"If it Wasn't for the Faith-Based Groups, We Wouldn't Be Where We Are Today": Flooding Response and Recovery in Greenbrier County, WV

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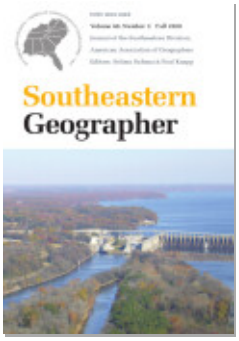

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"If it Wasn't for the Faith-Based Groups, We Wouldn't Be Where We Are Today": Flooding Response and Recovery in Greenbrier County, WV

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HIGHLIGHTS:

- In 2016, flooding events added another layer of hardship to already vulnerable communities in Southern WV
- Social capital is the ability of a community to act collectively to respond to disaster
- Communities can be both vulnerable and resilient, as a result of social capital
- Faith-based organizations (FBOs) can deepen social capital and increase hope for community revitalization
- Integrated disaster responses that include FBOs can increase community resilience, even with insufficient state services

Abstract: This paper explores the experiences of two communities affected by the June 23, 2016 floods in Greenbrier County, West Virginia. These towns were already vulnerable at the time of the floods, in part due to the decline of regional extractive industries in the past decades. As a result, the natural disaster added another layer of hardship to places that were already struggling. At the same time, the floods also revealed social capital that provided some resiliency to the disaster. Strong relationships and community pride resulted in neighbors donating time and labor to help each other recover and rebuild. The additional presence of outside faith-based organizations (FBOs) and other volunteer groups that arrived to assist with flood recovery deepened these aspects of social capital and sparked hope for future revitalization. Grounded in qualitative data, this paper explores how vulnerability and resiliency combined with a complex network of disaster response — including state agencies, non-governmental organizations, and FBOs—to shape relief efforts and create hope for the future in Greenbrier County. Given the increasingly common incidences of floods in the United States and predictions for increases in future flooding, this paper offers insights for natural disaster recovery applicable within and beyond Appalachia.

KEYWORDS: Floods, Vulnerability, Social capital, Faith-based organizations, Appalachia

INTRODUCTION

On June 23, 2016, heavy rainfall inundated West Virginia and caused severe flooding events across the state (Di Liberto 2016). Twelve counties were declared federal disaster

zones, allowing residents to apply for assistance through the Federal Emergency Management Agency (FEMA) (FEMA 2016a). West Virginia Public Broadcasting described six towns as being hardest hit by the floods, including the two study sites for this project (Matlick 2016) (see Figure 1). The floods affected the Greenbrier, Gauley, and Elk River basins and other smaller streams and creeks (Kite 2016). Parts of Greenbrier County received 8–10 inches of rain in a 24-hour period, constituting what is considered a thousand-year rainfall event, defined by the National Weather Service as "0.1% chance of an event of this magnitude happening in any given year" (Di Liberto 2016). It was estimated that 125 businesses and 1,500 homes were destroyed, and another 4,000 homes were damaged (Associated Press 2016a). FEMA reported 4,951 approved Individual Assistance Applications, $42 million approved for their Individual and Households Program, and $117 million obligated for their Total Public Assistance Grants (FEMA 2016b).

This disaster hit a region of the US that has become the epitome of crisis, both socially and economically. Since the 1990s, the decline of the extractive economy has made apparent the consequences of Appalachia's economic dependency on coal and other natural resources. High levels of unemployment and widespread poverty have resulted in increasing levels of depopulation in the region. Additionally, the demanding physical toll coal mining takes on miners has been partially responsible for triggering the opioid epidemic for which this part of the country is now notorious (Merino et al. 2017). For these reasons, many of the towns impacted by the 2016 floods were already suffering from decades of socio-economic decline, and this natural disaster added another layer of hardship to already difficult circumstances.

At the same time, the magnitude of the disaster also spurred massive rebuilding efforts, involving local community members, state and federal agencies, non-governmental organizations (NGOs), and faith-based organizations (FBOs) from across the United States. Community members and external groups donated time and labor to rebuilding efforts, some of which continued for years after the floods. In the context of these rebuilding efforts, many residents expressed hope that their towns would end up better off than they were before June 23, 2016.

This paper uses an ethnographic approach to explore the recovery efforts that happened in response to the floods in two communities in Greenbrier County – Rainelle and White Sulphur Springs. In doing so, we show that while these communities were highly vulnerable to the floods, they also exhibited some resilience as a result of existing social capital. Social capital in this context is understood to be the ability of the community to draw on connections with each other and relevant organizations to act collectively to respond to the disaster (Adger 2003, Cutter 2015). This social capital exists as a result of strong relationships with other community members and with the places in which they live. We explore how this social capital, combined with the efforts of outside FBOs, spurred rebuilding efforts beyond what communities could do with federal assistance alone. We also assess the resulting hope these efforts provided residents for the long-term revitalization of their communities.

Most flooding-related issues in Appalachia have been studied from biophysical and technical perspectives, with emphasis on hydrology, mitigation, and engineering

(Mallakpour and Villarini 2016, Wing et al. 2018). Our approach is geared towards understanding the complex social impacts of floods, with particular attention to response and recovery. Our findings offer insights for how rural Appalachia might respond to and recover from future natural disasters, while also contributing more broadly to the literatures on natural hazards and flood vulnerability, as well as the roles of social capital and FBOs in disaster response.

Vulnerability and natural hazards

There is a long geographic tradition of studying the relationships between social vulnerability and natural hazards (c.f. Burton 1993, Buckland and Rahman 1999, Cutter et al. 2003, Few 2003). Vulnerability is defined as the susceptibility of an individual or social group to harm (Turner 2016, Adger 2006). The concept of vulnerability is understood to be tightly coupled with that of adaptive capacity (Turner 2016, Adger 2006), which is defined as the ability of a system to evolve or respond to hazards (Adger 2006). Human geographers understand vulnerability to exist not as a result of natural hazards, but rather in the "pre-hazard precarity of people" (Ribot 2014, 696). This precarity is often tied to measures of socio-economic factors like wealth and poverty, but must also be understood within the specific context of its "cultural, political-economic, and physical geography…" (Eakin and Luers 2006, 388, see also Cutter et al. 2000, Cutter et al. 2003, Cutter and Finch 2008). In other words, the ability to effectively respond to disasters depends, in part, on having the resources and capacity to do so; high levels of social vulnerability can make it difficult to cope with even moderate hazards (Cutter et al. 2000).

Within the broader literature on natural hazards and vulnerability, there is extensive attention to flooding (Few 2003). This body of work shows that people in already marginalized socio-economic positions are more likely to live in flood-prone areas and have higher risk of experiencing flood-related disasters. As such, and in keeping with the natural hazards literature, vulnerability to flooding is understood to exist not only as a result of hazards, but as a result of social vulnerabilities that increase exposure to flooding risks (*ibid.*, p. 206).

While there has been important work on flooding vulnerability from the Global South (c.f. Pelling 1999, Adger 2000), work from the Global North has particular relevance for this paper. In line with the broader literature, these findings indicate that communities with low levels of economic development struggle more to recover from floods and other disasters than wealthier communities (Buckland and Rahman 1999, Sherraden and Fox 2008, Reierson and Littlefield 2012). Moreover, and as the case of Hurricane Katrina so clearly showed, social vulnerabilities are not uniform within communities, but are directly tied to existing power dynamics and racial, ethnic, and gender inequalities within and across impacted communities (Cutter et al. 2014).

Even with long-standing recognition that complex social factors play a significant role in determining risk, they are typically not well accounted for in studies of natural hazards, in part because they can be difficult to quantify or assign specific variables (Turner 2016, Cutter et al. 2003). Indeed, recent work suggests a need for increased

attention from geographers to the root causes of vulnerability, including how it relates to community resilience and to environmental change (Cutter 2015). Of note, the concept of resilience is used within in variety of natural and social science fields and lacks a uniform definition. This paper draws from the concept of adaptive resilience, which entails the capacity of a system to successfully respond to and recover from a natural disaster (*ibid*). The concept is important here because as Cutter (*ibid*.) notes, social vulnerability does not always equate to a complete lack of adaptive resilience to natural hazards, particularly when there is strong social capital.

The concept of social capital explores how individuals use their connections with other individuals and organizations to enact personal and collective action (Adger 2003). While there are a myriad of approaches to social capital across the social sciences, three types are typically identified: bonding (connections among emotionally close individuals), bridging (connections among loosely connected individuals), and linking (connections between citizens and those in power) (Aldrich and Myer 2014, Aldrich et al. 2016). Within work on climate change, there is a specific focus on how social capital increases resilience and/or decreases vulnerability to climate disasters (Pelling and High 2005, Wolf et al. 2010, Aldrich et al. 2016). An important component of this social capital is the role social networks can play in disaster recovery efforts (Aldrich and Meyer 2014). Work in this area identifies bonding as being the most frequent type of social capital in these situations, as neighbors and family members are often the first responders in disasters (*ibid*). For this reason, building connections between community members is an important way to increase community resilience to future disasters (*ibid*.). Even so, social capital is rarely identified as a critical component of disaster response and more work is needed to understand the role it can play, including how local networks can be better integrated into policy interventions (*ibid*.). The findings in this paper provide an example of how communities can be both vulnerable to flooding hazards while also exhibiting characteristics of adaptive resilience as a result of social capital.

Faith-Based Organizations in Disaster Response

Since the welfare reforms of the 1990s in the US, the non-profit sector has absorbed functions previously provided through government services, including disaster response (Lake and Newman 2002, Rotolo and Berg 2011, Stajura et al. 2012, Stewart et al. 2013, Bielefeld and Cleveland 2013, Cutter et al. 2014). As a result, a "shadow state" has emerged that is "increasingly responsible for the social service delivery and community development" (Lake and Newman 2002, 109). However, it has been found that the shadow state cannot adequately meet the needs of all people, particularly the most marginalized members of society (Lake and Newman 2002). Faith-based organizations (FBOs) are one potential way to more effectively meet the needs of those who are unable to access or are ineligible for the support they need (Williams et al. 2012). As such, while FBOs have a long history of providing social services, there is a "renewed role" for FBOs in the current era (*ibid*., 1480).

Nearly every major religious group in the US has a disaster response arm (Koenig 2006). As a result, Phillips and Jenkins (2010, 221) argue that "… FBOs, as part of the

disaster volunteer sector, have become a specialized division of labor, one that can be counted on the aftermath of major disasters." These groups draw heavily on volunteers to provide their vital services (Stajura et al. 2012, Bielefeld and Cleveland 2013) and can be key actors when state assistance is inadequate. Cutter (2014, 112) states that these volunteer groups, combined with local determination, can become the "true engine of recovery" for impacted communities.

Locally based FBOs can play an important role in immediate disaster response because they are often already well integrated into communities, are trusted, and can respond quickly (Gaillard and Texier 2010, Phillips and Jenkins 2010). Local clergy are also known to offer important psychological help and other forms of assistance after disasters (Koenig 2006), including in previous floods in West Virginia (Bradfield et al. 1989). National FBOs play an important role in the complicated task of long term disaster recovery by providing information to disaster victims, donating direct assistance and labor, and providing counseling to impacted households (Stajura et al. 2012).

While FBOs and other volunteers can be an important and effective component of disaster response, a number of case studies from the Global North indicate the importance of better integrating formal and informal responses to flooding to foster more effective collaborative efforts (Buckland and Rahman 1999, Sherraden and Fox 2008, George 2013). This includes proactively planning with FBOs in advance of disasters so response is more effective when it becomes necessary (Stajura et al. 2012). Without this advanced planning, groups have been known to arrive without invitation or approval, creating logistical challenges (Waugh and Streib 2006, 138). Of particular relevance to the case studies in this paper, some suggest that Voluntary Organizations Active in Disasters (VOAD) groups or their equivalents are an effective way to facilitate collaborative cross-sector relationships (Phillips and Jenkins 2010, Stajura et al. 2012).

The findings presented below support the argument that effective responses to natural disasters involve a complex network of actors, including FBOs. Our findings also bring this literature into conversation with that on vulnerability to natural hazards. Specifically, we show how the presence of FBOs and other volunteer groups can not only provide important material assistance for impacted communities, but can also build on existing social capital by nurturing relationships to strengthen collective responses to disaster. This can deepen community pride and further energize recovery efforts. In the absence of adequate state services, an integrated response that includes FBOs can enhance community resilience, even in the context of socio-economic vulnerability.

RESEARCH METHODS

This research is grounded in case studies of two towns in the southern West Virginia county of Greenbrier. Greenbrier County is home to 35,287 residents. Its population is 94.2% white and 7.2% people of color, including Black, American Indian, Hispanic and those as identifying as two or more races (U.S. Census Bureau 2017). The median household income is $40,026, and 16% of the county lives below the poverty line. Of the twenty-three people that are reported to have died because of the 2016 floods, fifteen

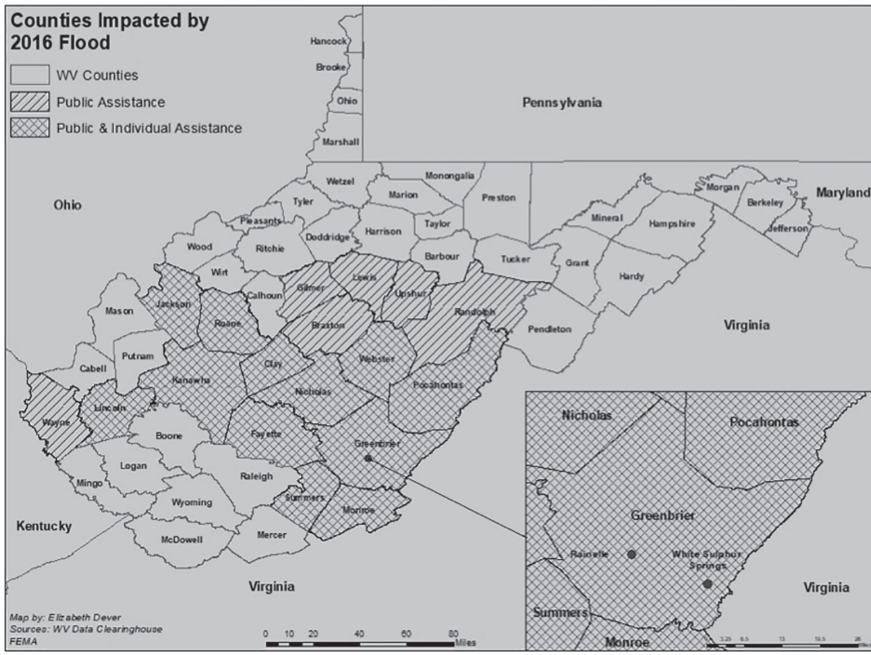

Figure 1. West Virginia Counties Impacted by June 23, 2016 Floods.

were in Greenbrier County (Jenkins 2016). After the 2016 floods, FEMA received 290 applications for home repairs from Rainelle and 257 applications from White Sulphur Springs (The State of West Virginia 2016).

Located on the western edge of the county, Rainelle is a former timber town that has seen decades of socio-economic decline, in part due to the decline of the timber industry (Grafton 2014) (for a historical overview of the timber industry in WV see Lewis (1998)). Rainelle has a population of 1,453 with 93.6% identifying as white and the remaining 6.4% being those who identify as persons of color. The median household income is $27,583 and 30.6% of the town lives below the poverty line (U.S. Census Bureau 2017). White Sulphur Springs is located on the eastern edge of the county and has a total population of 2,518. Demographically, the population is 80.9% white, with the remaining 10.1% being people of color. The median household income is $31,568 and 23.7% of the population lives below the poverty line *(ibid.)*. While not immune to economic hardship, the economy of White Sulphur Springs has been somewhat buoyed by the presence of the historic Greenbrier Resort, a high-end hotel and world-renowned golf course that provides community employment (Alvey 2020).

During May-August 2017, we carried out twenty-one interviews with local residents and members of relief organizations that focused on the impacts of the 2016 floods in Greenbrier County. Participants, which were selected through snowball and convenience sampling, included men and women ranging in age from twenty-five to seventy, including people from different economic classes who suffered varied levels of material

loss as a consequence of the floods. Interviews were first transcribed and then analyzed through the qualitative data software NVivo according to prevailing and emerging codes (e.g., informal response, volunteers, relief effort, revitalization, community). In the following sections, we outline our primary findings.

RESULTS

In this section, we show how short- and medium-term responses to the 2016 floods involved a complex combination of actors, including community members, FBOs, NGOs, and state and federal agencies. We pay particular attention to the role played by FBOs, as they were found to have an outsized presence in Greenbrier County after the floods, both in offering material assistance in the short term, as well through offering non-material benefits that fostered hope for longer-term revitalization.

Immediate assistance

According to interviews, dispatchers at the 911 call center for Greenbrier County received nearly 4,000 calls in the first forty-eight hours after the floods, many from people in dire need of immediate assistance. The initial responses to these calls came from local first responders and neighbors. In the days immediately following the floods, many roads were still impassable due to high water, making rescue efforts possible only by boat. A local authority instrumental in the early response efforts described the importance of local responders in those first chaotic days, including police, firemen, and volunteers from the community that helped rescue stranded people, while also getting a count of missing people and doing early assessments of damage. This respondent detailed work that was not only physically exhausting, but emotionally taxing, particularly as they searched for and found people who had died from the floods. Almost directly after the roads became passible, outside volunteers and local responders from nearby communities arrived. As noted by one respondent:

> "The thing that we had being a small community is even though a lot of people have moved out…a lot of those people came back in or people that had friends here came in. So, the first wave of volunteers were just friends and relatives from out of state and then it just grew into a much bigger thing…"
>
> *– Rainelle resident*

This statement highlights how despite the loss of population of Rainelle in recent decades, social capital in the form of strong relationships with family and loved ones remains and helped to facilitate early volunteer response efforts. Interviewees described how neighbors and friends immediately came together to begin the work of clearing out mud and debris from homes. These early days were portrayed as a time full of hard physical labor and difficult-to-process emotions as people took stock of the loss and destruction. However, people also told stories of hope grounded in a sense of neighborliness. One Rainelle resident recounted how he was helping to "muck out" a neighbor's home with others only to see a truck coming down the street with a little girl holding up a sign that read "Free Ice Cream Cones." He described the group swarming around the truck

for half-melted ice cream and learning from the girl's mother that they lived a few towns away and that they came to Rainelle because the little girl wanted to find a way to help people impacted by the flood. He said:

> "Here's a dozen grown people standing around…crying because this little girl's just out of the blue wanted to try to make some people happy."
>
> *– Rainelle resident*

While residents and local volunteers were starting the work of immediate recovery, resources quickly began to arrive from out of the area. According to interviewees, the National Guard arrived within one to two days. Soon after that, volunteers arrived from the Red Cross and other large NGOs and FBOs. These groups included the locally based group Neighbors Helping Neighbors (NHN), an NGO funded by members of the exclusive Greenbrier Resort in White Sulphur Springs. While NHN existed prior to the floods, they made flood recovery their primary focus after June 23, 2016 and were able to leverage the wealth of members of the resort to raise significant amounts of money for relief and rebuilding efforts. Outside groups that arrived in direct response to the floods included the FBOs Samaritan's Purse, the Mennonite Disaster Service, and the Appalachian Service Project. Many of these groups had a staff that remained permanently in the community for months or even years, often coordinating relief efforts with outside volunteer groups from churches all over the United States that would arrive for a couple of weeks at a time to assist with recovery efforts.

A local authority with the 911 call center that was instrumental in organizing the early response described three weeks of nearly constant work to coordinate resources from the various outside groups. While he expressed gratitude that so many people wanted to help so quickly, he also described logistical challenges. In particular, he explained how some of the large organizations that came into help, while well intentioned, presented challenges. He said this was in part because people just did not understand the local context, stating:

> "I want to deal with people from West Virginia. I don't want to deal with someone from New York, because they don't know West Virginia."
>
> *– local authority*

Despite the challenges, these groups were critical in making sure people had water, food, shelter, and the necessary cleaning supplies in the immediate aftermath of the floods, even before the arrival of federal assistance.

Medium-term assistance

It is unclear exactly when FEMA arrived in Greenbrier County, but residents were able to apply for assistance within a few months of the floods. While FEMA undoubtedly played a vital role in recovery efforts, the amount received by individuals was rarely enough to cover actual damages and the bureaucratic process could be difficult to navigate. One local authority who was personally impacted by the flood and involved in the response stated:

> "FEMA gave us money, yes, but it wasn't enough…they give us… $23,000 and I spent $46,000."
>
> *– local authority*

Furthermore, the level of assistance people received from FEMA depended on whether they owned their home. For renters, the best they could hope for was payment for some of their possessions and a small amount of funds to cover a short term stay in a hotel. A few interviewees noted that losing one's home was particularly difficult for residents in rent-to-own situations, some of whom were reportedly close to making final payments, but who did not receive the same level of assistance as homeowners. In addition, accessing FEMA resources was described as a slow process. One authority explained:

> "If everybody had to wait on FEMA and the state… they're going to be waiting until next year."
>
> *– local authority*

Some homeowners did have flood insurance, though one authority explained that when insurance companies "drag their feet," flood victims have to wait to rebuild. Further, according to some interviewees, the floodplain maps were redrawn in 2012 and the flood insurance companies gave some households the option to drop their coverage, which many did. According to a city hall employee in one of the communities, many of these homes were flooded in 2016.

The result was that many flood victims required assistance beyond what insurance or FEMA provided. For this reason, West Virginia Voluntary Organizations Active in Disasters (VOAD) became a critical player in assisting people with accessing additional resources to recover and rebuild. While VOAD existed in WV prior to the floods, their presence greatly increased in Greenbrier County after June 2016. According to one authority involved in recovery, VOAD was able to do their work through a $5 million grant from FEMA, given in late fall 2016. Before the FEMA grant was awarded, a long term recovery committee had already been established, and so there were people in place to oversee grant management immediately. They quickly hired and trained case managers in the eleven counties most directly impacted by the floods, and they were operational by January 2017. There were two VOAD offices, including one in White Sulphur Springs, that covered five of the impacted counties and employed approximately thirty case workers.

The job of the VOAD case workers was to interface between all of the groups involved in long term recovery, including FEMA, NGOs, and FBOs. This included those with a long term presence in the communities, as well as volunteer church groups that arrived for a week or two at a time to donate labor and services. One case manager explained, "our job is to try to get [flood victims] back to where they were before June 23." According to this woman, this included everything from repairing and rebuilding homes, to helping people find mental health or spiritual care, to advocating on their behalf to get them services they need. Case managers carried an average of thirty-five cases at a time. At the time of our last interview in August 2017, over a year after the floods, there were 275 active cases with new ones still arriving on a regular basis. Case managers explained that some people were not aware of the different avenues available for disaster relief until a long time after the flood, or they thought they could recover without assistance and finally realized they were unable to do so and were forced to ask for it.

When people sought assistance, case managers first verified there were no claims duplicating aid already received from FEMA, and then worked to develop a recovery plan. They then presented their cases to the long-term recovery committee which determined who would donate what goods and services. Typically, this happened through a variety of NGOs and FBOs. VOAD did the complex work of matching the resources available from the various groups with the needs of their individual cases, as well as coordinating the labor needed to complete the projects. The result was many hundreds of newly built or fully renovated homes for flood victims (the exact number is unknown, but NHN alone was involved in repairing and rebuilding 614 homes). These homes typically came fully furnished and were given outright to the flood victims or attached to an affordable short-term mortgage that the occupant would pay off within a few years. These are homes that would not have been built, or would have been built much more slowly, if flood victims depended on FEMA and flood insurance alone. As a result, one respondent simply said:

"If it wasn't for the faith-based groups, we wouldn't be where we are today."

– member of a recovery & response organization

Of note, the people who received new or significantly repaired homes were often ones who were particularly economically vulnerable prior to the floods, making it especially difficult for them to recover on their own. One person involved in coordinating these efforts describes this uneven socio-economic vulnerability:

"… this has been very eye opening for me as to how many West Virginians live on the edge and have less than no resources. Nothing, nothing to be able to overcome something like this. No safety net at all…"

– member of an organization

At the same time, another person involved in recovery explained the potential far-reaching benefits of such efforts:

"What we've tried to do in recovery is leave people better than they were before, whenever it was possible. And we have done that to a large degree. I mean, some of these … people have never lived in a house that nice before. They've never had new appliances and you know, fresh paint, and floors that are flat and straight. And so, instilling pride, community pride, in people that maybe felt disenfranchised from the community before."

– member of an organization

Indeed, a number of interviewees described how the assistance provided by these groups also provided less tangible benefits. As a result of the "spirit" that these volunteers brought to Greenbrier County, residents reported that it further increased the sense of neighborliness—the social capital of the community. Respondents, often crying when discussing this dynamic, talked about how volunteers helped to bring the community even closer together.

"There are people that I haven't seen in prayer for years that are out helping me, having prayer, you know in the middle of the street with all the debris piled up

Figure 2. A home being rebuilt by the FBO Samaritan's Purse in White Sulphur Springs in May 2017.

around it. And helping one another. We see more of a togetherness in Rainelle than I've seen in my lifetime."

– Rainelle resident

"The volunteer groups … have really, really helped our town. And much more than just building a floor or putting on a roof, or a wheelchair ramp, or insulation. They brought a spirit of volunteerism, a spirit of goodness…they really helped."

– Rainelle resident

These findings thus show how recovery efforts offered not only much-needed material assistance, but also how they built on existing social capital in these communities through further strengthening relationships and a sense of neighborliness. As a result, these efforts have the potential to increase the resilience of these communities to future disasters, even with lack of sufficient federal services and significant levels of social vulnerability.

Hopes for long term recovery

At the time we conducted our last interviews for this project in August 2017, the National Guard and FEMA still had a presence in Greenbrier County, but their work was coming to an end. However, many of the NGOs and FBOs were still active in Rainelle and White Sulphur Springs, and groups of volunteers, whom we regularly met at the Rainelle townhall, were still arriving from around the country to assist with building projects.

"Ten to twenty groups [are still] coming in a week at a time, from all over the United States…."

– local authority

As a result of this ongoing material and non-material assistance and the resulting renewed pride in their towns, some residents began to imagine long term revitalization efforts that would result in their communities being better off than they were before the 2016 floods. These hopes were also tied to existing community and regional pride:

"… we talk about West Virginia people and Appalachian people being… proud … when they first came into these mountains, I mean these mountains were formidable, but they … stayed here and they made it what it is today. And I think that those things still run through the people that are here".

– member of an organization

This statement encompasses a sentiment that several respondents conveyed to us. Their "roll-up-your-sleeves" attitudes were shaped by the local environment and the circumstances which have made people in these communities independent, relying on themselves and their neighbors to succeed amidst hardship. At the same time, the pride that came with this attitude could also make them resistant to accepting external help when needed. Indeed, there were many stories of people adamant that while they would normally be the ones to provide support to people in need, they found themselves to be the ones needing assistance:

"I've had people come into the distribution center and needing food and clothes and shoes or whatever and toilet paper, so you get them a case of toilet paper and put it in their cart. 'Oh honey I don't need that much, I just need one or two rolls to get me through, someone else is going to need the rest.' … You can see it that they needed it but they were hesitant to take it because they never been in that situation".

– Rainelle resident

"…I see a pride and ability to make it with a little bit of nothing, in that true Appalachian hard headedness stiff spine people way… I think that listening to them, drawing out those strengths that they have as families… I think that's something that can really be built on".

– member of a rescue & recovery organization

Several interviewees corroborated these sentiments, including the idea that the floods should not necessarily be interpreted only in negative terms, but that they could also serve as an opportunity to build on this pride and strengthen people's sense of belonging to their community. As this interviewee expressed:

"I think the community is stronger, the people that have stayed. There's more bonding and people are friendlier, they're more open to help because a lot of people were proud but they've learned that we're there to help them so they've opened up more… We didn't sit around and wait for people to come help us. Our people rolled up their

sleeves, got in the dirt, got in the mud, got in the water, and they were helping their neighbors, some people helped everyone before they helped themselves."

– Rainelle resident

These statements speak to the important role social capital played in flood response and recovery, such as reminding people about the relationships and networks that existed in their communities and the pride they had in where they are from. This contradicts the common scholarly argument that economic decline has brought the unravelling of the social fabric in Appalachia (Chiang 2004, Welch 2011, Bell 2013, Smith 2015). Quite the contrary, community members often affirmed that by learning to accept help, people had grown stronger as a community and had renewed faith and trust in each other. Moreover, residents and local officials reported how the presence of the outside volunteer groups helped elevate this sense of pride and the potential of their towns. One authority said:

"And then you get these people from out of state coming in and saying how beautiful it is. And then you open your eyes up, you look around and say, I don't know, man. It is a pretty nice place…"

– local authority

This person went on to explain how people began to see their towns in this new light and it prompted conversation about how to capitalize on these assets to revitalize the towns to be stronger than they were before the 2016 floods. He continued:

"The past is good, and it's okay to look at your history. But we can't revive the town on its past.… We got to look at what we have now and that's our surrounding beauty, that's our ecosystem. That's the streams and the trees. And so people finally got on board. And it… unfortunately took outside people coming in…"

– local authority

As a result of this strengthened sense of pride, these communities experienced renewed hope for their futures. It remains to be seen if these revitalization efforts come to pass, and if they can reduce socio-economic vulnerability and increase resiliency to future disasters.

DISCUSSION

There is a high likelihood of increased flooding events across the globe as a result of climate change (Hoegh-Guldberg et al. 2014), including in Appalachia (Jay et al. 2018). Therefore, it is imperative to understand how vulnerable communities can better prepare for, respond to, and recover from flooding events. The findings presented in this article concur with arguments made in the broader literature that a combination of natural hazards and existing social vulnerabilities put people at risk during floods. Moreover, our study answers the call of Cutter (2015) to better articulate the connected issues of vulnerability and resilience for places impacted by natural disasters. As Greenbrier

County shows, communities can have high levels of socio-economic vulnerability while also exhibiting perhaps unexpected attributes of adaptive resilience as a result of social capital. Social capital can be one component of effective response and recovery efforts.

In Greenbrier County, social capital was found to exist through strong relationships and a sense of community pride. However, a notable tension existed between the proud and self-reliant Appalachian and the need to accept outside assistance to successfully respond to the floods. We suggest that these dynamics together created unique possibilities for recovery in our case studies. The attribute of self-reliance spurred neighbors and loved ones to help each other in the immediate aftermath of the flood, often putting aside their own hardships to assist those around them. After the floodwaters subsided, FBOs and other volunteer groups fostered an even deeper sense of social capital. This occurred not only through facilitation of rebuilding efforts, but also through bringing people together and renewing a sense of neighborliness. This increased community pride, even when it was difficult for individuals to accept assistance.

Our findings on the role of FBOs in flood recovery reveal how an integrated response to natural disasters can include a diverse network of state and non-state actors. In Greenbrier County, state and federal agencies, especially VOAD, were critical components of getting the necessary resources to people in need. However, state agencies alone did not provide adequate resources for a full recovery. Rather, substantial amounts of material and non-material assistance came from community members, NGOs, FBOs, and other outside volunteer groups. This integrated effort created a response beyond what any group could have accomplished on its own. Moreover, we suggest that the approach taken by the FBOs led to a more complete recovery and opened up possibilities for revitalization beyond what would have been possible through government services alone.

As services traditionally provided by the government continue to be absorbed by not-for-profit actors of the shadow state, such integrated efforts will continue to be necessary. And, in a future of increased natural disasters resulting from climate change, the need for these types of responses will be more frequent and more urgent. Such responses will likely include networks of local actors, FBOs and other volunteer groups, and VOAD groups that can coordinate labor and resources. As found in southern West Virginia, these efforts can supplement the responses of FEMA and other government agencies, to make recovery a faster and more complete process. To be effective, however, local networks should be carefully cultivated, and integrated responses should be incorporated into policy on disaster response before they occur. This would help alleviate the logistical challenges of managing outside groups during the turmoil of immediate disaster response.

In addition, we agree with Wisner (2010) that FBOs are in a unique position to call for action related to reducing the pre-disaster precarity of vulnerable communities. In the same way they have worked other social justice issues, FBOs could work to draw attention to and address the root causes of vulnerability to natural disasters (e.g., poorly built homes in floodplains). In this way, FBOs could play a vital role not just in integrated recovery efforts, but in decreasing vulnerability to disasters before they occur.

CONCLUSION

The June 2016, floods could have been the end for towns that have already suffered from decades of socio-economic decline. As a result, this article might have been a

typical account of declining Appalachia. Instead, we encountered another, more hopeful situation. While these communities were certainly vulnerable to the destructive circumstances of the flood, the social capital that exists there, combined with the additional material and non-material support of FBOs and other external groups, increased resilience in ways not commonly discussed in the story of contemporary Appalachia (Gaventa 2019). The result has been a deepening of relationships and networks within Rainelle and White Sulphur Springs and a new sense of commitment to revitalizing the towns to be less vulnerable in the future.

Questions that remain unanswered in Greenbrier County are: How successful has the rebuilding process been since the floods? Will longer-term plans for revitalization be fulfilled? And, how will these efforts reduce vulnerability or increase resiliency to future flooding events and other disasters? To answer these questions, we suggest longitudinal studies in these communities to better understand the long term impacts of the 2016 floods on recovery and revitalization efforts, as well on the broader impacts on people's relationships with one another and with the places where they live. Moreover, we suggest the need for more critical studies of other places in Appalachia impacted by natural disasters to more fully understand the intersections of vulnerability and resilience through social capital. Such studies would improve understandings of how communities and outside entities, FBOs and others, can facilitate more effective responses to natural disasters, both during the immediate aftermath and in long term processes of recovery.

Finally, we suggest our findings have importance beyond natural disasters and offer a more hopeful vision for the future of Appalachia more broadly. Taylor et al. (2017) argue that as Appalachian communities seek to re-envision and rebuild themselves as post-extractive economies, they will have to engage in a holistic approach that allows for integration of cultural, social, economic, and environmental aspects of development while focusing on existing knowledge at a local level. To do this work, they will need to draw from their rich ecological and cultural assets (Taylor et al. 2014). The story of response to the June 2016 floods in Rainelle and White Sulphur Springs shows that the relationships and commitment necessary to do this work already exist and can be a critical aspect of helping to build a more resilient Appalachian future.

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