side of the Cold War (Prunier, 2008b). Upon independence, Kenya had one of the most developed economies in the region due to British-built roads, trains, ports, and cities (Wrong, 2009). The country is famous among travelers and hosts millions of tourists every year, generating hundreds of millions of dollars annually. Kenya also has a stable export economy with products such as maize, wheat, coffee, tea, flowers, and sisal (Hornsby, 2013).

However, Kenya has poor living standards, low development, and little power in the international economy. At independence, Kenya's per capita income was equivalent to Malaysia's (Wrong, 2009); yet, Malaysia's is now ten times higher. Instead of income growth, income inequality and poverty have consistently increased since independence (Ndege, 2009). Living standards in an independent Kenya are now lower than living standards in colonized Kenya; and colonization ended over 50 years ago (Wrong, 2009). Nearly half of Kenya's 40 million citizens live in poverty (UNDP, n.d.). The middle class is growing, but so many people are still abjectly impoverished such that the average per capita income is only \$706. Life expectancy is only 62 years.

Instead of investing in development, Kenya is forced to spend hundreds of millions of dollars annually servicing its external debt (Maathai, 2010). Loaned by organizations like the International Monetary Fund (IMF) and the World Bank, this money was explicitly intended to support development (Smith, 2006). However, in Kenya, like in many other African countries, loan money was stolen by corrupt and authoritarian governmental officials in the latter days of colonialism and the early days of independence, which left little for the development that was supposed to occur and spur the economy (Maathai, 2010).

The initiation of neoliberal Structural Adjustment Programs (SAPs) followed. These programs were a unidimensional macroeconomic policy for highly indebted poor countries as a condition of their loans (Desai & Solas, 2012; Smith, 2006). Countries that could not repay their loans were forced to adhere to "conditionalities" set by the IMF and World Bank through SAPs in order to receive new loans, many of which are used simply to repay the former loans, thereby compounding the debt. Conditionalities focused on the reformation of domestic markets through deregulation, currency devaluation, trade liberalization, and privatization of natural resources, regardless of the unique situation of the country (Smith, 2006). In addition, these countries were required to maintain a balanced budget, which resulted in drastic cuts to social spending (Desai & Solas, 2012). Rather than economic development and poverty reduction, SAPs resulted in greater hardship for the poor, conflict, disinvestment, and repression of human rights (Abouhard & Cingranelli, 2007; Dominelli, 2012). Like other affected countries, Kenyan SAPs led to reduced revenues for social spending and lower expenditures on basic needs and social services (Rono, 2002). Thus, revenues needed to support community resiliency as the consequences of climate change spread are not available, which perpetuates the slow violence of climate change against the Kenyan poor.

Even without the threat of the slow violence of climate change, Kenya is an environmentally fragile country. Eighty percent of the country is arid or semi-arid (UNEP, 2012; Zetter, 2011). Yet, the principle means of livelihoods for a majority of Kenyans is based on access to productive land (Henninger & Landsberg, 2007). Further, in many areas of the country, the local economy is entirely dependent on a consistent and adequate November rainy season; and without these rains, livelihoods are ruined. But local climates are changing with widespread diminished annual precipitation. Exploring these impacts of climate change in rural Kenya is an analytically productive case in the intersecting forces of injustice and degraded environments that combine to form slow violence.

Methods

This IRB-approved inductive qualitative study explored the slow violence of climate change by examining two poor communities in rural Kenya: Wamunyu, Machakos County, and Mutito, Kitui County. An Advisory Board of poor Kenyans who were affected by environmental problems and lived in the research areas guided the data collection. By collaborating with a local Advisory Board, this study encourages a local viewpoint, insures the inclusion of topics important to the affected populations, and promotes the trustworthiness of the data. In addition, this study supports the human right of participation in the research project itself (Sepulveda Carmona, 2013). The Advisory Board members were invaluable to the success of this study through their introductions to the local communities and their explicit support for the study, which made participants more comfortable speaking with me, a white American woman.

Data Collection

Ethnographic data collection methods were used including field notes, informal ethnographic interactions, and formal interviews with 32 participants. All data collected focused on the impacts of the environment and the related community responses. The formal interviews were semi-structured, which allowed the participants to address the issues of most importance to them. As the communities were aware of the research through the Advisory Board, the field notes and informal ethnographic interactions occurred during tours of the community when community members suggested that I observe something of interest (i.e., children not in school gathering water, damage to a house, drought-ridden fields, etc.). Informal interactions and formal interviews were conducted in English or Swahili, both of which I speak, or Kikamba, which was translated by an Advisory Board member.

Data collection occurred over six months and through two trips to Kenya as a part of a wider study on the effects of the environment on poor Kenyan communities. Data were collected in Wamunyu and Mutito as well as with participants who had migrated away from these communities due to the effects of climate change in the areas. All participants were read an information sheet and gave verbal consent for participation. All participants are referred to by pseudonyms in this study.

Sample

Participants of the formal interviews were purposively sampled through the guidance of the Advisory Board. Inclusion criteria included self-defined poverty and first-hand experience

with an environmental problem in a rural area. All participants were also members of the Kamba tribe, the fifth largest tribe in Kenya (Hornsby, 2013). Although the Kamba often have political power in the role of a swing vote in presidential elections (Prunier, 2008a), the Kamba endure social exclusion during non-election times as other ethnic groups form the ruling party and the dissenting party. Social exclusion is especially true for the rural Kamba, who are very isolated due to their locale and social position within the sociopolitical context.

Analysis

Data analysis was conducted through a phenomenological approach and focused on the experiences of environmental problems and community coping. In this method of analysis, the goal is to capture the essence of experiencing the shared phenomenon (Padgett, 2008). To give voice to the people who experience these problems, interviews and field notes were first summarized to describe individualized experiences. Themes across the data were then open-coded (Corbin & Strauss, 2008). Themes were member-checked with Advisory Board members to support the trustworthiness of the data. Through this process, climate-related themes emerged inductively. A second deductive analysis was then completed to focus specially on the impacts of climate change and community coping mechanisms to these problems. In reporting these themes, experiences are highly contextualized, supplemented with secondary sources, and privilege the voices of the participants. Data were analyzed in NVivo 10.

Research Sites

Machakos and Kitui Counties, primarily rural areas and home to the Kamba, are undergoing rapid development but remain highly impoverished (60-64 percent of the population is poor, as compared to 45 percent of Kenya) (Kenya Open Data, 2014). The poverty rates in the rural areas in these counties, including the research sites of Wamunyu and Mutito, are said to be much higher, although confirming data do not exist.

Wamunyu is a rural village about three hours from Nairobi and 60 kilometers from the closest urban area. This village is highly accessible by public transportation given the proximity of a bisecting major highway. Much of the village center caters to travelers with cheap guesthouses, gas, and food for their journeys. Other than a village market that meets in the town center where people congregate weekly, many in Wamunyu live on their farms, which are nearby and accessible by walking and biking paths. The people in Wamunyu are very friendly and graciously welcomed the research team, the Advisory Board and me, with food, local honey beer, and music.

Mutito is more isolated, poor, and scattered than Wamunyu. One must travel by public transportation to Kitui Town, which is about four hours from Nairobi using a direct bus, longer for cheaper and indirect transportation routes. From Kitui Town, one must hire a taxi to drive about four hours into the bush on an unpaved highway, and then on sandy paths that do not look suitable for cars. Along the highway and some of the sandy paths, police from Nairobi set up roadblocks, as these roads lead to Somalia, a country with which Kenya is currently at war. However, local residents said these roadblocks are primarily an unaffordable corruption scheme.

Mutito originally developed around a large river, but this river has been dry for over four years and was being used as a sort of road. Mutito's town center looked nearly deserted and was several hours from some of the participants. However, the local chief bounded out of a house to meet our research group as our taxi arrived in town. He was very friendly and willing to assist in the research.

Both areas are strikingly sandy, dry, and incredibly hot. The annual average rainfall in these areas is between only 400 and 1,200 millimeters, which categorizes the areas as semi-arid (Henninger & Landsberg, 2007). Respondent 1, a college-educated but unemployed poor young man who moved to Nairobi from these areas, explained historically their Kamba ancestors were traders and artisans, not farmers, but "at some point" they turned to farming despite the poor conditions of the land. Now, the predominant livelihood strategies in the area are food crops, cash crops, and livestock. Thus, the local economy is entirely dependent on a consistent and adequate November rainy season; but with decreasing rains, survival in these areas is increasingly challenging.

Findings

Increasing Drought

All of the older participants who were a part of this study spoke of increasing drought since they were children, indicating a pattern of climate change. Many in Wamunyu explained that they used to have two rainy seasons (November/December and March/April), which equated to two farming seasons each year. This allowed for a margin of error if one farming season failed, and an abundance to sell if both harvests were strong. However, now the March/April rains have stopped and residents must adapt to a sole November rainy season, which is sometimes too short to ensure even one good harvest. Although residents in Mutito continue to plant yearly, many expect the November rains to fail and thus most recent years they do not get anything from their attempts to farm. Respondent 2, a middle-aged poor woman farmer who makes mats and bowls out of grass when the rains fail, explained that in Mutito, "There is not even the idea of growing to sell because we can't even get enough for food. We mostly don't get anything."

The few wealthy residents are able to adapt through building irrigation systems and boreholes. The poor often have no means to adapt, though, so they must find water in whatever ways possible. The main activity during waking hours was traveling to a water source, gathering water, and traveling home. As climate change leads to lengthening droughts, community members in these areas must travel farther to find water sources. During data collection, many participants in Mutito were spending four to five hours each day traveling to and from the nearest water source because all of the local boreholes had dried; they reported that there are periods when they spend the entire day, 24 hours, traveling to get water and sleep on the side road when they are tired. The droughts are causing the land to become increasingly uninhabitable.

Children were often seen gathering water. Respondent 3, a poor mechanic who gathered water as a child, explained that many children do not attend school at all during drought periods and at minimum "do not have extra time for their studies (homework)." Respondent 4, an unemployed young man who also gathered water as a child, said the long-term effects of

inadequate education do not matter. During droughts, “Water is life. Water is everything.” Thus, children are not in school but helping with drought efforts, and adults spend their time gathering water all day instead of investing in opportunities that might better their situations. Therefore, it becomes obvious how droughts are deepening regional poverty.

The most challenging problem in these communities during drought periods is food scarcity. The latest IPCC report (IPCC WGII, 2014) corroborates this finding and warns that decreasing food supplies in areas affected by climate change are reversing the gains made against global hunger. In Wamunyu and Mutito, during drought periods, all participants said there is widespread famine and many died in the past. Respondent 2 described her farm during droughts as “there’s a lot of firewood but nothing for us to cook.” However, there is no literal shortage of food for all community members in the areas. During times of drought, food is shipped in from other areas at high prices. This results in unequal food access: subsistence farmers are at risk of starvation due to their failed farms, while the wealthy adapt by buying the food they need.

Connection to Flashfloods and Soil Erosion

Climate changes that affect the farming seasons are complicated by activities that farmers undertake themselves. Many residents who left the areas reported that it was impossible to earn a living farming because of overpopulation and the decreasing size of farms as family sizes expand. Due to this overpopulation and lack of other income generating opportunities, all land is deforested and used. The “good” lands, which are flat and the closest to potential water sources, are owned and farmed. Squatters farm the “bad” lands, which are on the sides of hills and far from water. Maathai (2007) documented this issue in Kenya and described deforestation as both a cause of poverty (farming on lands not suited to farming, which leads to poor yields) and an effect of poverty (deforesting all lands).

Deforestation also leads to slow violence through the gradual degradation of land locally and the environment globally. When trees are on the land, they hold fertile soil in place, absorb heavy rains, and slow the flow of water, which prevents localized flashfloods (Szalay, 2013). Deforestation also causes the soil to become drier because there is no tree cover to protect the soil from the harsh rays of the sun, causing rapid evaporation; and a drier soil is more prone to flash flooding than healthy soils under a forest canopy. Without replacing the tree cover, this problem compounds and worsens over time. The result is increasingly arid land and desertification. Deforestation also reinforces the cycles of climate change. As trees are cut, they can no longer absorb carbon dioxide emissions, elevating the level of this greenhouse gas in the atmosphere (Dominelli, 2011).

Although participants did not verbalize the connection to deforestation, they often talked about flashfloods slowly degrading their land. Respondent 5, a middle-aged poor farmer and artisan wood carver, said:

And the other thing, when it floods, it sweeps away the fertile soil so when I plant, I can’t expect to get a harvest, not unless you have cash to buy the fertilizer, to make that soil fertile.

Wealthy residents are able to temporarily adapt to deforestation and flashfloods in the immediate sense by purchasing fertilizers, pesticides, and insecticides to enhance the land. However, again, the poorest cannot cope.

A range of issues from climate change—children missing school to gather water, failed harvests, loss of economic activities, lack of food, and destruction of fertile lands—combined to deepen participants' poverty. Aid programs were not available for the communities to mitigate the problems from climate change.

Governmental Interventions and International Responses

There is a lack of formal assistance to support communities affected by climate change, and this perpetuates injustice. Participants specifically spoke of problematic or non-existent governmental and foreign aid responses. Non-governmental organizations were rarely mentioned among sources of aid and are thus not discussed in-depth in this paper.

Government. Older participants in communities represented in this study remember strong past governmental responses to drought due to climate variances in the form of food drops. As rural Kenyan communities must adapt to permanent climate changes, rather than the seasonal climate variances they experienced as children, they are finding that their needs are greater but the response is less.

Participants reported that if the government responds at all, it is typically inadequate. Relief food is often too little to support survival during drought periods, as it is only about one to two kilograms of maize per family per drought/famine period. In addition, many of these needy families are unjustly means-tested for aid, and if declared "not the poorest of the community," they are not given relief at all. These declarations are assumed to be an excuse for removing aid from the community as "everyone in the community is the same. We are all suffering from the same thing," as reported by Respondent 6, a young, abjectly poor farmer who has never received formal assistance.

Corruption also reduces the already meager aid. Participants in these two areas independently suspected that the World Food Programme released a significant amount of relief food for their communities, but the national and local government flitted it away through corruption before it reached either community. Respondent 7, a young poor farmer explained:

They gave 100 sacks (of food aid) to be transported from Machakos (Town) to Kitui (Town) and from Kitui (Town) to the rural areas. One hundred sacks are being given but the number of sacks that reached the place is like 50. The other 50, either they are sold on the way or I don't know.

The corruption of the scant aid to socially excluded communities without many resources ensures that these communities cannot cope with the effects of climate change.

Corruption also ended a water aid program. In both communities, there were plans to pipe water into households to promote resiliency during drought and food security in the region; many households even paid for the pipe installation and had a short successful period of piped water. However, the local government failed to pay the electricity bill on the piped water, which was

supposed to be paid through the water charges to each household, and the entire piped water system was shut off. There was no recourse for affected individuals due to their social standing within Wamunyu and Mutito and the Kenyan society at large.

Corruption and disempowerment of ordinary citizens were highlighted by Maathai (2010) as “bottlenecks to development.” However, Maathai also cited the global forces such as unjust debt accumulation and unbalanced trade negotiations as other bottlenecks. Indeed, although participants were very disappointed in their government because they saw its inaction daily, the Kenyan government itself cannot adequately respond to this massive climate crisis. Due to the long-standing global economic forces, government capacity is limited and unable to meet the needs of all its citizens.

Foreign aid. Foreign aid responses have been problematic from the standpoint of the community members. There is palpable anger that much of the foreign aid is tied to work requirements. Respondent 8, a poor farmer and housekeeper, clarified that the aid workers, “don’t give you food. You have to work for that food! You have to repair the roads then they pay you, like a sack of maize and a half sack of beans and salad. That’s too little!” This was deemed exploitative by residents and many opted-out of the local German aid program entirely.

However, based on observations in the communities, the foreign aid work projects were repairing roads that had been washed away during flashfloods, digging community water reservoirs, and implementing soil erosion prevention measures on small-scale farm lands. While these community improvement projects did not tackle climate change or the root causes of disparities, they were needed projects that support adaptation in the near future. The anger seemed to stem not from the actual projects, but from their belief that no one should face water and food insecurity.

Another problem arose around water aid in Wamunyu. Because of the time invested in gathering daily water, it was shocking to see an abandoned water well with an electric pump in the Wamunyu market in the center of the village. Participants reported that the Chinese government put in this well for the community, set up an affordable fee structure, and formed an oversight committee of local residents to ensure the project’s sustainability through proper usage and continued repairs. However, the well was shut down after a short period of use due to infighting within the oversight committee over “politics.” One participant explained that the oversight committee was fighting over how to split repair fees among themselves. Unable to agree, they closed the well. Several participants said they did not fight these actions, also because of “politics,” indicating that the oversight committee members were likely powerful in this community, thereby perpetuating injustice.

Adaptive Responses

As a result of climate change, rural Kenyans and their communities are forced to engage in activities necessary for survival. Many residents engaged in activities that helped them through drought from past climate variances. Participants employed adaptive farming activities including altering the livestock from “Western” cattle to “drought resistant” cattle that have humps like camels. Many also reduced their farm products to only drought-resistant maize, beans, and tomatoes. Both adaptations have resulted in deepening poverty, as the drought

resistant cattle cannot be milked and the farming yields have no market. Many in Mutito were also engaging in charcoal making as their only economic activity, an activity that is illegal and thus they are at constant risk of arrest.

These adaptations historically allowed communities to endure short climate variations and eventually return to their normal activities. However, they are simply becoming less successful as climate change is slowly changing their environment to a desert. Tomatoes may be able to be hand-watered during a drought but tomatoes cannot grow in a desert. Drought resistant cattle may only need to drink water once per week, but they cannot survive without any water or food whatsoever. In response, many from the communities have been forced to migrate to the cities.

These forced migrants are environmentally displaced persons (EDPs), a population projected to continue to grow worldwide. Currently, it is estimated that there are at least several million EDPs globally (Morton et al., 2008). This figure is predicted to rise to 10 million in ten years, and to over 100 million within 20 years, with most of EDPs coming from the poor rural areas of developing countries like Kenya. However, as EDPs tend to move to the urban slums in their home country with few translatable and marketable skills, they are often subject to a life of poverty in these slums (Morrisey, 2008).

Indeed, all but one EDP interviewed were living in slums. Unable to secure good, consistent employment due to a lack of skills and the notoriously corrupt and exclusionary formal Kenyan economy, these EDPs were largely unable to send home money as planned. In fact, they were often monetary drains on their families in the rural areas. In addition, family members back home struggled to adapt without them. Those who left their home community were usually young men who traditionally performed the labor-intensive farming tasks that community elders and children could not. Thus, many tasks were not done, further ensuring that climate change disproportionately burdens the vulnerable.

Social Work's Role

Small community-based mitigation projects cannot solve the slow violence. Instead, their root causes must be addressed: the injustice of climate change. To be sure, this area of work provides many opportunities for social workers that align with macro social work. In fact, the historical founders of macro social work, settlement workers, tackled large-scale environmental issues like lead and phosphorous pollution in poor communities during the Industrial Revolution in the United States and an increasing worldwide militarization in the lead up to the United States entering World War I (Gottlieb, 1993). Social workers are well suited to support these communities by fighting for justice.

Within the scientific community, there is widespread agreement on the cause of climate change—97 percent of over 12,000 peer-reviewed climate science papers agree that climate change is man-made and real (Cook et al., 2013). However, climate change remains politically contentious in the United States, and the science has been falsely framed as too unsettled to justify needed actions. The latest IPCC report is a call to action, and their recommendation that all individuals, industries, and countries aggressively invest into renewable energy sources and away from fossil fuels is very doable with enough political will (IPCC, 2014).

Social workers can hasten this energy shift that will create a fairer climate situation through involvement in social movements, and lobbying politicians, both of which are time honored social work activities. Social workers must advocate for policies that support renewable energy development like local solar and wind farms, and oppose dirty energy development. Social workers must encourage governments to fund a strong governmental environmental agency, like the Environmental Protection Agency, so that it can limit carbon pollution through regulatory measures. Social workers must also back reforestation efforts in order to have more trees to absorb greenhouse gases and protect these areas, and publically reject efforts to drill on national lands. Such measures will make all local communities better places to live through pollution alleviation and job creation, in addition to addressing climate change.

Together with the advocacy for reparative and protective environmental policies, social workers must advocate on the behalf of the climate affected. Due to the predatory loan structures of the IMF and World Bank, these international banks have been criticized as agents of economic colonialization for implementing an agenda that benefits their largest shareholders (United States, United Kingdom, France, Germany, and Japan) rather than the developing countries that are the supposed foci of their missions (Turner, 1994). Many of the borrowing countries, including Kenya, have yet to recover from these programs and are exponentially accumulating more crushing debt (Smith, 2006). The Kenyan government cannot jointly repay this debt while responding to climate change. And without the support of the Kenyan government, the work of philanthropists, donors, and social workers becomes ineffectual. Thus, social workers can hold the IMF and the World Bank accountable and join Kenyan scholars in demanding that the cancelation of these unjust debts through advocacy work (Maathai, 2010). Without this burden, the Kenyan government can re-channel the debt payments into communities to promote resiliency to climate change.

Social workers must also continue to document the voices of people who are affected by slow violence. The voices of the affected in rural Kenya are important to hear in order to humanize slow violence, but so too are voices from across the globe. In addition, social workers must educate their own community members, students, and colleagues about how their everyday actions affect the climate which affects everyone but particularly the poor who are directly affected by the slow violence. Individuals are constantly encouraged by climate change reports to lessen their individual impact on the climate. This can be done in various ways including: divesting from dirty energy, using energy efficient products, recycling, insulating their home, purchasing green energy, using paper and water resourcefully, flying and driving less, and eating less meat (USEPA, 2014; Stehfest et al., 2009). All social workers can engage in these individual actions.

Conclusion

Climate change is a global amorphous phenomenon where the actions of some affect others who have no recourse. This study gives voice to people who are affected by the slow violence of climate change in order to humanize these impacts and argue for systemic action. Addressing consequences of unsustainable environments and inequalities is now considered a core issue within international social work by the International Federation of Social Workers, International Association of Schools of Social Work, and the International Council on Social Welfare through the *Global Agenda for Social Work and Social Development* (2012). However,

despite this commitment and other arguments to incorporate an understanding of the detrimental social effects of climate change into social work, the profession is failing to substantially integrate this concern into research, teaching, and practice. As the social work profession is unique in that it mandates a professional duty to address the causes of human suffering and injustice, we must act and address the slow violence of climate change. By doing so, social work will remain true to the values of social justice and human rights in order to create a world equitably shared by all.

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