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Refuges of local resilience: Community gardens in post-Sandy New York City

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ABSTRACT

Community gardens have historically played an important role in the social–ecological resilience of New York City (NYC). These public-access communal gardens not only support flora and fauna to enhance food security and ecosystem services, but also foster communities of practice which nurture the restorative and communal aspects of this civic ecology practice. After NYC communities were devastated by Hurricane Sandy in 2012, the topic of resilience has surfaced to the top of the city's disaster planning and policy agenda. This paper explores the role of community gardens in coastal "red zones" of NYC by analyzing the meaning and relevance of community garden spaces in the resilience and recovery of local residents and community garden members post-Sandy. From April 2013 to February 2014, ethnographic analyses, including participant observation, exploratory and in-depth interviews, and archival research, was undertaken at five community gardens post-Sandy. Our findings indicate that community gardens functioned as multi-purpose community refuges which hosted meaningful and restorative greening practices, and developed supportive communities. This paper seeks to add to our knowledge of post-disaster greening, public spaces, and social–ecological resilience.

Introduction

Post-Sandy NYC context

Ever since Hurricane Sandy devastated NYC on October 29, 2012, the topic of resilience has been at the forefront of the city's disaster planning and policy response (PlaNYC, 2015). Sandy has been called a "superstorm" because of the many factors that contributed to its devastating strength and power. The storm's diameter of nearly 1000 miles created a large tidal surge (8.2′), which hit at the nexus of a high tide, a full moon, and slightly higher seas resulting in an average tidal surge of 14′ in NYC (Blumberg, 2014). Because of this surge, Sandy was the deadliest storm in 40 years, with 72 deaths in the Northeast directly attributed to the storm, and is the second costliest storm in US history at more than $50 billion (Blake et al., 2013). However, because Hurricane Sandy was mainly a water event as opposed to wind event, there were huge discrepancies in types of damage to communities because of topography and their coastal proximity. New York has been described as two cities after Sandy, one with blackouts, covered in sand, and in crisis, and the other relatively unaffected and proceeding with a slower pace but business as usual (Paumgarten, 2012).

In surge-impacted areas, public community spaces such as community gardens played a role in supporting the recovery of the gardeners and the neighboring communities post-Sandy. This paper explores the role of community gardens in coastal "red zones" of NYC by analyzing the meaning and relevance of community garden spaces in the resilience and recovery of local residents and community garden members post-Sandy. Our research is guided by the following questions: how were community gardens impacted by Superstorm Sandy? What were the functions of community garden spaces post-Sandy? How do residents and community gardeners describe the meaning community gardening post-Sandy?

Community gardens history

Community gardens are pieces of land collectively gardened by a group of people in which food and/or ornamental plants are

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cultivated (Holland, 2004). In the US, urban communal gardens have long been used as "supportive institutions" to buffer and create opportunities for coping during times of social, economic and environmental crises (Bassett, 1979: 2; Lawson, 2005). During World War I and World War II, Liberty Gardens and Victory Gardens were cultivated to increase the US food supply, combat malnutrition, and free domestic farm supplies to be used overseas in allied countries (von Hassell, 2002). In 1944, the 20 million Victory Gardens that had been planted in the United States produced 42% of the fresh vegetables in the country (Armstrong, 2000). In addition to food security and nutrition, community gardening also provided social benefits, such as psychological support and productive work, boosting morale during times of high unemployment and economic depression (Lawson, 2005, 2014).

Like other US cities, NYC experienced waves of support for communal garden projects over the past century. During the Great Depression, unemployed and impoverished NYC residents grew their own food in nearly 5000 gardens on 700 acres of city land through a Work Projects Administration (WPA) program (Hynes, 1996). Communal garden projects that were started in NYC during the urban decline of the late 1960s and 1970s are often cited as the models of contemporary community gardens as they are now known (Saldivar-Tanaka and Krasny, 2004; von Hassell, 2002). From the 1970s to 1980s, communal gardens blossomed throughout the city, especially in poorer neighborhoods like Harlem and the Lower East Side where buildings were subjected to abandonment, arson and demolition (von Hassell, 2002). In the wake of this neglect, community members reclaimed these rubble-filled lots by creating thriving gardens. By 1998, there were over 1900 community gardens gardened by over 14,000 community gardeners in NYC (von Hassell, 2002).

The growth of community gardens coincided with an economic surge of the late 1990s which led to intense commercial and housing development pressures on community garden sites in NYC (Saldivar-Tanaka and Krasny, 2004; Schmelzkopf, 1995). Since most community gardens lacked secure land tenure, or the right to use, control and access land, many community gardens were bulldozed and the land auctioned for development (Nemore, 1998; Light, 2000; von Hassell, 2002). Two significant bodies of research on NYC community gardens arose in this political and economic struggle, one demonstrating the social, cultural, and economic benefits of community gardens to NYC communities, and another documenting and theorizing the contested and political nature of public spaces in the city. The mosaic of community gardens as diverse community-managed open green spaces throughout NYC have been shown to support ecosystem services such pollination (Matteson and Langellotto, 2009), and provide venues for social and cultural activities (Eizenberg, 2012; Saldivar-Tanaka and Krasny, 2004; von Hassell, 2002) and self-organized environmental and civic education programs (Krasny and Tidball, 2009; Kudryevstev, 2013; Stone, 2009). The social and ecological functions of these community gardens have been shown to improve the quality of life of community gardeners (Saldivar-Tanaka and Krasny, 2004; Schmelzkopf, 1995; Stone, 2009; Waliczekz et al., 1996). The fight for a right to the city and public space has been a common call from advocates for community gardens in NYC (Martinez, 2009; Schmelzkopf, 2002; Staeheli et al., 2002; von Hassell, 2002). Self-determination has been particularly important for low-income communities, who appropriated community gardens spaces for many reasons in addition to gardening, including organizing community advocacy and activism efforts (Staeheli et al., 2002; von Hassell, 2002). Currently, there are over 700 community gardens in NYC which make up one of the most active community garden programs in the US (NYC Parks, 2014). The high value of real estate in the city, however continues to threaten community gardens to this day (Eizenberg, 2012).

Resilience and civic ecology practices

Community gardens have historically played an important role in the resilience of NYC's local communities (Lawson, 2005). In this paper we define resilience as the capacity of a complex system – be it a human individual, a community, ecosystem, or a social–ecological system – to respond, adapt, and continue to develop in the face of disturbance while maintaining its basic structure and function (Folke, 2006; Holling, 1973; Tidball and Krasny, 2014). Adaptation in social–ecological systems allows for appropriate responses to dynamic conditions within and outside of the system, thus enabling systems to maintain their essential behavior and identity (Folke et al., 2010; Walker et al., 2004). When systems are overwhelmed by disturbance, transformation facilitates the development of new responses to enable systems to reorganize and reenter into a new path of development (Folke et al., 2010; Tidball and Krasny, 2014). The use of community gardens as a means to adapt and transform social-economic challenges into opportunities is the reason why they are considered expressions of "local resiliency in times of crises" (Lawson, 2005).

Tidball and Krasny (2007) identify community gardens as sites for observing civic ecology practices which offer opportunities to build resilience. Civic ecology practices are defined as "self-organized stewardship initiatives" which enhance the green infrastructure and community well-being of human-dominated systems like cities (Krasny and Tidball, 2012). Civic ecology practices often begin as small-scale efforts which arise after environmental and/or socio-economic disturbance or decline (Krasny and Tidball, 2012). When systems are overwhelmed by disturbance, urban greening practices can also play a role in facilitating a more desirable transformation and rebuilding phase (Tidball and Krasny, 2014). The collaboration, trust and ecosystem services provided by urban greening efforts may help to maintain strength in the face of social, environmental, and economic changes (Tidball and Krasny, 2014). Community gardening often serves as an ideal example of civic ecology, as a generally self-organized activity, frequently developing out of situations of stress (Saldivar-Tanaka and Krasny, 2004; von Hassell, 2002).

We can further appreciate the relevance of community gardens to nearby communities if we are to accept the social–ecological systems perspective that urban infrastructure functions as an interconnecting life support system (Gandy, 2005). Furthermore, community gardens function as places where neighborhoods can set the terms and conditions of material local/global practices (Pratt, 1991). This role becomes increasingly important in post-disaster contexts, where greening responses have the potential to offer material benefits to the community and to support adaptive responses (Tidball and Krasny, 2014).

Community gardens are also arenas where residents can become environmentally and scientifically literate, gain skills through their stewardship practice, and share knowledge and develop civic actions concerning their natural resources (Krasny and Tidball, 2009). These opportunities for learning about local natural resources are especially critical in urban areas, where the connection between people and nature may be perceived as especially fractured due to modern standards of living and lack of lived experiences with green spaces (Bendt et al., 2013; McKinney, 2002; Stokes, 2006). Individual learning by community gardeners is supported through learning by doing and engaging in intentional experimentation in the garden (Armitage et al., 2008). Through social interaction between gardeners, this individual knowledge can be shared and may develop into action based on the deliberation and discussion with this group, a process often called social learning (Plummer and FitzGibbon, 2007). Thus, greening practices, such as community gardening, create learning opportunities that have the potential to support the development of social interactions