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Contemporary Rural Social Work

Special Issue

Volume 7 Number 1 (2014)

Editor-in-Chief's Introduction

This special issue of *Contemporary Rural Social Work* is a call to action as well as to scholarly perusal. Environmental justice is a critically important topic for rural as well as urban survival. *Contemporary Rural Social Work* is pleased to bring a special issue to the profession under the able editorship of Pamela Twiss highlighting the complexity of the issue. The articles featured in this issue present both practical guidelines for change useful for both educators and practitioners as well as a commitment to a philosophy of stewardship of the environment. Rural areas and rural practitioners are in daily touch with the issues raised by failure to protect the environment and offer leadership in best practices to stem the tide of the results of inattention to the environment in which we live.

Young, Teixeira and Hartnett present a case study of a rural West Virginia community organizing effort called Citizens Actively Protecting the Environment [CAPE] that utilized social media in its response to the Elk River chemical spill of 2013. Some excellent ideas for use of social media for environmental organizing in rural areas are presented. Researchers, practitioners, and educators will find this article helpful. Harper-Dorton and Harper discuss social and environmental issues that arise in rural areas where access to clean water and affordable energy are denied. They provide examples of innovative grassroots ideas to “ameliorate daily deprivation of necessary resources.” Vividly, the interconnections between water and energy are highlighted, along with the local and global consequences for a sustainable future if this interconnectivity is ignored. Willett presents the impact of climate change on vulnerable populations through the use of an ethnographic approach to the effects of climate change on two rural poor Kenyan communities. She details the effects of drought, deforestation, failed governmental and foreign aid responses and local adaptive responses. She makes a compelling case for the involvement of social work in mitigating the effects of climate change and presents a number of ways for effective involvement.

In a thought provoking article, Scherch frames permaculture design principles and methods as a modality for social work professionals to begin with their own personal and professional practices and emphasizes that social workers need to acquire and model the knowledge and skills needed for sustainable lifestyles. He points out that the prioritization of “multi-modal skills of sustainable living may well be the most effective means to realize and sustain environmental justice advancement.” Implications for social work research, practice and education are presented. Dylan designs a course that responds to the social justice aims of the profession through the lens of environmental social work. Her course moves well beyond theory to a discussion of best practice interventions and alternative practices. Book reviews by Chakradhar and Perone round out the issue.

In summary, this special issue of *Contemporary Rural Social Work* presents concepts, issues and practice implications of issues related to environmental justice in ways that should compel rural practitioners and educators to thoughtful action. This issue makes clear that rural practitioners have the opportunity to be on the cutting edge to provide ideas for solutions, articulate implications of failure to act now, and present important case examples to bring home to policymakers the serious consequences of inaction while there is still a reasonable chance to ameliorate the potential for the destruction of the universe in which we live. We are given the tools to mount a campaign for environmental justice. As editor of *Contemporary Rural Social Work* I hope we use this special issue of our journal as a springboard for us as rural social workers to lead the charge for environmental justice based on our firsthand knowledge, experience and competence.

Peggy Pittman-Munke, Editor-in-Chief

Contemporary Rural Social Work

Special Issue

Volume 7 Number 1 (2014)

Guest Editor's Introduction

Why here, why now? What is environmental justice, and why is *Contemporary Rural Social Work* publishing a special issue focused on environmental justice and rural communities at this time? The Environmental Protection Agency notes in its definition of environmental justice that this concept is about ensuring that we all share “the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn and work” (U.S. Environmental Protection Agency, 2015). Our present context provides ample evidence that we have not achieved this goal. The authors in this special issue make clear that environmental hazards are not equitably distributed, and rural areas are far from immune to disproportionate environmental risks.

As the world's population grows, demands for energy, drinkable water, and food also grow. Life-sustaining food and energy sources needed by growing urban populations are frequently found side-by-side in rural areas. Large tracts of land that are home to dispersed, isolated, rural populations are ideal sites for large-scale agribusiness, energy extraction, and other industrial activities. The isolation and small population density in these areas appear to make the environmental burdens borne by rural peoples and communities less visible, and their representation on the political agenda less viable. The world seems to take little notice of the area in northern China, 8,000 square miles in size, which is at risk of collapse due to underground mining, or the rural Chinese villagers sending their children to live elsewhere for their safety (Moore, 2011, September 2). Across the United States we have sludge ponds holding billions of gallons of coal slurry, and containment failures in Tennessee and Kentucky sent millions of gallons of sludge into waterways (Eilperin, J., & Mufson, S., 2013, April 24; Simone, 2008, December 24), environmental accidents involving very large toxic spills yet receiving far less sustained media attention than the Exxon Valdez incident. Miles and miles of water are also “dead” due to acid mine drainage. Environmental justice advocates in Appalachia have long wondered if they and their communities were simply considered expendable by the rest of the country and the world. As House and Howard (2009) write, “Today's culture puts little stock in a rural place like Appalachia . . .” (p. 9). This region and many others in the U.S. and abroad are now also home to a new form of drilling for unconventional energy resources: horizontal drilling and hydraulic fracturing. This new energy boom, like booms before it, brings economic opportunities and environmental challenges, including but not limited to spills involving chemicals, well casing issues, storage and disposal of drill cuttings and production water.

Simply put, this is the time and we cannot afford to wait a moment longer to address the environmental justice issues confronting rural communities throughout the world. We are in excellent company in acknowledging the importance of this moment. The Council on Social Work Education's Board of Directors passed new educational policy standards for social work

education in March of 2015 that acknowledge the fundamental importance of environmental justice concerns within our discipline. These new standards include Competency 3: Advance Human Rights and Social, Economic, and Environmental Justice (Council on Social Work Education, 2015). At a global level, the United Nations Secretary-General, Ban Ki-moon has called for a focus on “people and planet” in the development of sustainable development goals in 2015 (Ban, June 27, 2014). These bodies, one national and focused on our discipline, and one global and focused on international security and human rights, are both influenced by and responding to compelling global developments.

As social workers steeped in a systems perspective, we know that we cannot ignore these developments. Rural and urban populations are interdependent, exchanging goods and services. Urban areas rely upon more rural areas for food and basic resources. Rural areas rely on urban customers and large-scale buyers (as well as regional medical centers and other resources common to more urban areas). Communities across the globe are increasingly interconnected economically and socially. The authors who submitted articles for this special issue call our attention to these relationships, to the water-energy nexus, to the slow-violence of climate change that currently threatens rural Kenyans, to the potential for toxins to spill into our drinking water sources at any time. They offer us paths forward: to teach our students principles for *permaculture design* and sustainable development as well as contemporary models for organizing and social action; to examine environmental justice issues globally; to practice and model sustainable development practices. I thank these authors for their work and their commitment to promoting understanding of rural environmental justice issues. I thank the Editorial Board of *Contemporary Rural Social Work* for giving me the opportunity to serve as guest editor of this special issue and for issuing a clarion call to our profession: let us embrace our heritage and long-standing commitment to vulnerable populations, and let us make a commitment to rural people and their communities that will evidence concern in equal measure for “people and planet” (Ban, June 27, 2014)

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Social Action Meets Social Media: Environmental Justice in West Virginia

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Abstract. This article presents a case study of a community organizing effort known as Citizens Actively Protecting the Environment (CAPE). Led by rural West Virginians in response to the Elk River chemical spill of 2013, this environmental justice movement was novel in that it harnessed social media, specifically Facebook, to catalyze advocacy and change efforts in a rural area. The literature on environmental health disparities and environmental justice in rural communities is reviewed. Then authors describe how resident-led organizing in rural areas was effective in promoting environmental justice. Details of the CAPE project are presented, as well as ways social media can catalyze and augment environmental justice organizing efforts in rural communities. Implications for social work researchers and practitioners are presented.

Keywords: environmental justice, social media, community organizing

Like many rural areas in the United States, West Virginia has a long, complicated relationship with the coal industry. However, this industry is deeply entwined in the state's heritage and many residents' livelihoods, and is responsible for considerable environmental degradation that adversely affects the health and well-being of those very residents (Bell & York, 2010). Since the 1970s, activist groups in West Virginia have reported on the impact of synthetic chemicals, acid mine drainage, and coal mining on water and air supplies; but due to this industry's political and financial clout, these problems are often viewed as collateral damage necessary to support the economy and provide jobs. These problems recently gained nationwide attention in the wake of a massive chemical spill into the Elk River that affected more than 300,000 West Virginia residents (Gabriel, 2014).

Environmental Justice: A Rural Perspective

Environmental health hazards are not experienced equally across populations, but disproportionately located in poor and minority communities (Brown, 1995; Bullard, 1990; Gochfeld & Burger, 2011). Indeed, the environmental justice movement aims to address this disparity by promoting safe and clean environments as a fundamental right of all people, and by addressing the inequities of environmental protection enforcement in low income and minority communities (Jones, 2011). Numerous studies regarding the impact of illegal dumping, hazardous waste site location, resource contamination, and other environmental hazards indicate that environmental inequality is a particularly salient issue in rural communities (Gochfeld & Burger, 2011; Jones, 2011; Pellow, 2004). Exposure and contamination are daily issues West Virginians living in coal counties face. Thus, native West Virginians hold differing perceptions of consciousness that either focus on awareness and advocacy, or reflect a state of suspended disbelief that enables residents to ignore the reality of health hazards related to environmental risk (Bell & York, 2010). These perceptions are common in rural areas due to both cultural

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norms that have evolved from decades of living in situations where environmental risk has been normalized. This ambivalence is attributed to what Dotson and Whyte (2013) refer to as “unknowability” which suggests that inadequate knowledge regarding the impact of environmental damage in the community, and a dominant culture that places these communities on the margin, concerted render residents unable to gain momentum in their efforts to affect change. Therefore, even though rural communities and vulnerable populations are disproportionately burdened with environmental hazards, this problem goes unrecognized because of residents’ lack of voice, and negative stereotyping that paints them as uneducated and politically uninformed (Jones, 2011).

Though it is a global problem, rural and especially farming and mining communities are at particular risk for environmental inequality. Rural areas experience their own unique set of environmental hazard exposures, including high levels of dust and lead levels. Additionally, rural areas also experience high pesticide levels and uncertain water quality (Gochfeld & Burger 2011). Rural communities are also uniquely vulnerable due to documented low voting rates and low records of homeownership. Moreover, rural residents have little access to wealth or disposable income. These conditions concerted leave residents unable to confront polluting facilities and their powerful and well-resourced political supporters (Pellow, 2004; Bell & York, 2010). West Virginia reflects this reality with its median household income \$13,000 below the national average, thus leaving 17.6% of its population living below poverty level and 10.2% of this group earning less than \$10,000 per year (U.S. Census Bureau, 2014). Despite 73.7% of West Virginia residents owning their homes, over 50% of owner occupied homes are valued below \$99,000, with 22.2% of all owner occupied homes valued below \$50,000. Other salient demographic factors such as a larger than average population of residents over 65 (16.8% over the national average), as well as lower post-secondary graduation rates (17.9% under the national average) leave West Virginians particularly vulnerable to environmental inequalities due to their lack of economic and oftentimes accompanying political power (U.S. Census Bureau, 2014).

West Virginia is comprised of people with unique exposure pathways to environmental health hazards. Not only are state demographics of poverty and a sizable elder population indicators of vulnerability, West Virginia is the only state completely within the Appalachian Mountains. This total inclusion allows for its full classification as rural, both geographically and culturally. In an article detailing the characteristics of populations uniquely exposed to environmental health disparities, Gochfeld and Burger (2011) note that rural and isolated populations in Appalachia, especially those not immersed in the dominant culture, face unique exposure pathways for environmental hazards including consumption of self-caught fish and game, exposure to pesticides and animal waste from nearby farms, and proximity to mines and other industrial sites contaminated with arsenic and asbestos.

Recognizing their own vulnerability to environmental hazards, citizen action groups in West Virginia, have long advocated for environmental regulation to protect vulnerable residents from environmental injustice. For example, a mainstay group advocating for environmental justice since 1974 is the West Virginia Citizen Action Group (WV-CAG). WV-CAG has historically focused on clean water and environmental protection, rallying against the contamination of West Virginia’s natural resources. Their focus is primarily due to the continued history of coal related chemical spillage in the West Virginia water supplies. As early as 1974, WV-CAG was disseminating public reports that detailed the impact synthetic chemicals had on

West Virginia's water and air supplies. These environmental issues of clean water, sustainability, and protection have been in the national spotlight for decades, but are particular focus areas in West Virginia, a coal-driven, chemical hub where 28 of the 55 counties in the state produce coal (West Virginia Office of Miners' Health, Safety, and Training, 2012). This type of grassroots organizing and citizen action is a way for West Virginians to combine their individual concerns to create a collective voice that reflects full participation in the decision making process by all citizens to demand environmental change. However, WV-CAG is only one voice of many; and in light of the recent Freedom Industries spill (Gabriel, 2014), other citizen action groups have begun to form a collective voice for clean water and healthier living conditions throughout West Virginia.

Rural Community Organizing: A Brief History

Though existing research has demonstrated the promise of community-led organizing and intervention efforts to address environmental justice issues, the literature continues to focus on urban populations (Brulle & Pellow, 2006; Harwood, 2003; Loh & Sugerman-Brozan, 2002; Minkler, Garcia, Williams, LoPresti, & Lilly, 2010; Schweitzer & Stephenson, 2007). From the inception of social work, early social workers determined the importance of organizing groups and enabling individual community members to rally together for a common cause. From this perspective, grassroots organizing emerged as an organizing method specifically focused on change that enables community members to unify their voice for change in their towns and communities, and become an advocacy voice for the general public interest (Kahn, 1991). In rural communities, a unified voice is vital for members to take action, especially when advocating for environmental change. The foundation for citizen action as a democratic and participatory process can be traced back to Mary Parker Follett's theories regarding social processing and citizen unification in neighborhoods and communities (Elias, 2010; Morse, 2006). Follett's perspective on citizen action and shared power has stimulated social workers and community organizers to become change agents who, in turn, help educate and mobilize citizens to group together as a collective to become change agents themselves. This shared process could be defined as civic capacity, a concept that begins with a group of citizens living in a local area or sharing a common purpose coming together to problem solve with other constituents in response to economic, social, and environmental barriers (Elias, 2010).

Community organizing to build civic capacity and challenge the balance of power has been the catalyst for national movements in civil rights and other political agendas for many decades (Fisher & Schrage, 2000; Fisher, 1994; Rothman, 1974). In the late fifties and early sixties, grassroots organizing for environmental inequality and risk began with the publication of Rachel Carson's *Silent Spring* (as cited in Hansen, 2012), which discussed the environmental decimation of pesticide use on land and wildlife, and culminated in the passing of several environmental laws from 1965-1980 including the Wilderness Act, the Clean Air Act, the Occupational Safety and Health Act (OSHA), the Clean Water Act and the Superfund Act, as well as the creation of Earth Day in 1970 (Hansen, 2012). Following a social action model of organizing, environmentalists gathered momentum and built "people power" to draw attention to environmental injustices being perpetrated by poorly regulated, powerful corporations (Rothman, 1995).

Grassroots organizing and citizen efforts have been at the heart of the environmental movement, helping to bring issues of environmental injustice to the attention of broader society (Hansen, 2012). This is certainly the case in West Virginia where citizen action groups have been able to gain national attention through social media and public outcry. These grassroots strategies brought nationally recognized social activist Erin Brockovich to West Virginia to speak about clean water rights, as well as national and international news and media outlets to broadcast crisis updates through major networks and publications.

In rural areas, community organizing can be difficult due to the cultural norms of “unknowability,” but also because of geographic boundaries. Sandusky (2007) posits that crossing boundaries means constituencies must join together, but actions typically require state or federal level resources. Rural communities cannot organize alone, but must join forces to achieve “scale necessary to win” (Sandusky, 2007, p. 93). Consequently, if a rural community chooses to advocate for change without joining forces with other rural towns, citizens can encounter power differentials between citizens and corporate or community power players that can cripple rural environmental change efforts due to fewer citizen activists. Grouping smaller communities together can balance the power and create enough social capital to challenge decision makers and influence change. Staples (2012) discusses that, despite communities grouping together, the power shift is not without conflict due to the effort needed to “redress disparities in distributive justice by altering relations of power between dominant elites and marginalized groups” (p. 290). In order to achieve social justice, Staples states that it “...takes power; and community organizations are vehicles of collective empowerment” (p. 295). Social media is a new tool that rural communities can leverage to transcend geographic boundaries and build a critical number of residents necessary to challenge power imbalances between powerful industries like the coal industry and rural residents. It can also assist the rural communities to reach people in non-rural areas to gain more collective power as was the case in West Virginia.

Rural Community Organizing in a 21st Century World

Social networking through social media sites such as Facebook and Twitter accounts for a significant amount of mass communication and, in conjunction with connectivity to blogs, news articles, video and other Internet based information resources, can provide instant action items that allow organizers to align and advocate in quick and efficient ways. According to Nielsen (2012), between 2011 and 2012, there was a 21% increase in time spent on the Internet, and a total of 520 billion minutes were spent on mobiles and PCs across the U.S. Moreover, 521 billion people use social media, which results in 22% of the United States time spent online using social networking (Nielsen, 2012). Given this massive online activity, the traditional concepts of community organizing such as protests, town meetings, and sit-ins could take a 21st century turn to create a new perspective of collective action, civic capacity, and social capital. The traditional concepts of organizing, while still effective, can be enhanced by the acceptance of social media as an addition to activism versus a comparison. Traditional methods of community activism may be augmented by online social activism, which could be used as a vehicle to enhance free speech, information sharing, and online organizing efforts (Ladhani, 2011).

Few events depict the impact and power of social media as a method of public participation as clearly as the 2008 U.S. presidential election. The Obama campaign’s ability to

harness the power of Facebook, Twitter, and YouTube provided a vehicle to share campaign information, allow for public participation in debates, and engage the millennial electorate (Harfoush, 2009). The campaign electrified youth unlike traditional campaigns, culminating in over one million people watching the 2008 inauguration on Facebook (Evans-Cowley & Hollander, 2010). Not only did this method increase public political support, it provided a template for political and social activism that has since been employed by large-scale organizing and advocacy efforts including the Occupy Movement and the Arab Spring (Costanza-Chock, 2012; Marzouki, Skandrani-Marzouki, Béjaoui, Hammoudi, & Bellaj, 2012).

Though geographical boundaries are a barrier to rural community organizing, social networking provides a pathway through which those barriers may be crossed. Virtual organizing can be used to transcend spatial boundaries and connect once disenfranchised groups through technology (Evans-Cowley & Hollander, 2010; Singer & Sage, forthcoming). Using technology and social media in rural communities may catalyze more traditional forms of activism; and social media can be the first step in engaging constituents across geographic boundaries, while embedding these techniques within traditional forms of activism can organize and enhance participation (Evans-Cowley & Hollander, 2010). Technology can also bridge the rural/non-rural divide. By sharing information through cyberspace, people can communicate with and educate potential allies elsewhere. Building a strong collective is vital to any organizing effort, but this is particularly salient in the case of environmental justice issues as many people are invested in this social cause regardless of geographic residence.

Citizens Actively Protecting the Environment: A Case Study of 21st Century Organizing

The following case study illustrates an example of citizens in rural West Virginia using social media to catalyze more traditional environmental justice advocacy. Using CAPE's organizing strategy as an example, the case study details how the group bolstered traditional social action organizing with 21st century tools.

On January 9th, 2014, West Virginians in 9 counties were alerted of the 4-MCHM chemical spill that prevented all users of West Virginia American Water Company (WVAWC) utility from using water for anything other than firefighting or flushing toilets for approximately six days. Despite the spill being identified around 10 a.m., WVAWC executives did not advise users to stop drinking, cooking, or bathing for several hours; thus, a significant number of residents in all nine counties were unknowingly exposed to 4-MCHM. The impact of a spill of this magnitude, which affected over 300,000 users, was immediate. People who had ingested the water panicked, businesses were at risk, and healthcare agencies were significantly overwhelmed by their inability to operate in a functional and safe way. Governor Earl Ray Tomblin issued a state of emergency, and officials began trying to calm the public and ensure that major health facilities such as hospitals and nursing homes could resume operations.

The civic capacity described by Elias (2010) arose almost immediately, and West Virginians were galvanized into citizen action for environmental justice; however, the method of organizing took a 21st century turn. Citizen action groups such as WV-CAG, CAPE, Keepers of the Mountain, WV Clean Water Hub, Citizen Action for Real Enforcement (CARE), and People

Concerned about Chemical Safety all used social networking to facilitate community action and legislative change.

Community members scrambling to find clean water and businesses were forced to close for the duration of the crisis until approved for cleanliness by the local health departments. Hospitals, nursing homes, and schools were prioritized, whereas small businesses and private daycares were the last to receive approval to reopen. One small business, a catering company called Ms. Groovy's Cafe, was impacted significantly and became the catalyst for a grassroots organization effort that spurred legislative change, and provided renewed hope that, when joined together, citizen voices would be heard.

The effects of the 4-MCHM chemical spill on Ms. Groovy's Café were substantial, and resulted in owner, Jeni Burns, losing three weeks of business and experiencing continued scrutiny by clients regarding the use of city versus bottled water. Ms. Burns reported that the only thing that keeps Ms. Groovy's Cafe in business is that she continues to use bottled water months after being cleared by the Kanawha/Charleston Health Department. As a business owner and as a community resident, Jeni Burns was angry – angry at Freedom Industries, angry at West Virginia American Water, and angry that citizens were not adequately informed. When asked to describe how CAPE began, Ms. Burns (J. Burns, personal communication, March 19, 2014) explained:

I reached out to a few friends on Facebook, and word of mouth spread the message. People were scared and needed to vent. There was such poor handling in so many areas and a lack of leadership. [People] needed a communal sense instead of being isolated in their own world. They had to do something with their energy. Leadership was doing nothing, so people needed to stand. Our first town hall meetings at the Roosevelt Center had over 150 attendees. Social media was the key element.

Out of this initial face-to-face meeting described by Ms. Burns, the community group, CAPE, was born. They created a Facebook page that garnered an immediate, active following. This joining of traditional organizing and online activism helped residents of the 9 affected counties to mobilize together. At the time of this article, the CAPE group's Facebook page had more than 1600 "likes." Along with a few other invested community members, CAPE members began collectively organizing to appeal to state officials to approve Senate Bill 373, *Incorporating State Water Resources Management Plan into Water Resources Protection and Management Act*, which includes source water protection plans, public water supply protection, aboveground storage tank registration, and long-term medical study planning to determine any affects from the chemical spill (West Virginia Rivers Coalition, 2014.) Again, Ms. Burns (personal communication, March 19, 2014) stated, "I was compelled to do something. I never thought I would be a citizen lobbyist, but citizen input is what made the difference in Bill 373."

CAPE members used the Facebook page as a platform to communicate with concerned community members and organize collective action around Senate Bill 373. They encouraged residents to contact their elected officials and provided simple instructions and contact information in a convenient location so that West Virginia residents across geographic

boundaries could engage in advocacy for the bill. The Facebook post in Figure 1 illustrates one of their first efforts (CAPE, 2014).

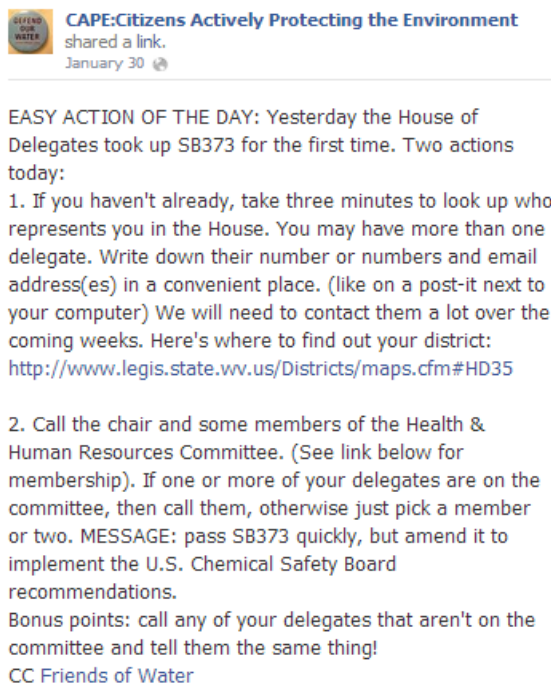


Figure 1. CAPE encourages citizen action in this Facebook post.

This post shows how the community organizing effort, CAPE, married traditional social action organizing techniques with 21st century tools. In keeping with the social action organizing typology, the group used a Facebook page to increase residents' problem solving abilities through education about the political process, and worked to address issues of power by giving residents a larger collective voice in the context of a social media campaign (Rothman, 1995). The group used action items like the one presented above in conjunction with invites to physical meetings, which has been associated with more successful, sustainable change in community organizing efforts (Herbert, 2006).

Social media also allowed members of CAPE to strategize before actively coming together to lobby before the West Virginia legislature. According to Ms. Burns (personal communication, March 19, 2014), "It lessened the need to meet and provided immediate information." This key informant went further to describe how using Twitter and Facebook allowed CAPE members to communicate effectively and quickly to share information and mobilize:

It puts you at the same playing level as your opposition. Using social media to strategize puts you at an advantage [just as] not using can put you at a disadvantage. Citizens don't have the monetary power to go against WVAWC or Big Coal. Social media worked great during [legislative] session because it provided tools for community members and caused delegates to take notice – they all want to be re-elected. (J. Burns, personal communication, March 19, 2014)

Additionally, Ms. Burns highlighted how engaging large numbers of people through social media gave the organization a presence that it otherwise might not have had. Again, mirroring the goals of traditional social action organizing, the social media campaign agitated and motivated residents to gain access to decision makers. Rural residents, often disenfranchised in the political process, must rely on “people power” to “pressure and disrupt” the more powerful political influences (Rothman, 1995). The group engaged in coalition building to gain further momentum against the powerful polluters and government interests by connecting and sharing advocacy opportunities spearheaded by other organizations and legislative allies.

Finally, CAPE members used their Facebook page to celebrate victories and keep residents engaged and informed about future community action efforts. After the success of their campaign in support of Senate Bill 373, the organization could have lost momentum as issue-oriented action efforts often do (Cloward & Piven, 1999). As illustrated in Figure 2, CAPE members used compelling visuals and encouragement to promote small victories while reminding residents that there was more work to be done (CAPE, 2014).



Figure 2. CAPE used Facebook posts to celebrate advocacy victories.

CAPE augmented traditional organizing efforts with social media tools and successfully lobbied for stronger regulations to promote environmental justice in West Virginia and to prevent another environmental crisis like the Elk River Spill.

Discussion

This article discussed environmental justice in a rural context through a case study of a rural environmental justice campaign that combined traditional community organizing methods and Internet based tools. This strategy was employed successfully to lobby for stricter environmental regulations in West Virginia and mobilize rural residents to share information and advocate for change.

Rural communities have historically been excluded from discussions of social and environmental justice, despite their discrimination and marginalization, thereby leaving them disproportionately exposed to environmental health hazards (Bassett, 2003; Jones, 2011). Stereotypes further marginalize these communities by suggesting that rural residents are simple, poorly educated, and unable to engage in political advocacy (Bassett, 2003; Jones, 2011).

However, this case study illustrates that rural citizens can overcome some of these challenges through using social media to articulate their concerns, virtually meet like-minded people across broad geographic areas, and organize large numbers of people to address environmental justice issues common to their communities.

Social media was a particularly useful tool to address some of the challenges unique to rural community organizing and service provision. Rural organizing efforts in rural areas are often hampered by challenges such as geographic remoteness and physical barriers, lack of political power, and less access to voluntary organizations and activist groups (Elias, 2010; Sandusky, 2007). The use of social media in this campaign helped ameliorate these issues by garnering large numbers of supporters across geographic regions and creating a tool through which multiple organizations could build strong coalitions. It also helped garner support with non-rural areas allies. CAPE began by building an online community and ended with a strong and capable offline community that had the organization and power to lobby against seemingly much more powerful corporate interests.

For rural practitioners and researchers who wish to address environmental justice, this case study illustrates that social media can be a useful tool to augment traditional community organizing tactics. The benefits of social media include its ability to transcend geographic barriers and build momentum and support across multiple communities affected by environmental health hazards in rural areas. These techniques also help create networks with others outside of the affected areas. It is vital as organizers to look for allies in all places, especially those that are seldom considered. Rural practitioners may benefit from exploring the use of social media to augment advocacy efforts in rural communities because of its utility in addressing unique challenges of rural practice.

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Social and Environmental Justice and the Water-Energy Nexus: A Quest in Progress for Rural People

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Abstract. Access to affordable and reliable clean water and energy is necessary for economic development, health, and well-being of all people worldwide. Unavailable, unaffordable, or unreliable water and energy resources represent social and environmental injustices that disproportionately burden poor people, especially those in rural areas. Furthermore, there is an inextricable link between water and energy: clean water requires power for delivery and sanitation, and power production requires large amounts of water. This water-energy nexus connects two vital resources for humanity with more attention to economic concerns than to human or environmental issues. This paper addresses social and environmental justice issues that confront rural populations with little or no access to clean water and affordable energy. Local examples of grassroots efforts to produce and provide access to clean water and affordable energy in remote communities and rural areas offer innovations intended to ameliorate daily deprivation of necessary resources. Indeed, the water-energy nexus is so enormous, and risks further exacerbation if global efforts to build capacities to sustain environmental resources continue to lag or fail to develop. Domestically and internationally, the interconnectivity of water and energy cannot be ignored for a sustainable future for the world's population.

Keywords: social justice, environmental justice, environmental sustainability, economic development, rural, water-energy nexus

A single definition of rural does not suffice for all purposes and regions of the world as factors such as population concentration, distances, land use, quality of life, and standard of living vary among nations and influence connotations and definitions of rural. Heilig (2012) places the world population at 7.32 billion people in 2015, and reports about 3.38 billion people, or 46 percent, as living in rural areas. Asia and Africa are home to the vast majority of the world's rural population. Asia has about 2.3 billion, or 68 percent of rural populations, and Africa's rural population is about 0.69 billion, or 0.20 percent of rural populations. The world population is projected to reach 9.55 billion with rural populations shrinking to 3.13 billion, or 33 percent of the world population by 2050. As part of this population shift, Asia's rural population is projected to shrink by about 20 percent while Africa's rural population is projected to grow by as much as 68 percent by 2050 (Heilig, 2012; Weeks, 2016). Out-migration contributes to some reduction in rural populations as do famine, war, and natural disasters. Rural to urban migration is a long-standing process as people seek employment, opportunities, have less attachment to land, and seek a better standard of living. Additionally, birth and mortality rates contribute to population trends as births increase or decrease and life expectancies grow.

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Water-Energy Nexus

Water is the world's most precious resource for which there is no substitute. Water is necessary to support life, biomass, and energy. Furthermore, water is also integral to electricity production, and electricity is needed to clean, store, and deliver water. Water and energy are therefore inextricably linked as water is used to produce energy, and energy is used to provide clean water. Moreover, water and energy are basic requirements for food production and preservation and are subsequently fundamental to economic development. As world populations grow and demands increase, power generation will similarly expand as will the use of water for its production. The water-energy nexus has enormous implications for national and international rural areas where distances and low population density drive up the costs of providing clean water and modern energy, i.e., electricity (Glassman, Wucker, Isaacman, & Champilou, 2011).

The water-energy nexus raises social justice concerns as poor people in rural developing regions are heavily burdened by the lack of access and/or affordability for clean water, sanitation, or electricity. Disadvantaged rural populations are burdened by unequal distribution of environmental resources and environmental harms, and are without resources and political power to advocate for their own participation in change (Bass, Bigg, Bishop, & Tunstall, 2006).

Social Justice and Environmental Justice

Contemporary understanding of social justice in America has roots in the liberation movements of the 1950s, and in the mass movements of the 1960s such as Civil Rights and Women's Liberation that extended well into the 1970s. Social justice principals call for basic living standards for health, mental health, housing, education, and protection from marginalization (Olson, Riffe, Reid, & Threadgill-Goldson, 2011). Continuing efforts for social justice include antiwar movements; lesbian, gay, bisexual, and transgender social movements; disability rights movements; and more. Social justice principles help inform issues of environmental justice and sustainability for the well-being and equality of people, and include rights to water and energy to sustain health and well-being (Ikeme, 2003; Parris, Hegtvedt, Watson, & Johnson, 2014).

Having roots in social justice movements for human rights and equal participation, the environmental justice movement gained momentum in the 1980s (Adams, Bell, & Griffin, 2007; Bullard, n. d.). Environmental justice is broadly defined as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (United States Environmental Protection Agency, n.d.c). The movement for environmental justice calls for fair treatment so that industrial development, urbanization, or modernization will not environmentally burden people regardless of race, ethnicity, or location (Bullard, n.d.; United States Environmental Protection Agency, n.d.b).

Reflecting the dilemma of protecting people or planet, environmental and social justice issues extend to all sorts of human concerns including human exposure to toxic chemicals, pollution, human rights, quality of life, access to health care, meaningful participation in political

and environmental issues, and more. Environmental injustices carry heavy environmental burdens for people living close to chemical dumps, hazardous waste disposal facilities, toxic waste sites, and pollution generating facilities such as coal-fired power plants and oil refineries. The literature is replete with accounts of hazardous and pollution-producing facilities being heavily and unequally distributed and unjustly burdening communities of color, rural areas, poor neighborhoods, ghettos, and impoverished regions (Bell, 2013; Cole & Foster, 2001; Lee & Mohai, 2012; Montrie, 2011; Parris et al., 2014). Such environmental burdens place people of color, poor people, and rural areas at considerable risk.

Environmental sustainability is not only an environmental issue, but also a social justice concern. People depend on natural resources like air, water, and soil; as well as fossil fuels (coal, petroleum, and natural gas). Most global poor live in rural areas and depend on available environmental resources for basic food, cooking, water, sanitation, and fuel for heat. Environmental resources represent wealth for many marginalized people who live in rural areas in underdeveloped or developing countries throughout the world. Access to land, natural fuels including biofuels, as well as clean water and energy are essential for food production, health, and economic growth (Bass et al., 2006; Bullard, (n.d.); Editorial, 2014). Protection thereof and access thereto are consistent with the 2000 Millennium Development Goals calling for reduced poverty and hunger and for environmental sustainability by 2015 (Sanchez, n.d.). However, the world is behind this target date.

No Easy Answers: Water-Energy Nexus

As many as 2.8 billion people are confronted by water scarcity with estimates of about 3.9 billion people lacking adequate water throughout the world by 2030 (Glassman, et al., 2011). The World Health Organization and UNICEF (2014) report that 748 million people lack access to safe drinking water, and as many as 2.5 billion people do not have sanitation facilities. Also, the Millennium Development Goal (MDG) for improved drinking water for 88 percent of the world's population was met in 2010. Of the 748 million remaining without access to clean drinking water, the majority live in rural areas (p. 8). The World Health Organization and UNICEF report the likelihood of not meeting the MDG target of 75 percent of the world's population having access to sanitation by 2015. Again, rural dwellers are heavily impacted as 70 percent lack access to modern sanitation.

At least 1.3 billion people do not have access to affordable, reliable electricity. Of 2.7 billion people who lack clean cooking facilities with non-polluting fuels, about 2.5 billion live in rural Asia and sub-Saharan Africa (International Energy Agency, 2011). In addition to lacking access to clean fuels, rural and low income people are more likely to encounter energy poverty evidenced by low consumption of energy, exposure to air pollution, and time spent in gathering biomass for fuel.

Co-dependent water and energy are fundamental inputs to health and economic development and prosperity. Production of modern energy depends on the utilization of nonrenewable resources of natural gas, petroleum, and coal to produce electricity for the masses. Generating electricity requires water for cooking, cleaning, and evaporation such as in hydroelectric plants, and more. Electricity is utilized in transporting, storing, cleaning, heating, and delivering clean water. Glassman et al. (2011) cite the need for the water-energy nexus to be

placed on the global policy agenda as it is at the forefront of environmental justice and environmental sustainability for people and production worldwide (Union of Concerned Scientists, n.d.).

Voices throughout the global community are brought ever closer together by the message of “energy poverty.” Energy poverty extends beyond basic fuels and involves lack of reliable and affordable access to clean water and modern energy such as electricity. By 2030, 4 billion people are projected to be without reliable energy for daily needs such as cooking, cleaning, heating, cooling, and lighting. A major indicator of energy poverty is low consumption for daily heating, cooking, and lighting either mainly due to inaccessibility or affordability (Glassman, et al., 2011).

Nonrenewable Fuels are Central to the Water-Energy Nexus

Fossil fuels such as coal, petroleum, peat, natural gas, and oil formed millions of years ago from the decomposition of prehistoric organisms. Fossil fuels are not renewable, foul the atmosphere if burned, and have not been replaced by renewable energy sources. Nuclear power is proving to be an important source of electricity; however, uranium, a heavy metal found in rocks and soil and used in nuclear power generation, is not renewable. Solar, wind, rain, geothermal heat from the earth, light, ocean waves, and some plant products are renewable sources of energy that carry little pollution or global warming emissions (Dominelli, 2012).

Extracting Coal

The world mainly relies on coal for the production of electricity; as a nonrenewable resource, coal is a dirty fuel that releases harmful carbon dioxide, mercury, and other toxic pollutants into the atmosphere and ground. Water is required for extracting coal, cleaning coal, and cooling relevant thermoelectric power systems. Burning coal to generate electricity produces ash, mercury, and various dioxide and oxide pollutants that in turn increase water acidity levels in lakes and rivers, thus destroying water supplies and causing general environmental degradation (United States Environmental Protection Agency, n.d.a). Mining, cleaning, and transporting coal in the United States occur in rural areas, and generally in close proximity to small towns and farming regions. Presently, the United States has the largest recoverable coal reserves that are greater than those of Russia, China, and India. Among nations, and outranked only by China, the United States is the second largest producer of coal in the world. China’s coal consumption is almost greater than all other nations, with consumption projected to increase (Ayoub, 2014; World Coal Association, n.d.).

Social and environmental injustices surround coal production. Coal production is marked with economic struggles, mining disasters such as floods, rock falls, explosions, and mine fires dating back to the 1700s, and progressing in severity through the early nineteenth century with the ascendance of landowners and coal barons. The National Industrial Recovery Act of 1933 provided collective bargaining rights for unions, thus providing considerable relief to miners’ protests and demands for safer working conditions, and health care. Unionization helped reduce the controlling forces of coal companies that earlier had owned the mine, hired the workers, rented housing to coal miners and their families, and operated the company store where items could be bought with company script (Lee, 1969). Environmental degradation caused by coal

extraction is minimized only by human suffering and loss of life. Recent legislation provides some protection for human and environmental factors. The Federal Mine Safety and Health Act of 1977 increased safety regulations to reduce deaths and injuries (United States Department of Labor, n.d.a). In 2006, the Mine Improvement and New Emergency Response Act (United States Department of Labor, n.d.b) required emergency response plans, rescue teams, and reporting of mine accidents.

Surface mining and mountaintop removal. The state of Wyoming mines the most coal in the United States, followed by the Appalachian states, with West Virginia being the second most coal producing state (Ayoub, 2014). Wyoming coal production is mostly from surface mining of coal seams after top soil and rock are removed. Removing coal by deep mining or mountaintop removal extracts fossil fuels, disrupts topography, and damages rivers, lakes, forests, and biodiversity. Mountaintop mining in the Appalachian Mountains has produced flooding capable of mass destruction from flood waters rushing into valleys, farms, and communities (Bartoletti, 1996; Bell, 2013; Montrie, 2011).

Deep underground mining. Underground mining in the United States increased heavily during the 19th century as industrialization brought greater demands for fuel. Recognized as a mountainous region with a rich history and culture reflecting much of the life and times of coal miners, Appalachia gained recognition for coal production as well as widespread poverty in the mid-1900s (Harper, 1974). Underground coal mining is the world's most dangerous occupation. Miners are endangered by cave-ins, rock falls, methane gas explosions, large equipment and beltway accidents, electrocution, mine fires, and flooding from underground water trapped by rocks and soil. Fatal injuries and chronic diseases (e.g., pneumoconiosis or black lung disease) are also part of the underground coal extraction legacy (Bartoletti, 1996; Goodell, 2002; Lee, 1969; United States Department of Labor, n.d.a).

In the United States, activists and environmentalists continue efforts to stop underground and surface mining, and call for protection from flood waters that when unleashed by pollution and mountain-top removal threaten entire villages and watersheds. Fly ash is a byproduct of mining that is generally stored in ponds. If embankments surrounding fly ash ponds collapse, water and acid sludge flood valleys with devastating force (Montrie, 2011). Federal and state restrictions impose penalties that mandate the coal industry to lower emissions, reduce environmental pollution and degradation, and restore land, including replanting vegetation.

In addition to the water-energy crisis being costly, changing production to meet strengthened safety and emissions standards increases production costs that in turn escalate consumer costs and issues of equitable access and affordability. One outcome of scrutinizing, regulating, and tightening coal production and use is increasing attention to nonrenewable natural gas.

Hydrofracking for Natural Gas

Hydrofracking involves deep and horizontal drilling accompanied by volumes of water and sand treated with chemicals to release natural gas and oil from deep shale. Commonly called "fracking," millions of gallons of water, sand, and dangerous mixtures of chemicals are used to drill miles under the earth's surface to fracture rock and release natural gas. Fracking requires

space, water, sand, equipment, and laborers, all of which adversely impact rural areas. Criticisms about air and noise pollution from drilling equipment, and water pollution from “fracking” and dumping used water into sanitation storage areas abound--not to mention wear and tear on roads and highways where trucks transport considerable water and equipment. Shale-gas drilling is hazardous for both water supply and water quality. Further, methane contained in shale gas requires monitoring for air pollution and water contamination (Jackson, Pearson, Osborn, Warner, & Vengosh, 2011).

According to an editorial in *The New York Times*, hydraulic fracturing was originally invented in the 1940s by Halliburton, one of the world’s large oil companies. However, the current practice of more modern hydraulic fracturing dates back to about 1998 in Texas (Gold, 2014). Having success in extracting natural gas, processes of hydraulic fracking grew. Interestingly, the energy bill of 2005 called for reducing dependency on foreign sources of energy and included a provision removing the Environmental Protection Agency’s authority to regulate drilling processes and fracturing. Known as the “Halliburton loophole,” this provision now has the potential to place the nation at risk of polluting its own water supply (Editorial, 2009).

Debate continues about chemicals forced under pressure into soil and rock. Safety concerns for America’s water supply abound as chemical mixtures are not clearly understood nor approved. “Fracking” lacks adequate environmental regulation for storage and disposal of waste water despite recommendations to require full disclosure of the chemicals used as well as other contaminants (Editorial, 2009, Jackson et al., 2011; Morrone, 2013,).

Indeed, extraction of natural resources raises concerns of environmental and social injustices. Hydrofracking is occurring at a faster rate than are impact studies of health and environment. Rafferty and Limonik (2013) note that drilling for shale gas is erroneously referred to as “green” (p. 454); however, the fracturing fluid contains a mixture of toxic chemicals including methanol, carcinogens, and known air pollutants. Reports of illnesses related to toxic chemicals used in extracting natural gas and oil are of increasing concern and require greater research and understanding of chemicals that are involved (Rafferty & Limonik, 2013).

There are significant costs in human, social, and environmental degradation in this industry. The above ground processes of moving huge trucks of water, piping, and various drilling equipment impact rural areas and are in public view. And once hydraulic fracturing and natural gas or oil extraction is completed, jobs are lost and sites will likely have sustained environmental damage. Social and environmental injustices extend well beyond the immediate devastation left behind from coal and natural gas extraction, whether surface mining, deep mining, or hydrofracking.

Renewable Fuels, Microgrids, and Small Scale Energy Distribution

Much smaller in scale and production than coal generation, electricity can be generated from renewable resources such as wind, sunlight, tides, waves, rain, geothermal heat and certain biomass from plant material and animal waste. While there is progress in generating electricity from renewable sources, the amount is minimal but promising in view of ongoing research. In 2011, United Nation's Secretary-General Ban Ki-moon called for an infusion of renewable

energy along with greater efficiency and increased access to modern services to address the needs of 1.4 billion people without any access (Leone, 2011).

On a smaller scale, microgrids and related technology allow for affordable and reliable distribution of electricity power generation and can utilize wind, solar, battery storage, and local fuels such as biomass to produce electricity (Espiner, 2014; Kaplan, 2009). Soshinskaya, Crijns-Graus, Guerrero, and Vasquez (2014) explain that there is no a single definition of microgrids. Instead, microgrids are mainly defined by their purpose, are likely to be relatively low-voltage, and can be networked to other microgrids or just serve as a single microgrid energy producer. Serving sparse populations in remote rural areas, microgrids offer an important means of transferring electricity with more managed distribution and payment options. Understanding technology and associated training or regulations of microgrid production of electricity varies greatly among developing countries and rural area.

Larger and economically productive in economies of scale, macrogrids have capacities for high-voltage transmission to deliver electricity to microgrids and power stations, but are not as efficient in rural areas as in more concentrated population centers. Newer technologies and communication networks have enabled the development of microgrids to provide power in a distributed manner without the presence of a large central generating plant.

Access to electricity or modern cooking fuels varies across regions in India and Africa with rural areas having the least access. Remote rural areas in these countries present special challenges as traditional plumbing and wiring systems cannot provide the needed access to electricity. Not all microgrids need identical technologies or similar fuel sources. For example, fuels can include manure, cellulose, battery, or other fuels as well as nonrenewable resources to produce energy for grid distribution. Necessary technologies involve equipment load limiters or breakers, controlled delivery, and a range of metering and payment systems (Moore & Pastakia, 2007; Schnitzer et al., 2014).

Microgrids offer renewable solutions for many rural areas such as the great northwest, Alaska, and rural and remote areas in developing and third world countries. Rural regions and developing nations are placing greater reliance on microgrid systems and recognize that electricity must be reliable and affordable for local subscribers. Affordability is critical to changing the way of life for end-users. For example, in highly agrarian and impoverished rural areas that lack income opportunities and rely on barter economies, the choice to purchase electricity from a microgrid monitoring system may not be a possibility. Instead, a choice may be to exchange resources for additional land, food, or animals, rather than electricity (Galvin Electricity Initiative, n.d.; Schnitzer et al., 2014).

There are many factors to consider when distributing electricity to localized markets. Challenges of equipment, maintenance, and trained technicians are just some barriers to delivering modern energy to rural areas (Schnitzer et al., 2014). Affordable, dependable, and accessible energy builds confidence among consumers and encourages developers to seek technologies and management techniques for even greater success in energy production and distribution to rural locations far from grid distribution systems.

Cases and Efforts: Rural People Need Clean Water and Energy Access

Residents in many rural areas, provinces, and remote communities are seeking their own solutions to utilize natural resources to access clean water and energy. Challenges of affordability, accessibility, and reliability are common for many small grassroots ventures. Some remote rural areas depend on bartering in the absence of currency. Such lack of currency negates monitoring for the use of payment systems such as collection through cellphone networks. Equipment failures result in delays for repairs and sometimes require access to new equipment. Nevertheless, local efforts and successes may lead to additional opportunities and chart new paths for self-sufficiency for power generation.

Researchers at the University of Oxford are Partnering with the Department for International Development (DFID), UK, and UNICEF, to develop and utilize mobile data to improve access to water for rural dwellers. Mobile Water for Development (n.d.) reports three projects for clean and accessible water in rural Africa where water supplies are scarce. First, utilizing mobile technologies, hand pumps are equipped with monitoring devices to collect information about water production, usage, and functionality. In the absence of electric or fueled generators, hand pumps offer important access to water in deep wells to reduce water scarcity and improve water purity. Furthermore, accessing water by hand pumps replaces carrying water, sometimes for miles in bucket or urns balanced on heads of women and children, some of whom spend hours each day to find and transport water. A second project funded by DFID Kenya's Water Resources Management Authority, the Burguret Water Resource Users Association, Community Water Project, and Rural Focus Ltd., measures river water abstraction, a measure of the amount of ground water taken from its source for consumption purposes. The intent is to increase access to clean water. The third project involves mobile phone payments for water and sanitation for those who live in remote parts of Kenya, Tanzania, Uganda, and Zambia. This innovative use of phones is particularly important to people living in rural areas, and has the secondary benefit of reducing theft and robbery associated with standard payment methods.

Another interesting example is a durable photovoltaics (PV) module that can be attached to home roofs of households in rural Kenya (ToughStuff International). Recognizing that mobile phones are popular throughout rural Kenya, founders of ToughStuff International report that Africans in rural areas and villages may have to walk miles to charge a phone. Having solar generated energy not only charges phones, but also provides energy for light, cooking, and radio reception; thus reducing kerosene use for cooking and lighting (Jones, 2011; Schnitzer et al., 2014.)

Rural water and sustainable utility management are priorities of the United States Environmental Protection Agency (EPA). Rural utility needs involve considerable distances and often raise environmental concerns as forest and water resources may be threatened. The EPA funds a wide range of utility programs for rural areas with emphasis on Native American water and sanitation needs for rural and Native Alaskan villages. The EPA (n.d.a) provides a guidebook for rural utility development and management with extensive educational and management guidelines for rural utility providers. Rural Alaska has the goal of utilizing renewable resources to produce 50% of its energy by 2025. Having been heavily dependent on diesel fuel to produce electricity, projects are utilizing wind, geothermal, ocean waves, solar or biomass. Most amazing is the harnessing of geothermal power (heat from hot water and rock

deep in the earth) to produce modern energy to heat homes and greenhouses among other ordinary uses of energy (Holdmann, 2014).

An independent and successful example of a rural water system in the United States is in South Dakota. The Clay Rural Water System in southeast South Dakota provides water to five counties with a population of around 5,200—less than 10 people per square mile. Initially funded by the Farmers Home Administration, the system successfully uses storage reservoirs and 900 miles of pipeline to serve a minimum of 2,280 locations (Clay Rural Water System, Inc., n.d.).

Energy generation is increasing throughout the world and reflects resources most accessible for such production. Much of rural Kenya is not linked to the country's electrical grids. Solar generated electricity can be purchased through M-Pesa, a platform for mobile payments. Generated solar power is important to John Kibet, for example, a rural farmer who no longer uses kerosene to power the generator he uses in farming his fifteen acres. Using kerosene for fuel is a smelly and dangerous process, so he now uses it only for cooking (Espiner, 2014).

Another example of creative energy production is the Solar Sister Network with a membership of 300 women who work to provide safe, affordable, clean, and renewable energy to friends, families, and others in their local communities. Led by a former investment banker, Katherine Lucey, Solar Sister aims to increase their market by selling affordable solar lighting through community networks in small villages and rural areas. Lucey identifies the lack of energy access as more than just philanthropy; energy access requires funding, expertise, and citizenry involvement. Solar Sister is an important step toward increasing energy availability and offers empowerment and entrepreneurship to African women (Kermeliotis, 2013).

The movement Fund a Child Education (FACE) focuses on the clean water crisis in Liberia by producing wells in the spirit of empowering women and children who have long borne the burden of daily treks to locate and retrieve water in large vessels balanced on their heads (Coleman, 2014). Modern energy and clean water support economic and social development, but not within the reach of all people. There is likely no issue of greater importance than access to clean water, energy production, and distribution systems for specific purposes, populations, and regions.

Concluding Thoughts

Ending extreme poverty and hunger, and ensuring environmental sustainability are among the Millennium Development Goals for 2015 (Sanchez, n.d) that call for environmental justice and access to clean water and energy for people globally—urban, rural, rich, poor, and regardless of ethnicity, gender, race, or religion. As a world leader in economic development and energy production, the United States must help address challenges that the water-energy nexus presents. No single nation can solve the water-energy nexus for the world. No doubt, discussions of access to clean water and energy involve coal, a pollutant used in producing electricity. Coal is exported and used to generate electricity throughout much of the developed world. Wind, solar, biomass, natural gas, petroleum, and nuclear alternatives to coal exist; however, not all are renewable and cannot meet the current energy demands, much less demands of future generations.

Social justice is not just the responsibility of lawmakers and governments, but requires participation at all levels of societies throughout the world. Social justice calls for all people to have equal access to a minimal standard of living that includes the necessary resources that support health, mental health, well-being, and protection from marginalization. The water-energy nexus is complex. There are no easy answers to adequate water-energy access in either rapidly growing urban or remote rural areas. Furthermore, real success in increasing access to clean water and energy requires involvement of the populace served. End consumers must efficiently and conservatively use resources if benefits of environmental justice (i.e., reduced poverty, better health, food security, and sanitation) are to be realized (Schnitzer et al., 2014). Environmental justice leaders, social policy activists, engineers, academicians, elected officials, and social entrepreneurs, must work together if social and environmental justice are to be achieved at home and in developing countries.

The social, environmental, economic, and resource crises impacting people throughout the world cannot be resolved by a single person or group. Instead, collaboration among many stakeholders is required. Having a long history of advocating for causes and understanding the construct of people in environment, social work has long been engaged in social justice and environmental justice issues. Recent literature is calling for “green” social work, not just recognition of person in environment, but recognition of people in the world (Dominelli, 2012). Moving beyond direct practice with individuals in their immediate environment, green social work calls for large-scale redress of social and environmental justice issues by establishing sustainable community involvement toward a greener paradigm for human, social, and physical resources of the planet. Shifting paradigms and reallocation of power and resources are not insignificant demands, but are prerequisite to reducing poverty and providing humanitarian aid to human suffering with attention to environmental sustainability (Dominelli, 2012). Caring societies must address sustaining renewable and nonrenewable resources if grandchildren and future generations are to have necessary resources in a sustainable environment.

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Ecology and Social Justice: A Course Designed for Environmental Social Work in Rural Spaces

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Abstract. This article describes a course developed by the author that responds to the stated social justice aims of the social work profession. If social workers are to advocate successfully for environments conducive to the general welfare of all people, promote social justice, equitable distribution of resources, and just environmental management, environmental social work scholarship needs to move beyond theorizing and suggestions itemizing broad responses, and provide instead illustrative examples of interventions and alternative practices. The trend in very recent years of environmental social work scholarship has done just this. Education, in particular in the classroom setting, provides an opportunity to explore and share experiments with social work praxis. This article is one such example.

Keywords: environmental social work, environmental justice,
social work education, critical pedagogy

Academics and engaged citizens increasingly recognize the growing threat of environmental challenges. Indeed it would be difficult in this culture of social and traditional media to be unaware of the contemporary eco-crisis given the seeming ubiquity of images and information indicating a planet, and its inhabitants, in distress. Humankind faces issues such as water and air pollution, toxic chemicals and related environmental health concerns, and food security problems, among others. Moreover, there are challenges associated specifically with anthropogenic climate change, for example, droughts, fires, storms, floods, the recently identified inexorable collapse of the West Antarctic ice shelf, the ineluctable rise in sea levels, and the creation of environmental refugees as a consequence of many of these phenomena. There continue to be climate change deniers, typically those heavily invested in the gains procured from carbon fuels (Gore, 2014). However, the Intergovernmental Panel on Climate Change (IPCC) and respected scientists, such as James Hansen, concur unequivocally that not only is climate change real and anthropogenic (some argue Amerogenic as well; see, for example, Schönfeld, 2010), but also remediation is required if the most catastrophic scenarios are to be avoided (Hansen, 2009, IPCC, 2014). On the global stage, super typhoon Haiyan, known as typhoon Yolanda in the Philippines, is an example of the devastation that can be wrought by unabated climate change. In the Canadian context, recurring flooding in the province over the past two years leading to states of emergency provides another dramatic example of climate change effects. It is in this context that the author conceived an elective titled “Ecology and Social Justice.” This course was developed with a strong focus on rural and urban environmental praxis and built iteratively on the extant social work literature pertaining to environmental thought and practice.

Social Work and the Environment

Social work has been slow to assume the eco-crisis as part of its professional purview, a peculiar fact given the profession’s long history, beginning with the Settlement House Movement, of person-in-environment considerations and engagement in activism, community organizing, and advocating for social reform and environmental change (Berson, 2004; Elshtain,

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2002; Fradin & Fradin, 2006; Zapf, 2009). In the 1980s and 1990s, social work scholarship moved beyond ecology as metaphor, as conceptualized in the ecological and person-in-environment approaches, to focus on concrete environmental issues (see, for example, Berger & Kelly, 1993; Hoff & McNutt, 1994; Hoff & Polack, 1993; Park, 1996; Rogge, 1994; Soine, 1987). In the first dozen years of the new millennium, environmental social work scholarship continued with some of the earlier themes such as impacts of environmental contaminants, environmental injustices, and broadly articulated suggestions for intervention. However, scholars began looking to new directions such as exploring sources of the fractured human-nature relationship, spirituality, and the perils of neoliberalism and deregulation (Besthorn, 2001; Coates, 2003; Dominelli, 2012; Dylan, 2012a; Dylan & Coates, 2012; Mary, 2008; Zapf, 2009). Much of this more recent environmental scholarship focused on theoretical dimensions of social work and the environment, offering theorized suggestions; but there continued to be an obvious lack of literature rooted in practice or based on intervention examples. This is problematic since the National Association of Social Workers' Code of Ethics (2008) states:

Social workers should promote the general welfare of society, from local to global levels, and the development of people, their communities, and their environments. Social workers should advocate for living conditions conducive to the fulfillment of basic human needs and should promote social, economic, political, and cultural values and institutions that are compatible with the realization of social justice. (section 6.01)

Further, the Canadian Association of Social Workers' Code of Ethics (2005) states:

Social workers promote social fairness and the equitable distribution of resources, and act to reduce barriers and expand choice for all persons, with special regard for those who are marginalized, disadvantaged, vulnerable, and/or have exceptional needs.... Social workers promote social development and environmental management in the interests of all people. (p. 5)

If social workers are to advocate successfully for environments conducive to the general welfare of all people, promote social justice, and ensure more equitable distribution of resources, as well as just environmental management, then environmental social work scholarship must get beyond theorizing and suggestions itemizing broad responses, and provide instead illustrative examples of interventions and alternative practices. Fortunately, the trend in very recent environmental scholarship has done just this (see, for example, Heinonen & Drolet, 2012; Dylan, 2013; Lysack, 2013; Ross, 2013; Shepard, 2013; Stehlik, 2013). Education, in particular the classroom setting, provides a wonderful opportunity to explore and share experiments with environmental social work praxis.

Given the widespread attention to climate change and the associated mounting student interest in environmental concerns and eco-justice, environmentally-themed classroom content has become increasingly relevant. Many social work scholars, including this author, are writing about environmental issues and integrating related themes into their courses. This paper discusses the development of the "Ecology and Social Justice" elective that the author taught in the School of Social Work at St. Thomas University in 2013. Designed with students from rural areas in mind, this elective was developed with a deliberate focus on environmental injustice and

environmental racism not only to emphasize these realities broadly, but also to highlight the many ways social work can provide multilevel forms of intervention. Because St. Thomas University is located in Fredericton, essentially a rural hub for surrounding communities in the province of New Brunswick, there was a need to cast course content in the light of rurality. This is reflected in scholarly readings, materials, and activities that have a planned focus on environmental themes relating to non-urban and rural spaces.

Rural Context

Although St. Thomas University is located in the capital of the province of New Brunswick, Fredericton possesses rural qualities. Rurality is a slippery concept eluding precise definition (Baffour, 2011; Daley, 2010); but even from a purely quantitative perspective, Fredericton comes close to fitting the rural category when using the population standard of 50,000 (Daley, 2010). Census data from 2011 record Fredericton's population size as 56,224 (Statistics Canada, 2012a), which is smaller than many urban centers. Indeed, the entire province of New Brunswick has a population of only 751,171 (Statistics Canada, 2012b), which is smaller than many urban centers. New Brunswick, therefore, is a province comprising primarily rural spaces, and its capitol, by extension, mirrors this rural reality in a variety of ways.

First, two of the most salient political issues engaging Fredericton citizens involve rural events. One is the organized resistance to hydraulic fracturing in which activists from Fredericton and the surrounding area have gone into regions targeted for resource extraction largely as Indigenous allies to resist developments of this kind. Also of environmental concern is a recent decision by the Premier of New Brunswick to approve a forest strategy promising more public lands to the forest industry. This plan justified sacrificing formerly protected natural spaces with the assurance of job creation. Informed citizens recognized this jobs-versus-the-environment rhetoric as spurious (Brecher, 2014; White, 1996), and Fredericton and surrounding community activists who fear the forest strategy's devastating effects on watercourses, wetlands, critical habitats, and wildlife species mounted various resistance efforts.

Second, many students in the School of Social Work at St. Thomas University come from rural regions. Several have even reported that Fredericton is the largest center in which they have resided, and others expressed an interest in returning to a smaller community. Students in our program often choose field placements in rural areas, and "Rural Social Work" is commonly chosen as an elective. This fact is telling because the social work program at St. Thomas University allows students to choose from numerous electives, but because of many compulsory courses, only four are in the curriculum. That one of the four electives chosen would be Rural Social Work suggests students recognize the need for knowledge and theory pertaining to rural practice in order to provide skilled professional social work services not only in the province in general, but also in Fredericton since many New Brunswick rural residents travel to Fredericton for social services.

Third, like any region having a sizeable population, Fredericton is not homogenous. Fredericton has its own unique "cultural composition, history, and values" (Rhodes, 2012). Indigenous and Acadian cultures coexist with the dominant culture, and a multicultural faction, though still small, is growing. There is also an official bilingual policy (English and French) that pertains within Fredericton and throughout the Province of New Brunswick. To categorize

Fredericton as an urban center simply because its population is approximately 6,000 people over the arbitrary 50,000 person limit would be to overlook the many nuances here described, oversimplify the rural-urban dichotomy, and miss the element of rural-urban blending that characterizes most communities (Daley, 2010). While Fredericton mimics, in some respects, qualities of large urban centers, such as offering a hub of services to surrounding communities and possessing a variety of resources and networks that draw commuters and consumers to its center, Fredericton also has many of the hallmarks of rural settings, for example, limited diversity, shortage of jobs, deficient anonymity, and dual relationships (Phillips, Quinn, & Heitkamp, 2010).

For social work students at St. Thomas University and in other non-urban institutions of higher learning, environmental issues need to be made relevant by discussing them in the context of rural realities. Climate change and other environmental challenges, notably those associated with resource extraction and agriculture, have differential effects on rural communities versus more urban centers. For example, climate change is expected to have “[m]ajor future rural impacts...in the near term and beyond through impacts on water availability and supply, food security, and agricultural incomes.... These impacts are expected to disproportionately affect the welfare of the poor in rural areas...” (IPCC, 2014, p. 19). Because extraction industries such as mining and forestry typically occur in more rural spaces, often with profound environmental effects on local communities, people living in these areas experience unequal exposure to environmental “bads” (Bullard, 2005; Haluza-DeLay, O’Riley, Cole, & Agyeman, 2009). Indigenous peoples are multiply burdened, contending not only with contaminants and the boom and bust phenomenon of extraction industries, but also the persistence of colonial forces present in negotiation processes (Dylan, Smallboy, & Lightman, 2013), the continued unilateral assertion of state sovereignty (Turner, 2006) surrounding extraction enterprises, the foreignness of dominant-culture epistemological and ontological understandings, and the assault on cultural lifeways that such industrial developments often represent (Dylan, Smallboy, & Lightman, 2013; McGregor, 2009; Lawrence, 2009).

In New Brunswick, Canada, the province in which I live, these tensions were underscored when Mi’kmaq persons from Elsipogtog First Nation initiated a months-long battle against SWN Resources Canada, a company desiring to do hydraulic fracturing in Elsipogtog territory. The standoff organized by the First Nation protestors was due to the perception that SWN had not sufficiently consulted with the First Nation, which can constitute a form of environmental injustice and environmental racism: injustice because the Crown has a duty to consult First Nations and this needs to be done in good faith; environmental racism because a hydraulic fracturing venture runs the risk of contaminating water and lands used by the First Nation. Themes of environmental racism and environmental justice, at the core of so many environment-related protests, formed the cornerstone of the Ecology and Social Justice elective I developed.

The Course

This course was offered in the final term of a post-degree BSW program, and the students possessed well-developed social action skills. The course used a pedagogical model that offered skills to social work students interested in environmental issues. The course reflected the moral imperative issued by United Nations Secretary General, Ban Ki-Moon, that humankind act with “conscientious foresight” regarding the “existential challenge” of the contemporary eco-crisis

(United Nations News Centre, 2012). As such, the course was designed with a notable “ethic of change” (see Hancock, Waites, & Kledaras, 2012, p. 5) orientation having a focus on structural forces and the need to rectify economic and social inequities. Students explored systematically, critically, and strategically a number of environmental theoretical and practical approaches as theorized, for the most part, by social work scholars and activists. The purpose of the course was to promote the development and strengthening of knowledge and skills for environmental social work practice, and integrate new and enhanced learning into personal and professional understanding and activities. It was thought that, through this process, the course would enable students to become effective environmental social work advocates, activists, and allies able to facilitate intra- and intergenerational equity, involving consideration of environmental rights for present and future generations (Hiskies, 2008; Westra, 2008).

Course development was strongly influenced by Giroux’s (2011) concept of critical pedagogy that emphasizes the “radical tradition in order to reclaim a legacy of critical thinking that refuses to decouple education from democracy, politics from pedagogy, and understanding from public intervention” (p. 141). Class time was spent examining important environmental theories, both persisting and emerging, and applying selected aspects of these theories to a specific issue on which the students and instructor as a class would take collective action. This was an attempt to use the “tradition of critical thought” to promote “the importance of investing in the political as part of a broader effort to revitalize notions of democratic citizenship, social justice, and the public good (Giroux, 2011, p. 141). The first two class meetings provided an overview of environmental social work and served to situate environmental concerns in social work praxis. What followed were a series of class meetings having a single environmental social work theme that would be discussed based on readings and guest lectures (by authors of the weekly readings) in the context of both local and global, and rural and urban realities. For example, weekly class themes in the order they were examined included the reworking of the person-in-environment foundational metaphor and the centrality of place in human identity; the relevance of deep ecology to social work theory and practice; the contributions of ecofeminism to social work theory and practice; the adoption of sustainability concepts and sustainable development by social work; environmental justice as conceived of and applied by social workers; environmental social work ethics; rights discourse and environmental issues; ecospirituality through a decidedly social work lens; queer ecology; the role of social work in disaster relief; and green social work.

The course was designed to be consistent with the tradition of critical thought as articulated by Giroux (2011) and included the following objectives:

- gaining a breadth of theoretical knowledge that can inform professional social work practice in general, and environmental social work practice in particular;
- being able to work with environmental considerations at all levels of practice, including direct, community, and policy;
- acquiring an understanding of the various forces responsible for creating the structural inequities underpinning a range of environmental injustices locally, nationally, and globally;

- learning a variety of strategies for resisting and combating environmental degradation, environmental injustice, and environmental racism; and
- developing the ability to integrate a number of theories and strategies into a collective action designed to raise consciousness and militate against environmental racism.

Student evaluations for the course were based on two assignments. One was a conventional essay assignment where students selected one (or more) environmental theory(ies) and critically discussed its(their) application to a social justice issue of their choice. The second assignment involved a collective action in which all class members worked collaboratively to organize a consciousness raising, issue-spotlighting event, held at the university's largest auditorium. This event involved a panel discussion pertaining to environmental racism and environmental injustice. The class invited two internationally recognized activists, one Roma and one First Nation, to be panelists. These two groups were settled upon because of the egregious treatment, past and present, of First Nations peoples in Canada, and the similar treatment of Romani peoples in Europe. There was sufficient experiential likeness between the two groups to have thematic cohesion during the panel. For example, both groups have experienced marginalization, systematic attempts at eradication, and persecution. Both groups also continue to experience many forms of oppression apparent in a range of health indicators, economic conditions, education levels, and unacceptable environmental conditions (McGarry, 2010; Statistics Canada, 2010; Stauber & Vago, 2007). Moreover, First Nations and Romani peoples have a considerable demographic presence in both urban and non-urban spaces, making their environmental realities and challenges consistent with this elective's focus.

Each class meeting was structured as a seminar, allotting time for academic discussion of readings, invited guest lecturers, and planning for the panel event. For all but two classes, I managed to organize having the authors whose articles were highlighted readings join the class either in person or by Skype, a technology which constructively expanded the possibility for "education programming without spatial or temporal limits" (Shorkey & Uebel, 2014, p. 257). This approach provided students an opportunity to hear leading international scholars in the field of environmental social work, ask them questions regarding their articles, and engage in real time with those shaping the environmental social work discourse. The authors, activists, and scholars who joined the class included Gina Csanyi-Robah, Executive Director, Roma Community Centre, Toronto, to discuss Romani realities; Professor Fred Besthorn, University of Wichita, to share insights on deep ecology; Professor Jef Peeters, Leuven University College, to highlight the usefulness of sustainable development to environmental social work endeavors; Professor Frank Tester, University of British Columbia, to discuss environmental social work in the context of human rights; Professor John Coates to frame environmental justice and eco-spirituality in a postmodern paradigm; Professor Catriona Sandilands, York University, to discuss queer ecologies and situate environmental understandings in a sexualized topography; and Professor Lena Dominelli, Durham University, to shed light on her concept of "green social work." To some extent, students were also able to see, through a variety of perspectives from these international scholars, how environmental issues in an increasingly globalized world are intricately connected yet also contoured and forged by different historical and contemporary realities.

While the Council of Social Work Education identified field education as the signature pedagogy of social work, the arguments proffered by Larrison and Korr (2013) are more compelling and unequivocally more consistent with the author's experience: "[F]ield education is a necessary but not sufficient component of our signature pedagogy. Instead...social work's signature pedagogy occurs in all learning exchanges, in our implicit and explicit curricula, and in both the classroom and the field" (p. 204). This elective, *Ecology and Social Justice*, had signature pedagogy throughout, from the critical analysis of readings on the syllabi, to engaged critical discussion, to team-based experiential learning, to a kind of radical community practice. All of these elements represented an intricate interweaving of the very elements essential to performing the role of social work practitioner.

Through experiential team-based learning, students enrolled in the course were able to assume responsibility for many dimensions of the learning process, operating as active learners, which many students have identified as invaluable to learning about social justice issues (Robinson, Robinson, & McCaskill, 2013; Mapp, 2013). Consistent with the adult learning model (Freire, 2000), the author functioned as a co-learner (Jardine, 2005) and co-constructor of in-class experiences (Besthorn, 2007), power sharing with the students (Kilgour, 2004) and becoming a member of the collective. Students made most of the decisions (usually through consensus; occasionally resorting to a democratic process) regarding how best to plan for the panel event, and I assumed my role in the collective while still facilitating class discussions in a style that did not abdicate my responsibilities as teacher. While teaching in this manner was invigorating, it also posed new challenges, foregrounding multiple complexities in the student-professor relationship, and required attending to ever-present power dynamics and differentials in the classroom (Hodge, 2011). The navigation of this challenging reality was ameliorated by being mindful of matters related to classroom safety and related issues, making use of classroom agreements (norms), attempting to model skilful communication, being transparent about the facilitator role, encouraging critical thinking, and drawing on the robust disciplines of social work with groups and adult learning (Dylan, 2012b).

Discussion

Because this elective was designed to function largely as a collective, students had a tremendous influence on how the course evolved and substantial input with respect to activities occurring both within and outside class. The success of the panel event depended on considerable planning, including choosing the panelists, raising sufficient funds to bring them to Fredericton, developing posters and brochures, advertising the event, reaching out to the community, and more. Prior to the course, I was in contact with an international Romani activist and discussed the possibility of her being a panelist. This arrangement was approved by the collective and the task of determining how many and who the other panelists should be remained. After a couple of weeks we settled on having a panel of two. One panelist had a set speaker's fee and the other offered to speak at no cost, provided travel and accommodation expenses were covered. As a collective we decided, for the sake of equity and respecting expertise, to furnish this second speaker with an honorarium. Also, the panelist with the set fee offered to provide a workshop in addition to the panel talk, so the collective then began organizing and advertising for an "Environmental Injustice Workshop" focusing on grassroots activism. This focus was well suited to the built-in rural theme of the course, as many local activists and socially-minded academics are regularly involved in grassroots activism to protect

local peoples, communities, spaces and places from corporate threat, such as the hydraulic fracturing and deforestation plans discussed earlier. As well as decisions of this kind, students had to determine the best avenues for fundraising. In this process they demonstrated remarkable initiative that was fostered by the flexible nature of the course format, which required active, engaged learning and concomitantly enhanced complex connection with more academic classroom material (Grise-Owens, Cambron, & Valade, 2010). Conceptualizing the classroom as a site of collaboration where students and facilitator were “coevolvers and cocreators of the best possible [outcomes] envisaged” (Dylan & Coates, 2012, p. 139) led to a variety of creative approaches for fundraising and consciousness raising. For example, in order to fundraise, promote the event, and consciousness raise, the collective organized a bake sale, yard sale, documentary film nights, and information sharing in other St. Thomas University courses. One student who is artistically talented offered to make a painting that was auctioned with the proceeds going to the event. Because the collective anticipated costs associated with the panel event, such as travel, accommodation, and speakers fees, would not be adequately covered by these particular fundraising activities, the group also worked collaboratively to solicit funds from local businesses, agencies, networks, organizations, and administration. I also applied for and was awarded a conference grant. With these combined efforts, sufficient money was raised and the panel event was a success: The invited speakers provided compelling narratives and evocative illustrative examples of environmental racism and injustice in the lives of First Nations and Romani peoples while also examining these inequities more broadly. Through this planning process, students gained greater efficacy in collaborative, collectivist, community organizing and engagement skills through the joining of critical social justice education and social action (Van Voorhis & Hostetter, 2006). Experiences of these kind help students recognize the influence they have as agents of change and potentially strengthen a continued propensity toward social change endeavors (Hancock et al., 2012).

The course was not without its challenges, however. The two main concerns reported involved the final assignment (the panel discussion and workshop), and the structure of the course. Students were understandably worried about what would happen if insufficient funds were raised to hold the panel discussion. They were told that success was not measured by the actual holding of the event, but the application of knowledge, skills and talents toward the objective of bringing greater awareness to St. Thomas University and beyond, of environmental injustice and environmental racism. That is, this aspect of the course was largely process rather than outcome oriented, a characteristic of experiential learning (Bellefeuille, 2006). The concern regarding course structure seemed to issue from a general discomfort with a fairly non-traditional course format and this understandably produced some resistance (Grise-Owens et al., 2010). Some of this discomfort can also be ascribed to “adaptive anxiety” (Shulman, 2005, p. 57) typical of learning associated with a signature pedagogy. Although I had not anticipated this resistance because of the general enthusiasm about the course and the palpable student investment in the various undertakings, I was open to receiving this feedback and certainly would invite more dialogue around this issue if I were to have the opportunity to teach a course of this kind again.

Overall, the course was evaluated well with students expressing appreciation for the learning opportunities provided by this elective. Qualitative student feedback emphasized different dimensions of the course that students found valuable. For example, one student enjoyed “being able to read an article and then come to class and have the opportunity to listen to

and ask questions of the author.... It was such a unique experience that I've never had the opportunity to do before." This sentiment was echoed by most students in the course. Another student described how "the process of putting an event together was an interesting experience" that "taught a lot of skills." Another student expressed how this elective "allowed students to think critically in more than just a superficial sense—to challenge assumptions fully and explore tensions inherent in social, ecological, and structural social work."

Conclusion

The purpose of this article is to share the author's response both to our profession's delineated social justice aims and an unequivocal aspect of the contemporary eco-crisis through the development of a course that used a critical, transformative, liberatory, praxis-oriented education model with a view to raising environmental justice awareness in a rural setting. The hope is there are elements of value in this sharing that may be of use for the future development of radical and rural social work courses generally, and environmental social work courses more specifically.

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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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Rural Community Transition and Resilience: What Now for Social Work?

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Abstract. Rural communities, like all communities, face myriad social, economic and ecological challenges as they endeavor to resolve precarious dependencies on critical, energy-intensive and supply-chain extensive resource systems. With increasing impacts of climate change and related incidents of human and more-than-human displacements, including losses of life and habitat, rural communities have become beset with frequent, prolonged and persistent recovery and coping obligations. The progressive resolution of injustices will need to occur in the face of serious ecological stressors. Designing for and increasingly demonstrating social work practices that prioritize the multi-modal skills of sustainable living may well be the most effective means to realize and sustain environmental justice advancements. Practitioners, educators, researchers and students engaged in mobilizing social work's professional commitments to environmental justice causes would be well-served by acquiring the knowledge and skills needed to realize sustainable livelihoods. Permaculture design principles and methods are cited as means for social work professionals to begin with their own personal and professional practices. Considerations for social work practice, research and education are provided.

Keywords: social work, sustainability, Transition Towns, Permaculture Design

Social workers engaged in rural community practice contexts often live and work in the communities they serve (Pugh, 2007) and so observe, if not encounter, issues of social and environmental justice. All forms of social work practice endeavor to advance causes of justice whether directly or indirectly. According to Adamson, Evans, and Stein (2002), "environmental justice movements call attention to the ways disparate distribution of wealth and power often leads to correlative social upheaval and the unequal distribution of environmental degradation and/or toxicity" (p. 5). Examples may include issues of unsustainable agriculture methods (Shiva, 2005), civil rights or land claims of indigenous communities (Bullard, 1993), anti-nuclear power and weapons proliferation (Giugni, 2004), exposure to toxic emissions and legacy impacts of industries to human health and communities (Davies, 2013; Hofrichter, 1993), or equitable access to transportation resources to support sustainable community development (Holmes, 1997) – all of which involve various applications of international, national, state and local laws and regulations (Rechtschaffen & Gauna, 2002).

A voluminous body of literature now exists that examines the myriad underpinnings and implications of unresolved environmental justice issues, at least within the United States. Remaining professionally diligent to such causes is important given how persistent environmental injustices can manifest corollary social, economic and ecological issues. In many ways, such injustices are demonstrations of how we humans have lost sight of our context as ecological entities (Rees, 2002) and hold inadequate regard for our interdependencies with ecological systems reinforced by compromising ethical and moral commitments. As such, Miller and Westra (2002) assert that:

a comprehensive valuing of the Earth requires a compelling set of ideals, such as the Earth Charter, and reflection on the meanings, connections, and implications

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for practice of those ideals, drawing upon our cultural resources and being sensitive to the effects of unequally distributed social power. It also requires personal, collective, and mutual commitments to the ideals, the human community, and the community of life, bringing to bear whatever capabilities and leadership skills we may possess or acquire. (p. 7)

Changing our relationships with our resources, and with each other, so that the results are not manipulative and abusive with one another and the Earth, as Olson (2012) expects, can manifest healthy and empowering results. In a practical sense, the introduction of new patterns of relationships with our resources and therein demonstrating commitments to ecological integrity will likely cause many social, economic and environmental injustices to gradually subside. Indeed, the progressive resolution of injustices will need to occur expeditiously in the face of serious ecological stressors, including myriad impacts of reported global climate change (IPCC, 2013), requiring robust, creative and continuous action if sustainability goals are to be achieved with minimal hardship. Here then, Jackson (2010) observes that:

There are three possible kinds of minds at work as we contemplate the future of humanity on the only home we have had or likely will have: (1) those who accept the hypothesis as true that we cannot do better than nature; (2) those who believe we can do better; and (3) those who believe that sometimes we can and sometimes we cannot do better. And “cannot” gets back to civilization being dependent on the scaffolding made possible by five exhaustible and relatively nonrenewable carbon pools found in soil, trees, coal, oil and natural gas. (p.14)

The manipulation of these so-called *carbon pools* has afforded many social benefits as well as debilitating consequences. For example, large-scale agriculture activities involving fertilizer applications and large animal stocks have contributed to the erosion, silting and nutrient (primarily nitrogen and phosphorous) polluting of the United States’ Chesapeake Bay, compromising aquatic ecosystems and local economics for decades. Well-documented Amazonian deforestation in Brazil and resulting soil exposures have damaged, if not ruined, critical understory flora and fauna supporting local indigenous livelihoods and reduced sequestration of carbon dioxide of global origins. Recent events in Peruvian and Chinese coal mines, British Petroleum operations in the United States’ Gulf of Mexico, and natural gas *fracking* (hydrolic fracturing) in the State of Pennsylvania and elsewhere in the United States, reflect increasing difficulties that these extracting industries are facing as target stocks are becoming more complicated, costly and controversial to acquire.

Communities, Cultures, and Their Resource Relationships

Rural communities, like all communities, face many social, economic and ecological challenges as they endeavor to resolve precarious dependencies on critical, energy-intensive and supply-chain-extensive resource systems. These systems typically provide food, water and energy products, myriad consumer materials, technologies and services, and related specialized knowledge and skill sets deployed therein. Resulting modern mainstream lifestyles represent significant *ecological footprints* (Global Footprint Network, 2012), reflecting ecological system sources and sinks. On this point, Bane (2012) notes that:

Cultures are fashioned from resources, the technologies that can exploit them, the social and economic structures that mobilize work and wealth and the attitudes, beliefs and rituals that propagate these systems and lend them meaning. The culture that needs to evolve now across North America must be, for practical reasons, based in some familiar and accessible elements, but must also be much less dependent on fossil energy, distant resources and high levels of mobility. It must adapt to lower levels of energy and the wealth that has come from it. We can already see this process of change underway. (pp. 388-389)

As such, social workers know the adverse though often hidden whole-system impacts of contemporary resource consumption exacerbate established socio-environmental concerns (Hoff & McNutt, 1994) and complicate advancements toward sustainable development. For example, many consumed foods travel great distances and require resource-intensive handling, processing, storage and delivery infrastructure (Thistlethwaite, 2012). Also, non-renewable petroleum energy products (of various forms and quantities) often originate from distant locales and require intensive social, economic, political, and technological commitments to sustain them (Merkel, 2003).

Tverberg (2015) provides a timely perspective on how recent fluctuations of global petroleum markets, attributed to so-called peak oil contexts, remain relevant, serious and inadequately understood. Indeed, the dramatic reduction in world oil prices from \$100 to less than \$50 per barrel (at the time of this writing) is not, as she asserts, indicative of faulty peak oil theory. Rather, the present combination of stagnating wages, increasing debt-related investment constraints (i.e., replacement of aging infrastructure), declines in consumption, and increased extraction and production costs of lesser quality oil, reflect “increased inefficiencies” (p. 1) or diminishing returns which peak oil forecasters predicted, though occurring at higher pricing levels. Hence, Tverberg (2015) believes that:

. . . the way we reach this peak though is different from what most people imagined: low oil prices, rather than high oil prices. Low oil prices are brought about by low wages and the ability to add sufficient new debt to offset the low wages. Because the issue is one of affordability, nearly all commodities are likely to be affected, including fossil fuels other than oil. In some sense, the issue is that a financial crash is bringing down the financial system, and is bringing commodities of all kinds with it. (p. 5)

Here then, whether or not one believes in the existence of peak oil trends, resulting economic instabilities interactive with the fluctuations of global petroleum markets, warrants actuarial considerations and preparations for buffering communities from resulting economic hardships. Hence, social workers must proactively examine and understand such trends and implications if they are to be optimally helpful and relevant to impending social change conditions. Heinberg (2011) provides poignant corroboration on this resulting unsustainable economic context, noting that:

Our debt cannot be fully repaid: every dollar saved in the past is owed ever-multiplying returns in the future, yet the planet’s stores of resources are finite and shrinking. Claims just keep growing while resources keep depleting – and real prices of energy and commodities have begun rising. At some point, it will

become clear that this vast ocean of outstanding claims will never be honored, and the result could be a tidal wave of defaults and bankruptcies that would sweep away most of the economy. (p. 237)

Moreover, Heinberg (2011) asserts that four fundamental principles must be honored if contemporary economic theories are to have relevance in the future:

- Growth in population and consumption rates cannot be sustained;
- Renewable resources must be consumed at rates below those of natural replenishment;
- Non-renewable resources must be consumed at declining rates (with rates of decline at least equaling rates of depletion), and recycled wherever possible; and
- Wastes must be minimized, rendered non-toxic to humans and the environment, and made into “food” for natural systems or human production processes. (p. 247)

Heinberg’s (2011) principles seem to reflect a clarion call for honoring and taking proactive responsibility for the state of our collective relationships with each other and all else that rely on the integral sustenance of Earth. These principles seem compatible with social work education, practice and research priorities, especially in rural community contexts. Indeed, Peeters (2012), a Belgian social work academic, asserts that large-scale transformation of society is required and that environmental justice causes will continue to claim a critical space amid efforts by communities in adapting to and thriving amid circumstances that challenge the conventions of resource-intensive mainstream livelihoods.

Social Work with Rural Communities – New Practices of Permaculture Design

With increasing impacts of climate change and related incidents of human and more-than-human displacements, including losses of life and habitat, rural communities have become beset with frequent, prolonged and persistent recovery and coping obligations. Social workers have been involved in disaster preparedness and response efforts, providing direct and indirect support to at-risk individuals and communities therein (Zakour & Harrell, 2003). Walter and Phoenix (2009) recognize that clarifying the relationships among communities and their resource systems toward an ecological framework, especially local food systems, can reveal important sustainability insights for natural resources, economies and health:

Because an ecology of food links health, economy, environment, community, culture, and ethics, strategies based on it should (1) provide food security for all, (2) renew and sustain the natural resource base and the biodiversity of the environment to ensure future food security, (3) build viable agrifood systems that provide for decent rural livelihoods, and (4) promote democratic access to agrifood decision-making as a basis for just and equitable communities. (p. x)

Designing for and increasingly demonstrating direct social work practices that prioritize the multi-modal skills of sustainable living may well be the most effective means to realize and sustain environmental justice advancements. By way of visible commitments to live and work in ways that ambitiously resolve unsustainable ecological impacts, and by extension social,

economic and environmental injustices, social workers can collaboratively develop and advance best practices for sustainable living, emulating the examples of others when possible.

For example, acquiring the knowledge and skills to competently grow, harvest and preserve local food, or generate and use renewable energies, or nurture collaborative relationships among local residents to share and address common needs and interest, all reflect tangible, cogent areas of social work applications in support of sustainable living and personal empowerment efforts. In this sense, it would seem both reasonable and necessary for social workers to begin collaboratively learning and applying new interdisciplinary skills not commonly demonstrated by past practitioners, such as:

- Supporting local food production via designing and managing robust community and residential foodsheds via edible landscaping and multi-functional community orchards;
- Using low-impact building retrofit techniques and ecological design tactics featuring locally-sourced materials, to improve the sustainable performance and experience quality of home and workplace settings;
- Increasing self-reliance and reducing vulnerabilities to resource disruptions by using inexpensive, well-performing appropriate technologies for rainwater harvesting, active and passive solar heating and cooling, and/or creative uses for horizontal and vertical surfaces for buffering weather effects or hosting new wildlife habitats; and/or
- Developing community tool banks to support borrowing, safe-use and proper maintenance of various tools and materials to support individual and community projects.

Moreover, social workers and their respective client communities can manifest timely innovations for just, integral livelihoods in ways not unlike those that reflect the principled intentions of permaculture design. An internationally-acclaimed practice methodology affording robust benefits, Holmgren (2003) defines permaculture design as:

a consciously designed landscape which mimics the patterns and relationships found in nature, while yielding an abundance of food, fibre and energy for provision of local needs...the use of systems thinking and design principles that provide the organizing framework for implementing the above vision.... Permaculture is not the landscape, or even the skills of organic gardening, sustainable farming, energy efficient building or eco-village development as such. But it can be used to design, establish, manage, and improve these and all other efforts made by individuals, households and communities towards a sustainable future. (p. xix)

The author has taught, written and demonstrated how permaculture design practices can be enlisted by social workers to advance sustainable community and economic development (Scherch, 2005). Whether at an individual, familial or community scale, social workers can practice and demonstrate efficient, low maintenance, and optimally productive sustainable

systems integrating trees, plants, animals, structures, appropriate technologies and human activities, all in complement to and likely amplifying the value of the traditional knowledge and skills that social workers possess.

For example, the author designed course curricula to introduce students, many of whom were social work students of urban and rural community origins, to four stages of applied permaculture design: (a) Observation and Mapping; (b) Site Assessment & Design; (c) Materials, Technology, and Construction; and (d) Care and Feeding of Applied Systems (Scherch, 2008). Interdisciplinary readings, discussions, field work and hands-on projects were offered to support their learning. Specific learning outcomes allowed students to become well-versed in methodologies and appropriate technology systems; interactive food, water, energy and soil systems; resource management and conservation practices; natural pattern recognition and related plant / animal synergies and guilds; low-impact construction and natural building methods; and corollary local community and economic development ideas. In short, a powerful learning experience occurred which positioned students to be active agents of environmental justice and sustainable change in their communities.

As a result, students worked together to address several key design and performance objectives:

- Resource abundance and appropriate technology use with demonstrably low-cost, high-performance expectations;
- Ecological systems integrity – no pollution, benign emissions, low-energy inputs;
- Robust collaborations and community cooperation;
- Economic vitality and quality-of-life improvements; and
- Educational linkages and integrative, whole-person learning opportunities. (p. 10)

Moreover, beyond classroom projects, students recognized that applications can engage single-family households (Seymour, 2009) or co-housing neighborhood commons (Covarrubias et al., 2010), working farmsteads (Shepard, 2013), or brownfield sites identified for restoration and alternative use (NADO, 2001). And such applications support teaching and learning on how to utilize low-impact appropriate technologies for energies, communications, and more (Fritsch & Gallimore, 2007; Scherch, 2011).

As a result, delightfully practical, diverse, measurable, educational and economically-viable applications were envisaged for sustainable, local empowerment – including their own – as they envisioned their career paths, including meaningful employment and payment of student loans among other aspirations, while making a sustainable difference in their communities. Consideration of such multi-modal social work methods of practice in response to serious and complex change scenarios seems in keeping with what Lovell and Johnson (1994) observed years ago:

the environmental crisis is affecting present day life, not only by bringing about economic changes, but also by causing new health and psychosocial stressors. Placing priority on the interaction between people and their physical works will

inform a truly ecological paradigm of practice. Creative responses to environmentally-related psychosocial risks will require an eclectic approach, which combines support, counseling, education, and empowerment toward the twin goals of personal and community change. (p. 203)

These authors went further to assert that social work values, beliefs and behaviors need to change to support sustainable lifestyles with respect to the natural world. Fortunately, today, people and communities are collaboratively adapting permaculture design methods to support whole-community resilience in keeping with the innovative and timely intentions of so-called *Transition Town* (TT) approaches.

Transition Towns – Prospective Venues for Social Work Innovation

Originally organized by Hopkins (2011) and community residents in Totnes, England in 2005, the TT movement has grown to include communities around the world that advance respective sustainable development. A common organizing theme is shared interest in and concerns about impacts of peak oil and energy descent, climate change, and related economic uncertainties. Moreover, participants collectively assert that:

- Climate change and peak oil require urgent action;
- Life with less energy is inevitable. It is better to plan for it than to be taken by surprise;
- Industrial society has lost the resilience to be able to cope with energy shocks;
- We have to act together, now;
- Infinite growth within a finite system (such as planet Earth) is impossible;
- We demonstrated great ingenuity and intelligence as we raced up the energy curve over the last 150 years. There's no reason why we can't use those qualities, and more, as we negotiate our way up from the depths back towards the sun and air; and
- If we plan and act early enough, and use our creativity and cooperation to unleash the genius within our local communities, we can build a future far more fulfilling and enriching, more connected to and more gentle on the Earth, than the life we have today. (Transition Towns, 2013)

Accordingly, numerous TT groups are presently advancing plans for realizing community skill capacity-building objectives for sustainable living, including foci on food, energy, transportation, health and wellness, social empowerment and change processes, alternative economic models, among others. These capacities, and the social relationships and networks they embody, are typically representative of applied permaculture design principles and methods. The Transition Network website (2013) reports that practical projects allow current and prospective participants to learn from each other about “topics of community supported agriculture, shared transport, local currencies, seed harvesting and swaps, tool libraries, energy saving clubs, urban orchards, reskilling classes...” and others.

Within many rural communities across the United States and elsewhere around the world, many TT groups have formed and are actively pursuing initiatives of sustainable community development and resilience. The following section briefly describes three TT organizations underway in the States of Washington, Tennessee and Vermont, with information derived from their respective websites.

Transition Whatcom -- Whatcom County, Washington

Located in northwest Washington State, Transition Whatcom aims to advance resilient and more self-reliant communities throughout Whatcom County. In doing so, the organization supports the development of robust collaborations to strengthen local food supplies, knowledge and use of sustainable energy sources, a vibrant local economy and overall community well-being. The mission of Transition Whatcom is four-fold:

- 1) To explore and then follow pathways of practical actions that will reduce our carbon emissions and dependence on fossil fuels;
- 2) To rebuild our community's resilience, that is, its ability to withstand shocks from the outside, through being more self-reliant in areas such as food, energy, health care, jobs and economics;
- 3) To inspire and support the communities and neighborhoods of Whatcom County as they establish Transition Initiatives at these local levels; and
- 4) To coordinate a county-wide, citizen led Energy Descent Action Pathway by creating a collective 20 year vision of Whatcom County. From there we will devise the paths on which we may achieve our objectives. (Transition Whatcom, 2015)

Moreover, Transition Whatcom describes its intentions via the Guideline Paper: *Balancing the Principle of Positive Visioning with the Principle of Inclusion and Openness*, including the following excerpts:

Transition Whatcom is open and inclusive to anyone, regardless of their beliefs and opinions. We recognize the need for an unprecedented coming together of the broad diversity of society. We dedicate ourselves to ensuring that our decision making processes and working groups embody principles of openness and inclusion. We endeavor to engage the diversity of individuals, community groups, the local business community, and local government officials. We believe that in the challenge of energy descent, it will take almost all of us working together to cope with the change required.

Transition Whatcom will use meeting structures and group processes that facilitate respectful conduct and promote free expression, safety, and allow creative wisdom to emerge. Examples of group processes we might employ that facilitate openness and inclusion and that are non-hierarchical include "Open Space" events, "World Cafe" events, and "Fishbowl" discussions.

We believe that each person has to follow their own heart and their clearest thinking to determine how and where they put their energies for the great changes we are undergoing. Since Transition Whatcom is open to anyone, we expect to have a wide spectrum of beliefs and strategies among our membership. There are many right answers, and it is not our job to judge others. We will focus on telling the closest version of the truth that we know, but our messages will strive to be non-directive, respecting each person's ability to make a response that is appropriate to their situation.

Transition Whatcom also supports the UN Declaration of Human Rights (General Assembly resolution 217 A [III] of 10 December 1948). Although all are welcome to participate in our programs, extreme political groups and individuals that have discrimination as a key value will not be allowed to participate in the decision-making bodies within Transition Whatcom. (2015)

Transition Hohenwald, Tennessee

With a population of approximately 4000, the community of Hohenwald, located within Lewis County, is organizing efforts to realize interests for an ecologically-restorative, safe and economically-viable county. In doing so, the Sonnenschein Green Initiative (SGI) was created to support related economic and community development strategies. In their own words, the following narrative describes the mission and intention of SGI:

We strive to support the following areas: local business owners, farmers, artisans and service providers; the creation of quality and long-term local employment; community networking opportunities and social events; creating an economy that has a total and sustainable economic return; and increasing our goods and services exported rather than imported. We also focus on 'green' development, as we see that creating a 'green' economy and 'greening up' our production and consumption will be the quickest and most effective way to achieve sustainable economic and community development. To SGI the word 'green' equals efficiency and less waste.

The growing trend toward localization of food, energy, goods & services, and entire economies, away from dependency on a teetering, global non-renewable energy based economy, exemplifies the transition culture's response to massive resource depletion, global energy crises, rising fuel and food prices, plummeting markets, and the threat of global climate change. Towns, organizations, and entire governments are finding that localization is a "win" for the economy, environment, community development, and for quality of life. The Transition Town Movement—one example of localization—was founded in 2005, in Kinsale, Ireland and Totnes, England; and has since spread throughout Europe and into the Americas. Towns across the world are asking questions related to energy descent planning and transitioning away from petroleum and other non-renewable energy based economies. Our community of Hohenwald, TN began similar conversations in 2006.

Being a rural community, we found that the best way to communicate with local residents about energy efficiency was to talk about economics. We're trying to invent or grow something locally that's positive and within the existing boundaries. People have enough problems already and this makes them sensitive to talking outside their boundaries. The unemployment rate of Lewis County is above 17% and our neighbor, Perry County has above 25%. With unemployment so high, people within our current cultural context don't want to talk about protecting ecosystems. They want to talk about jobs and saving money.

The most effective and energy efficient strategy or "right thing" for SGI's transition initiative has been to marry Permaculture with financial literacy. Permaculture design and system thinking is at the core of SGI's transition strategy. Our project development incorporates Permaculture design principles and ethics of earth care, people care and fair share. (Dauksha-English, 2015)

Transition Putney, Vermont

Similarly, the citizens of Putney, Vermont are taking steps to organize, clarify and prepare for transitions within and around their community. They have done so in the belief that a transition to living with less oil (petroleum) could introduce many enjoyable and beneficial attributes in comparison with contemporary oil-dependent lifestyles:

. . . by shifting our mind-set we can actually recognize the coming post-cheap oil era as an opportunity rather than a threat, and design the future low carbon age to be thriving, resilient and abundant — somewhere much better to live than our current alienated consumer culture based on greed, war and the myth of perpetual growth. (Transition Putney, 2015)

Moreover, they cite three driving conditions which inform their purpose and efforts:

- Climate change, brought on by deforestation and burning fossil fuels (causing high levels of CO₂), over population, factory farming, and so on;
- Peak Oil – brought on by pumping half of all known oil reserves in one century; and
- Economic instability caused by a broken monetary system that relies on false wealth and continued growth.

Hence, Transition Putney (2015) was formed with the following mission:

Transition Putney engages the creativity, expertise and skill-sets of our friends and neighbors in the design of a sustainable, resilient, socially just and mutually supportive community. We collaborate to embrace the extraordinary challenge and opportunity of climate change, peak oil and economic instability. Together we reinvent, rethink, rebuild and celebrate our community and the world around us. (Transition Putney, 2015)

As a result, Transition Putney is focusing on building local community capacities for food security, systems of health and healing to enhance the quality of life for all ages, and other foci of sustainable systems and practices including renewable energies, local economic development and currency, energy-efficient transportation systems, and transition art and culture.

These organizations and their intentions represent many common values and distinctive actions to advance efforts at strengthening community resilience. Heinberg (2011) regards these initiatives as a grassroots movement aimed at preparing citizens for challenges and strategic opportunities as they endeavor to reduce dependencies on fossil fuels and transform the unsustainable middle-class lifestyle:

. . . (It) should aim to build community resilience, taking account of local vulnerabilities and opportunities. Ideally, this movement should frame its vision of the future in positive, inviting terms. It should aim to build a cooperative spirit among people with differing background and interests. While this movement should be rooted in local communities, its effectiveness would increase if it were loosely coordinated through national hubs and a global information center. The work of local groups should include the sharing of practical skills such as food production and storage, home insulation, and the development and use of energy conserving technologies. The movement should be non-authoritarian but should hold efficient meetings, training participants in effective, inclusive decision-making methods. (p. 270)

Social workers can provide valuable perspective and practice demonstrations to support the effectiveness of TT initiatives. Bay (2013) recognizes that social work skills and knowledge in community work, group facilitation, and community consultation may be important for “the development of trusting relationships for local community resilience” and that “social workers can contribute to some of the large scale societal transformations required to address climate change challenges and peak oil” (p. 185). Indeed, social work educators, practitioners and researchers, spanning micro, mezzo and macro-practice domains, are well positioned to contribute to and learn by way of participation in TT initiatives. For example, social workers engaged in direct clinical and therapeutic practices could explore how and in what ways they could help their clients face and resolve adverse effects caused by stressors of transition. Social workers within social welfare organizations could increasingly leverage institutional resources and services to mobilize changes for sustainability. And, social workers involved in community advocacy could examine and encourage changes to public policies that highlight the interests of at-risk communities while encouraging innovations akin to objectives of Transition Town initiatives. Social work education and research can thus be oriented to guide and support practice coherence within and across these practice domains.

In view of optimizing rural social work practice, Riebschleger (2007) found that practice effectiveness demonstrated competencies at engaging complex community systems, often facing conditions of poverty and resource constraints, and reflecting unique cultural dynamics and relationships which effect pace of change especially when geographic distances inform experiences of social isolation or stigma. Social workers, with discerning cultural competency skills, can be well-equipped and positioned to participate in TT movements, especially as unexpected changes and disruptions to rural community lifestyles occur.

Next Steps for Social Work Practice, Research and Education

The social work profession and its mission continue to face a host of 21st century issues and contexts critical to the livelihoods of current and coming generations. Social workers must redouble their efforts to innovate and demonstrate – not simply teach and study – practical, replicable, economically-viable and inclusive methods of social, economic and ecological justice and sustainability at once. The principles, methodologies and practical examples of applied permaculture design can be leveraged immediately to reveal pathways for resolving the critical issues of our day.

On this point, McKinnon and Bay (2013) observe that environmental impacts have heretofore often been portrayed as relevant primarily to persons involved in particular occupations of environmental concern, such as farmers, fishers or politicians. However, the authors (2013) assert that:

the social justice issues associated with natural disasters and the impact of climate change are increasingly coming to the attention of the public, of governments, and of welfare services—and social workers, who want to know what contributions they can make professionally towards a more sustainable, just, and ecologically-sensitive world. (p. 155)

Moreover, Bay (2013) promotes the value in pursuing further research into social work practice roles in support of new social movements within large scale societal transformations. Hence, the following questions from Bay (2013) invite inquiry about how and in what ways social work education, research and modes of practice can be oriented to optimally support collective transition efforts:

- What difference do various types of leadership, group aims, governance structures, community relationships, and gender relations make to changes in the daily practices by community members in addressing climate change and peak oil?
- What difference can this kind of movement make to stimulating changes in people's collective actions to reduce carbon emissions?
- Are local changes around daily activities concerned with food production and consumption, energy efficiency, and renewable sources of fuel, and reskilling of people to consume less, reuse, recycle, and preserve going to be enough to reduce carbon emissions?
- Is some of the value of this movement in the skills and experiences gained by community groups in self-organising and in becoming locally self-reliant in the face of future potential climate change and peak oil challenges? (p. 184).

The willingness and ability of professional social work to adapt practice conventions, modify educational curricula, and expand research to account for best-practices for sustainability – spanning traditional practice modalities—could spell the difference between professional renaissance and obsolescence. At the least, in transition, health and ecological integrity may result.

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Book Review

Learning Native Wisdom: What Traditional Cultures Teach Us about Subsistence, Sustainability, and Spirituality

Gary Holthaus

2012

Lexington, KY: University Press of Kentucky

266 pages

Paperback, \$25

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This book by Gary Holthaus, a humanities scholar, is in his words a collection of “vernacular essays.” The book constitutes an experiential and analytical account of the author’s learning and insights gained through his years growing up with a farmer grandfather in Iowa, working with nonprofits, and with the Alaska Humanities Forum. The narrative also includes his discoveries in commercial fishing, teaching, and reading, along with in-depth interactions with indigenous Alaskan populations as well as people in the arts and humanities. This deeply personal, reflective work by this sustainability proponent draws the reader into a thought-provoking journey about people’s place and responsibility in their ongoing quest for preservation.

Holthaus sets the context for his learning forays in the introductory chapter where he introduces Prescott Bergh’s phrase “sustainable culture” (p. 6). He broadens the scope of envisioning sustainability beyond agriculture, economy, and natural resource depletion to the need for sustaining harmony and the sense of community. His anecdotal review of interactions with Eskimos and Native American community members, as well as exhaustive readings of Eastern Confucian, Hindu, Buddhist and other philosophies lead him to highlight the need to revive and re-create the “fundamental elements of humanity”(p. 9). “Social spirituality” (p. 9), he elaborates, challenges the discriminative ‘-isms’ and embraces respect, mutual effort and mutual need, in turn narrowing social inequality. These, in turn, would trigger the sustainable culture to confront resource insecurities.

The book is divided into four sections: *Back to Basics, Subsistence, Sustainability, and Spirituality*; and these themes are elaborated in the 2-3 chapters that follow each sectional heading. *Back to Basics* examines the power of wisdom gained through appreciating and living the arts in their varied facets. Music, inspirational yet experiential storytelling, poetry, and other creative arts that pervade indigenous communities as ways of life and expressions have helped sustain generations despite hard times. Although sustainability is often conceptualized as a three-legged stool comprising the environment, social context and economy, Holthaus infuses the need for the one-legged stool instead. This leg is the spiritual environment that will foster balance and the regenerative spirit to accomplish the harmony to drive preservation. He particularly highlights the power of language in offering diverse worldviews, and the need to honor the uniqueness of languages as one key element in restoring balance, as opposed to the “toxic pattern of *English only*” (p. 41). The chapter on *Functional and Structural Cultures* (p. 50) contrasts the

inclusive, integrative nature-blending functional cultures with the exclusive, disruptive, nature-manipulating structural cultures. Real world illustrations of the nature of institutions (religion, education, vocational, legal, formal and informal organizations) within these cultures provoke thought. The description of the ways of life relating to sense of time, dynamics of relationships, links with nature and other living systems, systems of governance and healing reveal the contrasts between the global east and west, south and north, the traditional and modern. Insightful is the fluidity that is described and the diffusion between the functional and structural when these cultures mingle, resulting in losses that could threaten the survival of the more desirable functional cultures.

In the subsequent section on *Subsistence*, Gary Holthaus makes a deliberate attempt at redefining how we understand the term subsistence. He explains that if subsistence is defined in terms of the minimum resources needed to survive, cultural worldviews define what needs contribute to subsistence. In his words, “the subsistence life of village people has changed over the years, as every culture changes” (p. 68). Indispensables for us like oil, automobiles, cash and threats of toxic resources like water and food are no less a reflection of a subsistence culture. However, more threatening to subsistence, he adds, are the “external threats” (p. 73-74) through enforced assimilation and ethnocide as well as “internal threats” (p. 74) of a culture’s extinction through the decline in intergenerational teaching and learning. In the chapter on *Education for Subsistence* (pp. 84-96) his narrative laments the current educational preparation for jobs and credentials when education for subsistence, recognizing the connections between learning, knowing and the real world and wholeness, should be the goal.

The thematic section on *Sustainability* addresses the role of education, reflects on the definition of sustainability, and offers a way to comprehend it through lived examples. The author calls for the need to steer away from standards based curricula, economy and jobs as education’s foundation, but focus instead on the acquisition of wisdom, self-discipline and an attitude of mutual respect, sharing and connectedness with the natural world. He then proceeds to describe the attributes of a sustainable culture, namely one that recognizes the value of relationships, protects all forms of diversity (human, plant, animal, and natural forms), is socially just, nonviolent, and nurtures intellectual and spiritual growth for all. This section concludes with a single chapter exalting the power of stories reinforced through the author’s own reflections and personal stories and insights. These stories can be pillars in sustaining cultures: formative stories that teach and foster learning, teachable moments as life happens, stories of the past reinforcing lessons learned and stories that caution.

The final overarching thematic section on *Spirituality* (pp. 153-218) is an enriched cumulative blend of what various religious orientations have to offer including insights of philosophers and scholars from around the world. The enlightened learning and universal common thread is first that the power of the “word” and clarity of language (p. 172) can foster or destroy harmony and balance; and second, the task of cultivating oneself to be able to add to common good and societal wellbeing. He concludes with another revelation namely the permanence and infiniteness of Nature despite the ongoing destruction. Currently a called minister at the Anchorage Unitarian Universalist Fellowship, Gary Holthaus’ writings powerfully mirror this fellowship’s mission of a common purpose amidst diversity in beliefs (Anchorage Unitarian Universalist Fellowship, 2014). A concluding message, a notes section, a bibliography and index complement the book.

This comprehensive analysis and message on the indispensable connection between subsistence, sustainability and spirituality derived largely from delving into Native American and other indigenous cultures is indeed a journey in introspection and self-discovery. The author's fund of knowledge and use of life lessons and social experiences with people from all walks of life to share these powerful insights are awe-inspiring. For many readers, especially from a non-traditional/ non-Native /non-eastern orientation, his foresights and perceptions can be less easy to fathom. The narrative in various parts tends to get repetitive although the reiteration adds to the conviction in the message. This book will strike a chord for social workers, especially in a rural context with its focus on a collective culture, transgenerational learning, respect for kinship and community, social justice, and that "small is beautiful" and person-in-environment frameworks. Holthaus has woven in ongoing events, both cultural and political, through his illustrations to exemplify what is working and what is not in the current world. One is reminded of the 60 year old congressionally chartered National Conference on Citizenship (NCoC) whose mission is driven with the belief that "every person has the ability to help their community and country thrive" (National Conference on Citizenship, 2014, "NCoC: About us," para. 1). As the author says, this book is not a how-to-guide to clean-up the mess, but to engage in meaningful conversations toward a better world.

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Book Review

Transforming Places: Lessons from Appalachia

Stephen L. Fisher & Barbara Ellen Smith

2012

Champaign, IL: University of Illinois Press

322 pages

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While other authors have focused on environmental justice, few have narrated the topic through the lens of diverse authorship. In *Transforming Places*, Fisher and Smith utilize the voices of many to capture the magnitude of environmental challenges in Appalachia. Beyond this, they extend these challenges nationally and globally. In their definition of Appalachia, they evoke the reader to think beyond Appalachian stereotypes. Fisher and Smith define Appalachia as a geographical region that comprises areas in the states of West Virginia, Kentucky, Virginia, Georgia, North Carolina and Tennessee. Although their definition is specific to an easily visualized central location, the definition restricts the social construct of the comprehensive Appalachia region.

This book comprises three sections in addition to the authors' introduction and concluding chapters. Excluding the authors' contributions, forty-three additional writers contributed to *Transforming Places*. Each chapter adds a brushstroke to the book's final canvas of environmental justice. This is evident in their selection of authors representing diverse fields of practice and scholarship. Fisher's and Smith's respect for these authors as field experts contributes to the book's validity. The term 'field expert' is used to describe contributing authors' competence based on their specializations (i.e. attorneys, teachers, human rights advocates, environmentalists, community organizers, etc.). The real life experiences these authors narrated enrich each chapter by providing readable stories of the region's social and environmental issues.

The book offers models for community organizing that encompass many disciplines. Each author contributes his or her own vision of community organizing. This vision is applied to a range of examples including community engagement, role identity, organizational models, committee work, technology and action (Brueggemann, 2014; Carlton-LaNey, Burwell, & White, 2013; Faber & McCarthy, 2001). For example, Chapter ten highlights the success and failures of community organizing when faith-based organizations collaborated with labor unions (Harper, 2011). This provocative illustration allows the reader to reflect on the strength and fortitude created by this kinship. Community organizing is prominent throughout the book. And based on each chapter's detailed examples, this book would benefit any macro practice classroom (Hash, Chase, & Rishel, 2012).

Throughout the book, the use of technology to educate and advocate changes in Appalachia, including environmental changes, is illustrated. Chapter fifteen specifically highlights the use of technology to promote the organization called Mountain Justice. The authors provide information on the organization's historical perspective as well as detailed writing on the organization's use of technology to promote environmental justice. Technological tools such as e-mail distribution lists, social media, and its own website allow Mountain Justice to create a bridge spanning rural communities locally, regionally, nationally and universally. The chapter discusses using e-mail distribution lists to communicate with members about environmental issues. The organization has used Facebook to share ideas and post pictures, newsworthy items and maintain blogs. The authors of this chapter challenged the reader to explore the Mountain Justice website to learn more about the organization.

A theme established within the book is the use of creative arts to educate and illustrate social and environmental change in the region. Chapter one tells a story which includes an illustrated example of the Oak Ridge Environmental Peace Alliance's (OREPA) use of creative arts to articulate atomic environmental waste. The book provides additional detailed examples in the use of art, music and theatre to augment the importance of community organizing for social and environmental justice.

Fisher and Smith wrote their concluding chapter which outlines the book's theoretical base. They define "place" within the context of transformations and theories of empowerment, social construction, and politics. Their critical comments regarding capitalism may offend some readers, but their final three sentences surmise their theoretical perspective:

Place is the grounds of this struggle over how we shall live in relation to one another and to the earth. Our capacity and willingness to imagine, hope, share, risk, and cooperate are critical elements in making possible visionary alternatives. In transforming places, we turn such "alternatives" into present reality and thereby open up the future for us all (Fisher & Smith, 2012, p. 288).

This reviewer believes that Fisher and Smith embedded two subliminal questions throughout the book. The first queries the relationship between social capital, human capital and environmental capital; and the second asks at what cost will this relationship impact society. Each author in *Transforming Places* brings examples of the challenges and successes Appalachian advocates encountered in their journeys to rural justice. These examples not only illustrate the importance of each area as individual assets, but their regional value and strength when interconnected.

While critics may argue that the authors did not emphasize environmental justice, each chapter contributes a piece to our understanding of the concept. From the first chapter's discussion of environmental changes due to atomic testing in the 1940's to the final chapter's presentation of global changes encountered in Colombia, the environmental justice emphasis cannot be ignored. Readers not only from Appalachia, but throughout the United States and globally, should read this book to hear the stories and gain an understanding of the region's environmental challenges and successes. These stories measure our awareness of environmental issues, and test our ecological competency by revealing what is or is not known about the region based on one's personal knowledge or lack of knowledge. Through education, self-reflection and

openness to new knowledge, can we as a society seek not only environmental justice, but rural justice?

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