Cultivating Resilience: Urban Stewardship as a Means to Improving Health and Well-being

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Photography by Steffi Graham

The notion that urban open space can be a catalyst for improving human health and societal well-being is embedded throughout the history of human settlements. Public open space is part of the dynamic history of the city as it is a place of social protest and cohesion, of leisure and recreation, of exchange and use values. Yet, there are particular moments where certain characteristics of 'nature' are selectively discussed within the public discourse, thereby shaping distinct periods of urban park and open space development. These characteristics often draw upon the properties of nature that are calm, restorative, and redemptive as opposed to wild, dangerous, and disruptive.

The history of parks and open space within the American city is episodic, with distinct periods responding to a crisis, a perceived risk, or disturbance in the social order. During the **19th century**, civic and industry leaders joined forces with public health officials to support the use of parks as a way to address negative consequences of the rapidly growing industrial city. Unprecedented industrial growth created unsanitary living conditions, environmental degradation, and unsafe workplaces (Duffy 1968, Hall 1998). By the turn of the 19th century, leaders of the progressive movement were actively calling for a 'return to nature' to address the perceived moral deprivation of the poor and to better integrate them into civil society (Cranz 1982, Rosenzweig

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Force of Nature
Anne Adams,
Grant Avenue Community Garden. Bronx, NY (1999)
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and Blackmar 1992, Lawson 2005). Later, urban planners in the 1960s shifted emphasis from central and regional parks to reclaiming neighborhood open spaces in vulnerable areas as a way to promote social inclusion and urban renewal (Shiffman 1969). In the 1970s and 1980s the environmental justice movement argued that access to well maintained parks and open spaces was systematically denied to certain groups and was a visceral example of urban inequity (Francis et al. 1984, Fox et al. 1985). Reflecting on this history, one finds that in some manner or degree nearly every generation of park and open space advocacy has been driven by the pursuit and maintenance of health and well-being.

The Sustainable City

Today, urban designers, planners, and health practitioners alike are shifting from notions of the 19th century 'Sanitary City,' (Melosi 2000) to consider the 'Sustainable City,' where parks and the greater open space environs are understood as part of a larger system offering a wide range of interdependent benefits that include socioeconomic and biophysical factors (Cranz and Boland 2004, Grove, in press). These multiple benefits are important as we try to understand how urban environments, particularly parks and open spaces, contribute to the varied stages of wellness and recovery. Still, 19th century lessons regarding our health and the built environment are relevant today as populations in many parts of the world continue to become ill from typhoid and cholera while others suffer from a host of entirely new health problems such as obesity and cardiovascular disease. Ultimately, what we may discover is not only do we need innovative building design and well maintained open space but to sustain the connection to public health we need to know more about how different designs, programs, and levels of stewardship contribute to collective well-being and health.

The restorative aspect of the commons may depend, in part, upon the characteristics of place and, in part, upon us. Use and restoration of space, according to long-term research in environmental psychology, often depends on age and lifestyle as much as overall design and species composition (Kaplan and Kaplan 1989, Schroeder 1989, Dwyer et al. 1992, Lewis 1996, Gobster 2001). That is, different types of restorative spaces are required at different stages of life and the use of space depends upon personal preference. One day an individual might

prefer the experience of a serene woodland walk and the next, desire the lively social experience of a community garden. Dr. Howard Frumkin suggests that sense of place is a public health construct. Frumkin writes:

> "People are heterogeneous in response to place. Some like forests, others like deserts, others like manicured back yards, and other like bustling city streets. A person's 'place in the world,' including socioeconomic status, sense of efficacy and opportunity, and cultural heritage, affects the experience of place" (Frumkin 2003:1451).

A key objective of this paper is to examine how different motivations and preferences may lead to collective modes of civic environmental stewardship such as conservation, management, monitoring, advocacy, and education. Further, how does active stewardship strengthen our resiliency at the individual, interpersonal, and community scale? Resiliency, rather than 'good health,' is considered to be a more effective indicator for measuring community well-being particularly as we grow to understand that both human and overall ecosystem health is not static but changing over time. At the same time, stewardship and the active enjoyment of urban open space may produce the type of social and spatial relationships that help us to endure stressful episodes and conditions at the societal level.

Resilience, Adaptive Capacity, and the Non-equilibrium Paradigm

Derived from its Latin roots, the meaning of resilience is literally 'to jump or leap back' to some earlier state of being. We often marvel at instances of nature's resilient return after damage from fire, flood, or wind. At the same time, we praise the ability of our own species to recover from misfortunes brought about by a change in health, social status, or financial security. The notion of restoring any system to a prior point of existence following a disturbance or traumatic experience is misleading. Instead, we find ourselves, as well as our environments, to exist as part of a dynamic continuum. Urban ecologists refer to this dynamic as the non-equilibrium paradigm (McDonnell and Pickett 1993). Despite all our technological achievements, humans — along with all the other species on Earth — ultimately coexist within a murky world of feast and famine, triumphs and failures, good days and bad. However, there is hope to

Battleground
Trash-strewn Lot,
Eagle Avenue.
Bronx, NY (1999)
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HOMELINE

EL BATEY

Phoenix Rises on Eagle Avenue
Dimas Cepeda,
El Batey Borincano.
Bronx, NY (1999)
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mitigate our misfortunes as theories, methods, and tools have been developed to deepen our understanding of the beneficial link between human health and the environment. For example, a key component to our individual and collective pursuit for a healthy society and ecosystem function is what many fields of science refer to as an 'adaptive capacity' (Olsson et al. 2004). Or, in other words, how well do we adapt to change? The more resilient we are the more likely we are to successfully adapt to the changes inherent in a dynamic system. How well we manage to adapt, both plants and people alike, depends upon a wide range of social and biophysical factors. Our likelihood for improved health and well-being depends upon our past histories but also our current and future situations in life. Recovery from an illness, similar to recovery of ecosystem functions, often depends upon what public health researchers refer to as the '*life course*' (Ben-Shlomo and Kuh 2002) and what urban ecologists have termed '*subtle human effects*' (McDonnell and Pickett 1993). The life course approach focuses on the long-term effects of physical and social exposures through the course of one's life — from gestation to old age. It considers the biological, behavioral, and psycho-social pathways that have the potential to impact one's health over time. Similarly, the ecological approach considers *historical effects*, which are essentially biological legacies of a particular system; *lagged effects*, which are the result of some past event; and *unexpected actions at a distance*, which are impacts far from the initial action or event (pollution impacts are a prime example). (McDonnell and Pickett 1993, Pickett et al. 1997). Together, if we consider the life course and subtle human effects approaches we begin to understand that the resilience and adaptation of our species are important not as a singular event, but as multiple and multidimensional events over time and space.

Open Space: A Dynamic and Resilient Resource

Urban systems are, of course, very complex. Northridge et al. (2003) suggest a model of this complex system with four interacting levels: a *fundamental*, macro level including the natural environment and highest level social factors like economic structure; an *intermediate* level of the built environment and social context; a *proximate* level at the interpersonal level; and finally the scale of *health and well-being* (Fig. 1). Urban planners and designers often work at the nexus of the

more intermediate factors of the built environment and social systems (i.e. land use, transportation, environmental policies) while public health professionals delve into more proximate factors that include stressors such as financial insecurity, environmental toxins and unfair treatment as well as health behaviors (i.e. dietary practices, physical activity). Through this model we can see the relationships between open space and well-being as part of this systems approach. This interdisciplinary framework emphasizes the intermediate domain of the urban natural resource planner (i.e. the built environment), the proximate domain of the public health practitioner (i.e. social stressors) as critical components in improving individual-collective health and well-being. Viewed this way, we can begin to understand how public goods such as parks and open spaces are critical resources that can negatively or positively impact proximate levels of stressors, enable or discourage certain behaviors, and become mediating spaces that affect social integration.

However, the provision of physical space is only part of the story. Provision of open space is necessary, but not sufficient, to provide *restorative* environments. Design, stewardship, and engagement with open space can enhance the restorative elements open spaces can offer. This paper will present findings that focus on one aspect of this experience of place: active stewardship. Active stewardship can include a wide range of human interactions, ranging from membership and decision-making to active, hands-on work in a place. The difference between more passive forms of engagement and active stewardship is that the former explains a particular state of being while the latter indicates a level of responsibility, rights, and preferences within an interdependent system. Theoretically we are all stewards of the earth. Active stewardship is one way for us to contribute and find individual and civic meaning within this larger system (Burch and Grove 1993). For example, studies of environmental volunteers find that stewardship activities help to lessen feelings of isolation and disempowerment that can lead to depression and anxiety (Sommer et al. 1994, Svendsen and Campbell 2006, Townsend 2006). Many of these studies are based on single work days or during specific or extreme periods of crisis. In 2003, the notion of whether there might be a longer-term connection between stewardship and well-being was put to the test as part of a citywide

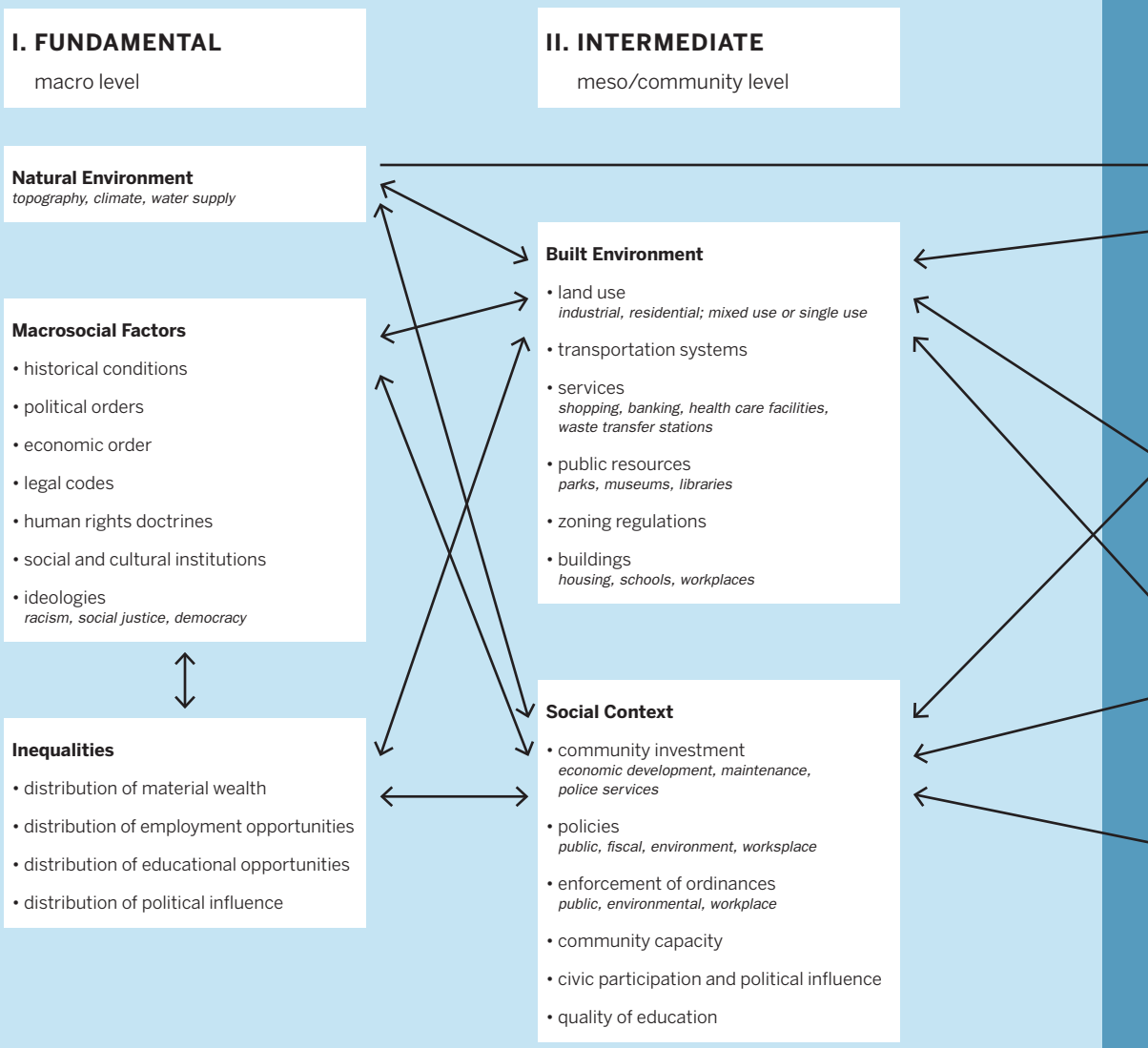

Figure 1
Northridge et al. (2003) urban systems model. Public goods such as parks and open spaces are critical resources that can negatively or positively impact proximate levels of stressors, enable or discourage certain behaviors, and become mediating spaces that affect social integration.

III. PROXIMATE

micro/interpersonal level

Stressors

- environmental, neighborhood, workplace and housing conditions
- violent crime and safety
- police response
- financial insecurity
- environmental toxins
  lead, particulates
- unfair treatment

Health behaviors

- dietary practices
- physical activity
- health screening

Social Integration and Social Support

- social participation and integration
- shape of social networks and resources available
- social support

IV. HEALTH & WELL-BEING

individual or population levels

Health Outcomes

- infant and child health
  low birth weight, lead poisioning
- obesity
- diabetes
- cancers
- injuries and violence
- infectious diseases
- respiratory health
  asthma
- mental health
- all-cause mortality

Well-being

- hope/despair
- life satisfaction
- psychosocial distress
- happiness
- disability
- body size and body

Feeding the World
Gardener's name unknown.
Harding Park
Beautification Project.
Bronx, NY (1999)
PHOTO USED WITH PERMISSION
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assessment of over 300 community garden groups — 23 percent of which were in existence for 21-30 years and 36 percent for 11-20 years (Svendsen and Stone 2003). The assessment was conducted through the New York City's Parks and Recreation's GreenThumb Program in partnership with the U.S. Forest Service, Northern Research Station's Urban Field Station in New York City. These findings along with city-wide study on stewardship groups are discussed here in support of a theoretical framework for active stewardship, social networks, and well-being.

The GreenThumb Study: Understanding Individuals' Motivations for Gardening

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The **GreenThumb** program was established in 1978 to assist emergent community groups in reclaiming vacant, derelict space into neighborhood gardens. By the early 1990s, over 700 GreenThumb community gardens flourished in New York City neighborhoods serving thousands of residents and visitors daily. In the late 1990s, the Giuliani mayoral administration attempted to restrict the capacity of the GreenThumb program by transferring it from the Department of Parks and Recreation to the Department of Housing Preservation and Development in the hopes that the current land use would eventually be converted from gardens to housing as part of the administration's neighborhood development strategy. At the same time, the administration prepared hundreds of gardens for sale through the city's public land auction (Englander 2001). Gardeners, along with greening organizations, private foundations and the general public, joined together to protest these sales. New York City found itself in court over the garden preservation issue and in 2002, a State Attorney General-initiated lawsuit on behalf of the gardens was settled, ensuring the rights of citizen garden stewards and the preservation of the majority of gardens as public parkland or private land trusts. During this time of crisis, it was thought important to capture original participants' motivations for community gardening: what impulses were connecting these stewards to their sites such that they would advocate vigilantly to protect them? Each garden group identified a representative to participate in the assessment. The assessment was conducted by a parks staff person in a structured interview setting within the public

offices of GreenThumb. Eighty-four percent of respondents cited the need to 'beautify the neighborhood' as a primary motivation for founding their particular community garden. Sixty-three percent identified with the need to 'create/improve green space' and to 'create a place of relaxation and peace.' Forty percent recalled the need to 'provide food' or for 'economic development.' These findings suggest a motivational purpose tied to self yet that motivation ultimately becomes much greater than self. This subtle meaning links the individual to the collective as both become embodied in public spaces that are restorative. Further evidence of this can be found in the way that gardeners talk about their motivations for active stewardship

The Language of Health and Well-being

Individual respondents to the question of 'why garden?' echoed each other's statements through the repetition of words such as beauty, identity, memory, food, clean, safe, education, youth, work, outdoors, satisfaction, peace, and therapy. These words were constantly chosen to counter words such as violence, trash, crime, drugs, and stress. A few key quotes are selected below to illustrate this connection between individual well-being, stewardship, and the built environment.

Often the same space can offer different restorative qualities for each individual. For example:

> "Cookie works for the garden because she cares about the community space. Miguel gardens because he wants to plant food to help feed people and to grow food for his family."

> "Mr. Martinez likes the garden as a place for social activities. Mr. Estrada likes to garden because it is like a dream, he wants to create a garden like no other in the city.

Garden stewardship is an experience that uniquely engages all the senses and aids in helping individuals to relax.

> "It's like a therapy and it keeps your mind off of things."

> "It's the quiet, the green, the work itself"

> "It gives me peace of mind. I can leave my house and go sit in the garden: it's so peaceful to smell the air. It relieves stress and takes a whole lot of problems away."

Life Between the Brooklyn Buildings
Walter Faison,
Warwick Street Greenery
Glow Garden.
Brooklyn, NY (1999)
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Gardeners, quoted below, often respond that being an active steward in the garden helps mitigate the stress associated with transitions such as moving to a new place, growing older, and death.

"I was a gardener at home in Puerto Rico and when I moved to New York I was shocked by the lack of greenery. I had to become a gardener here. It's part of my life."

"Most of us are from the south, and we miss working with our hands"

"It's a wonderful resource for the community and for many immigrants who found it to be a relaxing and peaceful place."

"Besides beautification, it gives me something to do. I'm a retired man. I don't have time to complain about aches and pains."

"The garden helps me to relax. Also it reminds me of my mother. She helped to start this garden 25 years ago. Working the soil and seeding keeps me centered."

Gardeners report a high degree of personal satisfaction associated with gardening as a hobby but they also derive satisfaction as they see their efforts to be an important part of neighborhood resilience. Recall that the gardens emerged during a time of crisis when government services were severely cut, businesses and residents were moving out, and crime rates skyrocketed:

"Years ago our community was full of drugs and prostitution, and the community needed a strong group to fight for the right of our space. The corner of the block was empty and full of rats. We started the garden to clean the area and for safety reasons. This is what motivated us to create this beautiful garden."

"We were motivated to beautify our neighborhood, to create a place of relaxation and peace and to create a safe place of environmental restoration to escape from the negative elements like all the drug dealers. On the abandoned lot we found dead human bodies, dead animals, and garbage on it."

"It's the overall achievement that a change has been made in our community"

"I like to see things grow. Everything comes down to quality of life—clean air, local schools—we try to make it look like Central Park for the kids as they walk to school"

Stewardship in this context helped to re-establish trust, social networks and efficacy among neighbors essential for strengthening social cohesion, resiliency, and maintaining a sense of community well-being:

> "We enjoy being in the park and giving something back to others in our community. Sometimes people just come and have lunch—that's such a gift. Soon the schools will be back in session and they come in. It's helped to beautify this community."

> "With respect for each other we created this place together. Now we take care of the garden and have fun with the kids. They can learn about the pleasure of having a place and being together."

> "It's like home, it's everyone's backyard."

Based on this understanding, we find that the reciprocity that exists between individuals and their environments through pubic stewardship is tangible, visible, and not at all abstract. While stewardship is commonly triggered by a personal need or desire, the outcome often benefits both the person as well as a greater collective.

Satisfaction and accomplishment often leads to a sustained positive outlook and the *personal self-confidence* essential for taking proactive measures to care about one's health. In the context of the devastated urban landscapes of the 1970s and 1980s, neighbors regained a sense of control through greening open spaces. This act of stewardship was intimately tied to addressing the psycho-social and biophysical impact of abandoned streets as well as an individual need for control in one's own life and surroundings. "Control" here refers to the fundamental need humans have to create change in the environment and their lives rather than to *maintain control* over them. Gardens became important *expressions of self as well as community*.

Hence, the diversity of community garden design functions in New York City suggests that gardening is not only defined by the active growing of fruits, vegetables, and flowers but also is infused with issues of identity, economy and efficacy. This sense of individual-collective agency has a unique ability to tie together the built environment and larger social context with very proximate levels of human stressors, behaviors, and social integration. While the degree and type of

stewardship may vary according to people and place ultimately, involvement with space is a non-passive act fundamental to activating a collective resilience inherent in both humans and the landscape. Another critical public health and well-being aspect that emerges from the motivational evidence is that stewardship enables us to *share knowledge and leave a legacy*. This research on the role of legacy and collective memory as expressed in the landscape is further explored through the **Living Memorials Project**.

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Many of the gardeners cited the need to teach and leave a legacy for children — and to create a physical space that could motivate and inspire others in their community overtime. As a result, gardeners take great pride in their work and often receive positive public acknowledgement for their efforts. A critical aspect of human resilience and well-being is a personal outlook tied to the notion that our individual lives are important and that they contribute to a continuum of life. Active stewardship — whether it is out on the Great Plains or on an urban street corner — is an act of great public service. Stewardship satisfies a fundamental human need to matter.

STEW-MAP: Understanding Organizational Motivations for Stewardship

Evidence of the need for restorative actions, to share knowledge, to leave a legacy, and to establish social bonds can also be found in the density of urban environmental civic groups in New York City. STEW-MAP is the Stewardship Mapping and Assessment Project of the U.S. Forest Service, Northern Research Station's Urban Field Station in New York City in cooperation with Columbia University's Department of Sociology and the University of Vermont Spatial Analysis Lab. In 2007, working with citywide environmental groups, we developed a sample of 2,793 **civic stewardship groups** (Svendsen et al. 2008). These groups were assessed in terms of their organizational structure, capacities, networks, and stewardship geographies. Many of these groups use similar restorative language such as *to strengthen*, *to improve*, *to create*, *to reclaim*, *and to connect* as part of describing the mission of their stewardship activities. An overwhelming amount of these groups stated that they became active environmental stewards as part of a larger organizational focus area summarized as "community improvement and

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capacity building." In other words, the notion of the environment and stewardship is embedded within organizations rather then being the sole function or purpose.

The majority of groups studied began as small groups of friends or neighbors who formalized their organizational structure and capacity over time. These groups now typically work within a network of other organizations, some of which are embedded within their neighborhoods, and others that connect across the city and beyond. In this sense, urban stewardship as a form of social organization may help to re-establish critical *social networks* historically disrupted by shifts in neighborhood demographics and changes in the built environment. Social networks, especially those that help to bridge spatial divides, can lead directly to community development and well-being opportunities through improved access to resources such as information, education, and multicultural experiences (Altschuler et al. 2004). At the same time, spaces that involve people in design, maintenance, use, or stewardship may foster the type of local community cohesion critical for defending against periods of economic hardship, rising crime and debris and even neighborhood stereotyping (Sampson et al. 1997). Communities with these types of dense social networks are thought to have a greater ability to adapt to change and endure during episodic incidents of stress (Klinenberg 2002). Long-term human ecology studies from Chicago (Sampson and Raudenbush 1999, Sampson 2003) have found that stewardship spaces such as community gardens are precisely the type of intervention that can make a significant difference in the public health outcomes of a given neighborhood because they have the capacity to impact the intermediate level or built environment and social context as well as proximate level social stressors such as housing conditions, unfair treatment, poor diet, or financial insecurity.

Exploration and understanding of neighborhood health geographies, access to resources and networks has become enlivened through recent writing from the field of public health (Link and Phelan 1995, Kawachi and Berkman 2003, Macintyre and Ellaway 2003, Andrews and Kearns 2005). While social networks are import catalysts for building up social capital, urban planning and more recent public health research raises a key point that all social networks are not necessarily helpful (i.e., drug and crime networks, obesity) and that what is needed in certain

Cultivating Resilience
Jim Williams,
Red Gate Garden.
Brooklyn, NY (1999)
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instances is different networks of information and experience that are often exogenous to a particular community (Kelly 1994, Marcuse 2000, Christakis and Fowler 2007, Christakis and Fowler 2008). A critical question emerging from the STEW-MAP evidence is whether New York City-based stewardship groups and individuals operate in trans-neighborhood networks that may help to *sustain* critical resources such as capital, materials, knowledge, and power *in situ*. This may enhance our understanding of these places from having limited environmental and social benefits to being integral to sustaining our collective resilience, efficacy and well-being within a much broader spectrum of time and place.

Conclusion: Sustaining the Restorative Commons

The reciprocity between 'nature' and humans happens within one system as the land that we steward — no matter how small — becomes part of both a biological legacy, contributing in some measure to cleaner air and water, wildlife habitats, and healthy soil as well as a social legacy, strengthening our collective identity and social cohesion. Urbanization creates diverse, dynamic and emergent landscapes (Jacobs 1961, Clay 1973, Johnson 2001). Urban open spaces in all their manifestations (e.g., parks, gardens, green roofs, urban farms, greenways) exist within a public sphere of social norms, laws, and property rights. This dynamic and heterogeneous landscape is influenced by both biophysical and ecological drivers on the one hand and social and economic drivers on the other. While design and technology can help to knit together this landscape, it is our social structure that will most likely sustain it (Spaargaren and Mol 1992). Social ecologist William R. Burch, Jr. wrote at a critical time in the 1970s environmental movement, "... our encounter with history seems special only because we look at our awesome machines and ignore our even more awesome social organizations" (Burch 1971). This is particularly salient to the pursuit of the Sustainable City. *Green* and *restorative* urban designs become sustainable solutions only when they are complimented by a self-organizing human or social system of stewardship. Or in other words, when they matter to people.

From the story of community gardeners and other civic groups in New York City, one learns how urban stewardship can be both an

act of personal recovery and mechanism for maintaining individual well-being as well as a way to strengthen community efficacy and cohesion. It is suggested here that stewardship may contribute to resiliency and a positive health outlook as active stewardship builds confidence, strengthens social ties, broadens social networks, and provides the steward (or group of stewards) with social status as a positive contributor to society. This type of resiliency can have a community-wide impact. However, these benefits can be difficult to quantify or understand from the general purview of some policy and decision-makers. Too often it is not until these spaces are threatened by competing development (as in the case of community gardens in New York City), or our desired use of them is restricted, that we come to understand the full weight of their societal meaning. It is only then that we begin to understand that the true value of open space is as part of our larger collective health and well-being.

Policy-makers, designers, and planners interested in cultivating resiliency may want to consider first the most vulnerable populations and seek to recapture the flow of critical resources within these communities. It is the most vulnerable that have fewer material resources available and in some cases the type of social networks to adapt to change and challenge adversity. At the same time, we need not only to celebrate city life and difference but also to design social systems that can support and nurture a heterogeneous system of open space over time. This includes recognition of emergent open spaces and a pro-active cultivation of civic stewardship during times of crisis and change. For it is stewardship and engagement that can deepen social meaning to ensure that the Restorative Commons will be a resource that not only exists but persists through the life course. While it may be impossible to know the full extent of how local acts of stewardship have inspired others, I am reminded of a particularly evocative quote from my multi-city research:

> "It's simple. I do it [garden] so the kids around here see me taking care of things. When I'm gone or they're grown, they might remember…." Ms. Shirley Boyd. Franklin Square Neighborhood. Baltimore, MD (Svendsen and Graham 1997)

Within the history of the city one can find evidence of individuals and

groups not only creating restorative spaces as part of their own desire for health and well-being but with the hope that it might also trigger resilient processes in others and benefit a larger commons.

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