

**Successful Disaster Recovery Using the
Community Capitals Framework:
Report to the
North Central Regional Center for Rural Development**

by

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Table of Contents

Acknowledgements

Chapter 1. Introduction and Background for the Project

Chapter 2. Methods and Materials for the Project

Chapter 3. Breckenridge, MN: Case Study on Recovery from the 1997 Flood

Chapter 4. Pilger, NE: Case Study on Recovery from the 2014 Tornado

Chapter 5. McCook, NE: Case Study on Recovery from the 2000s Drought

Chapter 6. Implications and Lessons Learned

Appendices

Chapter 1. Introduction and Background for the Project

Natural disasters – tornadoes, floods, droughts, blizzards, hurricanes, for example – cannot always be well predicted. Yet, they affect scores of towns and cities across America every year. Media accounts describe the devastating impacts of these disasters and the initial attempts toward recovery. These accounts of disaster recovery regularly comment on the impact of social bonds within the community, volunteer help streaming in from neighboring communities, services and materials provided by local governments and faith-based organizations, and financial assistance from federal agencies. The media accounts suggest that a mixture of resources, both from within and outside of the community, are essential for recovery. Several definitions of natural disasters explicated mention the need for outside resources for recovery from such extreme events. For example, Wisner, et al (2004:50) claim that a “disaster occurs when a significant number of vulnerable people experience a hazard or suffer damage and/or disruption of their livelihood system in such a way that recovery is unlikely without external aid” (also see Cannon 1994).

What assets are available to rural communities from which they can draw for recovery efforts? What tools can rural community officials and leaders use to assess their communities’ assets? How do rural communities leverage their assets to successfully recover from natural disasters? This project aims to address these questions.

The Community Capitals Framework (CCF) has been used to inventory communities’ assets and the impacts events may have on those communities (Emery and Flora 2006; Flora, Flora, and Gasteyer 2016). CCF is an analytical tool used by community developers to assess communities’ assets that can be leveraged or invested to enhance other assets (Emery and Flora 2006). When investments are made in an asset, that asset becomes capital that can bring returns in several categories of assets (Figure 1).

Built capital includes houses, buildings and facilities, utility systems, and physical infrastructure – places noticeably damaged or destroyed during a natural disaster. Natural capital involves land and water features, plants and animals, and the quality of air, water, and natural resources. A river, for instance, can be an asset to a community and at the same time a source of disaster during times of flood.

Financial capital is the level of wealth and income of residents and businesses in the community. It includes any monetized entity such as credit, securities, and financial investments. Human capital pertains to an aggregation of individual’s educational levels, health, leadership abilities, and skills.

Social capital is connections and networks among individuals and groups that promote trust, commitment, and loyalty to the community. These connections and networks are commonly differentiated into *bonding*, *bridging*, and *linking* networks (Aldrich 2012; Szreter and Woolcock 2004). Each type identifies variation in strength of relationships and composition of networks and thus different outcomes for individuals,

households, and communities. *Bonding social networks* describe the connections among individuals who are emotionally close, such as family members and close relatives. The strong connection makes this type of social capital good for providing social support and personal assistance, especially in times of need (Aldrich and Meyer 2014). In contrast, *bridging networks* include acquaintances or individuals loosely connected that span social groups, such as friends and neighbors. Members of both networks provide financial (e.g., loans and gifts for property repair, and purchase of food, clothing, and utensils) and nonfinancial resources (e.g., search and rescue, debris removal, and childcare). Bonding and bridging social capital work in complementary but distinct ways during and after disasters, and communities regularly have more of one type than the other (Elliot et al. 2010). *Linking networks* describe individual or household connections with organizations (e.g., churches and nongovernmental organizations – NGOs) that have influence over circumstances of their members (Woolcock 2001). The first two networks represent horizontal relationship and the last one represents vertical relationships (Putulny and Svendsen 2007).

Political capital is evident by inclusion, voice, and power and by connections with those who have power. A group’s connections with those in local, state, and federal government may provide a source of political power. Cultural capital refers to a group’s traditions, rituals, language, materials, and cosmivision or shared way of looking at the world.

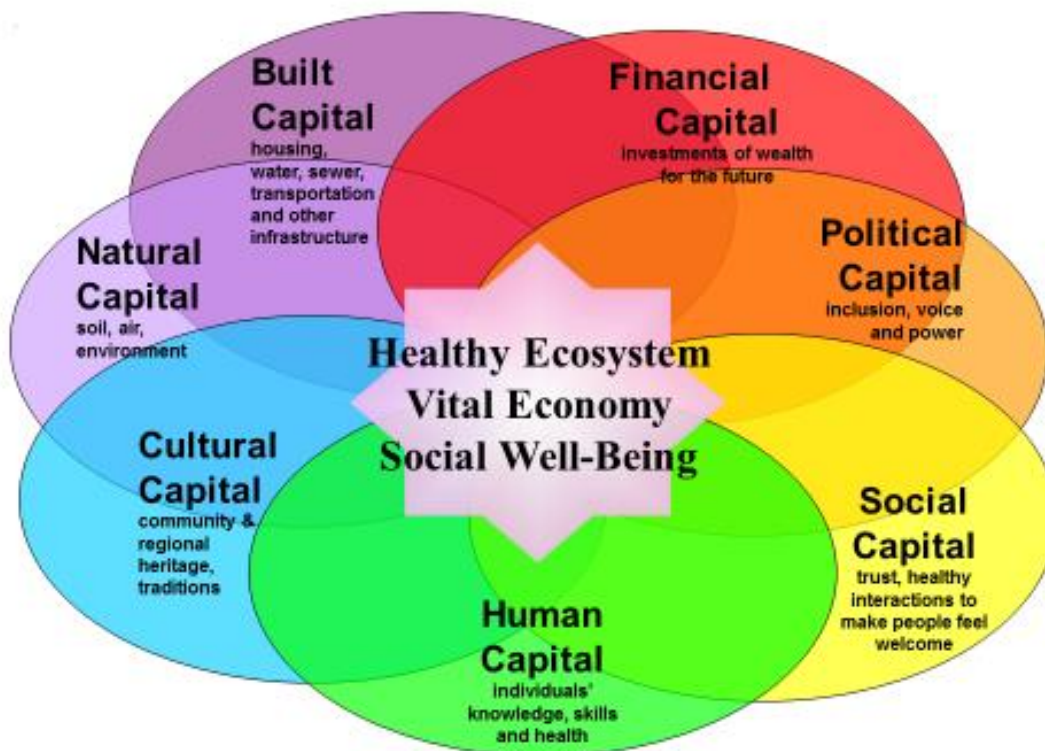


Figure 1. The Community Capitals Framework.
(Source: Flora and Flora, 2008.)

A community's assets can be drawn upon or leveraged in the event of a natural disaster to enhance its capacity to mitigate, respond to, and recover from the negative impacts of a disaster. Communities with high capacity in these capitals may be better able to respond to and recover from shocks to the community such as natural disasters (Goreham and Klenow 2014; Lowry 2014; Ritchie and Gill 2014).

Vulnerability

Vulnerability is the extent to which a person, household, community or other social entity is likely to face negative outcomes from exposure to environmental hazards and extreme events. "The most vulnerable are typically those with the fewest choices, those whose lives are constrained, for example, by discrimination, political powerlessness, physical disability, lack of education and employment, illness, the absence of legal rights, and other historically grounded practices of domination and marginalization" (Bolin and Stanford 1998:9-10). In addition to these social factors, vulnerability is also related to geographic location (e.g., being located areas prone to floods, tornados, drought, blizzards, wildfire, earthquakes, etc.).

Community vulnerability to environmental hazards and extreme events is linked to community capitals. Natural hazards originate in the environment and a community's relationship with its natural environment and development of natural capital affects how it prepares for and responds to natural hazard events. Social vulnerabilities are embedded in social, human, political, and cultural capital. Vulnerabilities can be diminished by built capital that provide utilities, communication, transportation, and other infrastructures that promote well-being. Likewise, financial capital is essential to reducing vulnerability and enhancing a community's quality of life. Communities with limited levels of community capitals may be more vulnerable to natural disasters and their effects.

Vulnerability is embedded in the four phases of emergency management – preparedness, response, recovery, and mitigation. Inadequate preparation and poor response increases vulnerability. Vulnerable communities, groups, and individuals face greater difficulties in recovering from extreme events. Mitigation strategies often involve infrastructural measures dependent on financial, built, and political capital and a lack of these capitals can result in greater vulnerability

Resilience

For a community to recover successfully from a disaster, it must have a degree of resilience. Resilience can be thought of as "the capacity to withstand loss, the capacity to prevent a loss from occurring in the first place, and the capacity to recover from a loss if it occurs. ... vulnerability and resilience are linked logically but are not necessarily opposite ends of the spectrum" (Buckle 2006:90-91). Norris presents resilience as a process linking "a network of adaptive capacities (resources with dynamic attributes) to adaptation after a disturbance or adversity" (2008:127).

Factors involved in resilience include economic development, social capital, information and communication, and community competence. Economic development suggests levels of financial and built capital; social capital involves networks, linkages, social support, and community bonds; information and communication suggests various media and governmental assets; and community competence includes an ability to act collectively and make decisions in an atmosphere of empowerment and trust. These capitals would be in place prior to a disaster for a community to be able to bounce back. Thus, a recognition of a community's assets can be an essential tool used by both community development and emergency management officials.

Case Studies

Case study approaches often are used to address questions pertaining to community functions. Case studies provide window into the dynamics of unique communities and provide generalizable insights for practical applications in similar communities. The degree to which community case study generalizations may be made depending on the degree of similarity among the communities. Several case studies have been conducted to explore how communities recovered from natural disasters. For example, as case study was completed by Neal (2004) on the April 25, 1994 tornado event in Lancaster, Texas. Other similar case sties were included in a special issue of *Southern Rural Sociology* devoted to rural communities and disasters (Flint and Brennan 2007). However, the CCF was not used in these case studies.

One of the first disaster recovery case studies to use the CCF was conducted by Stofferahn (2012). He described how various community capitals were evident in the response and recovery phases of the August 26, 2007 tornado event in Northwood, North Dakota. He found that the strong amount of cultural capital extant in the community prior to the tornado was the context for the emergence of greater human, social, and political capital. All four of these capitals, in turn, were leveraged to develop financial, built, and natural capital – physical evidences of the tornado recovery. Goreham and Klenow (2014) found a similar pattern in the recovery from the June 17, 2010 tornado event in Wadena, Minnesota using the CCF. In their case study, strong levels of human and social capital emerged and were leveraged by city officials and leaders to bring about improvements in financial, built, and natural capitals. Other community case studies using the CCF are beginning to emerge (Wall and Montanya 2014).

What is needed are, first, additional case studies using the CCF. These case studies are needed to demonstrate how communities have inventoried and leveraged their existing assets to bring about successful recovery. A variety of case studies are needed that could be of value for different contexts. Case studies are needed for several types of communities based on size, industrial sectors, and regions. Also, case studies are needed to show recovery from several types of disaster ranging from sudden, unpredictable events (e.g., tornadoes) and somewhat more predictable events (e.g., floods) to chronic, long-tern events (e.g., droughts).

A second need is for methods/materials that community officials and leaders may use to inventory or map their assets. The CCF offers a logical format to categorize a community's assets in terms of built, cultural, financial, human, natural, political, and social capital. Many research and Extension professionals and community development practitioners have expertise in collecting these types of data. However, an easy-to-use, standard format for lay community officials and leaders to use is needed.

Objectives

The purpose of this project is to develop tools for community officials and leaders, community development practitioners, and emergency management officials to successfully recover from natural disasters. As noted above, powerful tools that should be at their disposal are community capitals framework methods and materials. In order to accomplish this purpose, this project used the following three objectives:

Objective 1: Methods/materials were developed using the community capitals framework. These CCF methods/materials were formatted such that community leaders and officials could readily inventory and "map" their community's assets. The assets of particular concern were those that could be leveraged during the recovery phase of the disaster management cycle. The methods and materials are described in Chapter 2.

Objective 2: The methods/materials were pretested by conducting three case studies. The case studies were conducted by a multi-disciplinary team in three Central Plains communities that experienced a flood, tornado, or drought. The communities were selected because of their diversity in size, location, and the type of disaster they experienced. A diverse set of communities was selected to explore the robustness of the CCF as an approach for disaster recovery. The three case studies are included in Chapters 3, 4, and 5.

Objective 3: The meta-analysis of the cases studies was conducted to determine best disaster recovery practices using the CCF. These best recovery practices are discussed in Chapter 6.

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