8-29-2012

SEASONALITY & THE LOCAL FOOD SYSTEM: THE ROLE OF SEASONS IN LOCAL FOOD EDUCATION IN NEW YORK CITY

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SEASONALITY & THE LOCAL FOOD SYSTEM:
THE ROLE OF SEASONS IN LOCAL FOOD EDUCATION IN NEW YORK CITY

By

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THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS
IN THE URBAN STUDIES PROGRAM
AT FORDHAM UNIVERSITY

NEW YORK
FEBRUARY 2012
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Preface

My interest in urban agriculture and local urban food systems originates from two sources: my academic background in urban studies and simultaneous experience living in two major US cities; and information and attitudes about food imparted to me by my parents. The first source, my educational background, has allowed me to form a dynamic understanding about the way in which cities function and how important they are as the places in which the majority of the world’s population now lives and interacts. Furthermore, experiencing life in two vastly different cityscapes, Los Angeles and New York, has allowed me to simultaneously contrast my own lived experiences of city life and also see the important similarities that lead me to certain conclusions about the urban experience. Viewing cities historically, I have seen the importance of innovation and creativity in the city landscape and the processes of urban development, use, and reuse. Sustainability has also become very important to urban communities and governments and the issue is very closely related to the creation of more localized food systems, urban agriculture, food security, and green spaces in cities.

The second source of my interest in this area of research, my parents’ own perspectives and experiences, has led me to approach food and agriculture in particular ways. My mother has always been very passionate about the value of cooking and the role of food as more than a source of calories; she has always seen food as an all-important source of nourishment for the physical self, but also a source of nourishment for the emotional and spiritual self as well. My father’s career exposed me to the concept of genetically engineered tomatoes during the 1990’s. Commercially marketing healthy food alternatives through a former division of the Kellogg Company known as Functional
Foods and his work with the International Food Protection Training Institute and the National Center for Food Protection has enlightened me to the issues of healthy food, urban agriculture, and food safety and security. These experiences and networks, in addition to the growing attention on food issues, have led me toward pursuing research in this field. These influences have both subconsciously and consciously affected my view of food and its role in the urban setting.
Introduction

This work is informed by current scholarship on three issues: first, access to and the quality of food in urban areas; second, the positive health impacts, increased social cohesiveness, and the promotion of greater equality facilitated by more sustainable local and regional food systems; and third, the relationship of urban dwellers to a particular manifestation of nature, the food they eat. Current efforts to promote local and regional food cycles, the “slow food” and organic movements, community sponsored agriculture (CSA), and community gardens serve as alternatives to the driving force of industrial agricultural practices and the current food culture in the United States. These efforts promote food differently, providing a perspective for citizens to reengage with food through the processes and risks of production, the efforts of preparation, and the positive rewards of consumption. These efforts aim to reconnect eaters with the natural processes of food growth, which cannot be fully understood without proper consideration and reverence for the role of the seasons.

As a result of urbanization and the industrialization of agriculture in the United States, urban residents have become largely disconnected from the production of food – and low-income urban residents are often hard-pressed to find affordable, accessible, nutritious food options in their neighborhoods. These existing challenges and the many proposed solutions find some common ground in the practices of urban agriculture. Urban agriculture exemplifies not only a response to the global trends of urbanization but also highlights the changing conceptions of agriculture and even food itself. Historically there have been clear delineations of space for farmland; these spaces were distinct from
the physical and social geography of the city landscape. This definitive division of land is now becoming blurred as cities expand. The versatility of urban food growth in the future will be crucial for growing urban populations, expanding metropolitan regions, maintaining community involvement, and assisting food insecure communities by providing a local, healthy, affordable food source.

Much of the current research on global and local food insecurity – particularly among poor urban populations – strongly suggests that the impacts of industrial agriculture and the American fast food culture has been detrimental to both urban and rural populations, and to small farmers. Food insecurity and unequal access to healthy and affordable food are critical issues in the metropolis. In response to these concerns, there has been a great deal of mobilization around the concept of local and regional food systems. Food systems analysis examines the viability, equitability, and sustainability of the life cycle of the local food system. This framework allows for the discussion of many factors related to improvements within the food system. To date, food systems research has been limited in its attention to the United States’ largest urban areas. Specific studies on the New York City food system have begun to surface, however the body of scholarship is still limited. The focus on these food systems has important implications for cities, which now hold more than half of the world’s population. New York City has

1 This delineation of urban and rural was not always true for livestock, but more so for produce. For evidence of livestock in New York City, please see Samuel Zipp, *Manhattan Projects: The Rise and Fall of Urban Renewal in Cold War New York*. (Oxford, 2010).

2 *Cities Farming for the Future: Urban Agriculture for Green and Productive Cities*. Ed. Van Veenhuizen, René. (Singapore: RUAF Foundation, IDRC and IIRR, 1996). Paule Moustier and George Danso point out that while evidence of the positive potential of urban agriculture is strong, the more narrow economic arguments related to the challenges of agricultural investment are still quite important to analyze. Challenges in assessing the economic viability of long-term urban agricultural investments arise; there is a lack of substantial data on urban farmers’ incomes due to of the variability of crops, seasons, farmer profiles, and market location. Categories of urban farmers and farm types are also difficult to create because of the diversity of urban agricultural practices.
made great strides in integrating local food production into the urban context through support for urban gardens and farming and the increased focus on community gardens and urban farms. For this examination of seasonal food, New York City serves as the urban context and center of the local food system under consideration.
Chapter 1: The Edible System

Interdisciplinarity

This work examines the role of seasonal produce through two interdisciplinary and interrelated frameworks: the food system and the urban context. Here it is important to note the overlap of these two systems at work. In some evaluations, the defined local food system could be limited to the processes occurring only and entirely within the urban context. What is more often the case is that the food system, even at its most local level, operates both within and outside of the urban system. The two systems can be thought of as functioning together as two pieces of a Venn diagram with large overlapping relationships and functions, but each still retaining unique properties and inner workings. This thesis explores that section of overlap between the two, which has waxed and waned through processes of urbanization and today is expanding again as practices of urban agriculture, support for local food production, and larger consciousness about food, its origins and manipulation have made a significant impression on our societal conscience.

Both food systems and urban systems utilize a foundation of general systems theory in order to conceptualize the way in which a set of interacting parts function as a cohesive entity. This evaluation relies upon the understanding that the individual components of a system interact and impact one another and ultimately impact the system as a whole. The basic definition of a system is as follows: “a set of things working together as parts of a mechanism or an interconnecting network; a complex whole.”

Systems analysis is a scientific approach originally used in physics. Now, however, the

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scope of possibilities for systems applications has been vastly expanded to address “physical, biological, [and] sociological” phenomena. Applications of systems theory have been used to examine urban economic development policies, political-governmental structures, and behavioral and physical-environmental relationships. The systems approach “invites a look at the individual components […] and emphasizes their interconnections.” This approach properly handles the challenge of complexity that categorizes the urban experience and also appears in conversations about the multi-step process of bringing food from the field to the table. For this evaluation of a local food system, the key components for examination include seasons, schools, school gardens, gardening and local food education programs (specifically the Garden-to-Café program run by the New York City Department of Education), Garden-to-Café staff and volunteers, city-wide policies that support local food supply, schoolchildren, and the seasonal produce itself. The relationships between and among these system ingredients provide insight into the challenges and opportunities presented by seasonality in New York City local food education.

The Local Food System

Today’s food issues have implications that cross urban and rural divides, span across the globe, and present challenges that require research, education and policy

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7 Ibid, 18-19. The implication for interdisciplinary study is a bridge between disciplines and between theory and urban phenomena.
prescriptions from a wide range of academic disciplines, governmental entities, and public and private interests. Concerns about the state of food in the world include health considerations, the varied levels of access and equality to healthy food, unjust working conditions for industrial farm workers, and the disappearance of small farms. The infrastructure of the food system includes the land and physical context for growing, selling and consuming food; the public and private institutions, corporations, and organizations that influence the system; the people participating in and shaping the system; and the relationships and networks among the various stakeholders. Ultimately the food system is one that attempts to create a holistic account of the process by which food is grown, bought and sold, and ultimately consumed.

A useful way to further understand the food system framework utilized in this work is to enlist the concurrent concept of a “foodshed”, which looks at the complex processes that take produce from its seed form to the dinner table. This framework utilizes the already well-established concept of a watershed to illuminate a similar system and set of relationships related to food. Further definition of the concept leads to the focus on the local foodshed. The main point of this reframing is the emphasis on locality: “Foodsheds are socially, economically, ethically, and physically embedded in particular

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Benoit

places.” The conception of a local foodshed, which is derived from the often-cited definition given by the permaculturist Arthur Getz in 1991, allows for a multifaceted approach that engages economic, social, health, environmental, and political aspects of food production and consumption at the local level and reflects the importance of addressing this concept from a perspective of interdisciplinarity.

In 1996 food ecologist Jack Kloppenburg, Jr., scientist G. W. Stevenson, and graduate student John Hendrickson proposed a local foodshed as a response to the problems of globalized agriculture using the following five principles: (1) moral economy; (2) commensal community; (3) self-protection, secession, and succession; (4) proximity; (5) and nature as measure. Moral economy relies on a restructuring the food system not in order to meet market demands but on the basis of how better to feed people. Food consumption is closely tied to food growth and food processing. The critique of the ever-worsening American diet requires attention to the history of the role of food and its consumption in the United States. A system based upon the health and social benefits to people, rather than on the increase in profits for companies promoting highly processed foods, turns our current food system on its head.

The second component of this foodshed, commensal community, emphasizes two important relationships: interpersonal and collectively people’s relationship to land. This implies that people are sharing meals together and relating to one another through their food. It also recognizes human responsibility in the care of the land that produces sustenance for human life. This idea has been explored by many scholars in the search for the ever-illusive solution for “sustainability” and is a particularly important component as

It relates to the idea of seasonality. Commensal community reverses the commodification of nature that we have come to expect within an urban context. The land has been bent to the needs of industry, real estate, and transportation – all to accommodate the progress of the capitalist society.

The writings of American farmer, poet, and activist Wendell Berry have long preached the gospel of respect for the land and connection to the earth’s gift of food. Writing in the mid-1970’s, during the rise of industrial agriculture and the substantial growth of urban areas in the United States, Berry depicted a bleak future for all Americans because of the separation occurring between people and farming. As the country’s population came to live more and more in urban areas, Berry warned of the deleterious effects: people would become less connected to the food they eat, less concerned with its quality and origins, and increasingly become mere consumers of food. “They will be detached and remote from the sources of their life, joined to them only by corporate tolerance.” It is this detachment that the recreation of local food systems aims to reverse through conscious consumption (both in purchasing and in eating), the cultivation of local gardens and farms, and new technologies and practices to provide people even in the most urban contexts with opportunities to engage in local food production and consumption.

The third component of the local foodshed is tripartite: self-protection, secession, and succession. These three aspects deal with the issue of consumer ignorance and purchasing power and provide ways to support the transition from industrial and global

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14 Ibid., 74.
agricultural systems to a very different, local kind of food system. Harriet Friedmann referred to “movement(s) of self protection” as those groups operating on the “margins of consumer society,” cultivating food sources and systems that were not slave to global agricultural market forces.\textsuperscript{15} Based on the historical precedent set by these communities supporting alternative food sources models, scholars have argued that a principle of the foodshed is the act of seceding from the existing system and moving “resources and human commitments from old food-associated relationships to new ones.”\textsuperscript{16}

The subsequent and most crucial component of the local foodshed definition for this thesis is proximity. Proximity addresses concerns of social and environmental sustainability by keeping production and distribution local and within regional systems, and by keeping the environmental impact caused by long-distance transportation to a minimum. The scalar component of these considerations is also applicable to seasonal attentiveness. Cultivating produce within the seasons most natural to each particular fruit or vegetable reduces the need to heat greenhouses and engage in other energy intensive processes that are necessary to successfully grow produce out of season.

The last component of this local foodshed is the way in which “nature as measure” rethinks the limitations of nature and reimagines these limits as something to be respected rather than something to be challenged and manipulated.\textsuperscript{17} A foodshed system ideally responds and adapts to local growing conditions and weather constraints rather than overriding these realities with the use of technological transformations. Here we see the alignment with the notion of seasonality as a natural process to be respected and

\textsuperscript{16} Ibid, 9.
\textsuperscript{17} Ibid, 10.
embraced, rather than treating it as something to be tamed or consumed, as nature has been treated for so long in the urban context.

Matthew Gandy’s historical look at the incorporation of nature into New York City highlighted the commodification of what was once the rural experience, now transplanted to the city. Gandy’s argument, which focuses on the development of Central Park, reinforces David Harvey’s emphasis on the pitfalls of capitalism and the urban experience, relating these processes to the natural environment: “nature has been a vital part of the dynamics of capitalist urbanization from the outset.”18 Over time, nature in cities – from Ebenezer Howard’s Garden City to Gandy’s depiction of New York – has come to be conceptualized as a product to be consumed by urban residents. Alan Walter Steiss argued that the disregard and destruction of the environment has not been “the conscious choice of the American people; it is a consequence of uncontrolled exploitation, often in the name of social and economic progress.”19 Whether unconscious or not, this conception and exploitation of nature has begun to be addressed and reversed through the promotion of local food systems. Connection to the earth, whether through attention to natural settings or the cultivation of agricultural production, has been significant throughout human existence and the evolution of our relationship to food as an urban society has not been and is not exempt from this connection. This arguably applies to the benefits of accepting the natural processes and seasonal constraints of the local food system in the metropolis, and can be thought of as a means for incorporating the second component of Kloppenberg et al.’s definition of the local foodshed, commensal community. As urban dwellers, consciousness about our relationship to

nature is imperative for creating more sustainable living systems going forward; respect for the role of the seasons in the local food system is a useful way to further efforts of this consciousness.

While utilizing these important components of the foodshed, I have elected to utilize the term “local food system” throughout this work, as it is the more prevalent term in current scholarship and practical application. It is important that the notion of a system remain at the forefront of this discussion of seasons because ultimately this thesis looks at the role and impact of this one component – namely, seasonality – on other components of the system. It examines how seasonality and education are interrelated and how the educational components of the local food system might adapt to more fully account for the variability of seasonal produce.

*The Scope of the System*

The scope of any local food system is somewhat nebulous. The boundaries of a food system can be defined at a regional level, such as the northeastern United States, or by the carrying capacity of a given state to provide its constituents with food grown within that state. Peters, Bills, Lembo, Wilkins and Fick utilized the concept of a foodshed to analyze the agricultural capacity of New York State. The study made an important point about the agricultural carrying capacity of a given land area, using the state as its unit of analysis in order to examine “the distance within which food could potentially be supplied and […] the share of total food needs that could be met from in-
Ultimately the group of authors from Tufts University Friedman School of Nutrition and Science Policy concludes that New York State will largely remain an importer of food, even as their data suggests that with the exception of New York City, most “population centers” would be able to meet their food needs locally. Mapping the potential foodsheds for New York State also offers insight into the specific needs of the population of New York City because it highlights the sheer size of the city in its disproportionately large use of food resources in comparison with the rest of the state population centers. The research results leave New York City almost completely unable to provide local food sources to its population. As the models from Peters et al. suggested, space for agriculture in New York City is heavily limited due to population density and more traditional urban land uses (industrial, residential, commercial). This conclusion reinforces the need for further evaluation of this urban context, having unique and important challenges in the sustainment of local and regional food systems.

The local food system can contain organic and/or conventionally grown products. While local food systems often focus their attention on fruits and vegetables, there is also space to examine the availability of locally produced dairy products, eggs, and meats from locally raised animals such as chickens, cows and pigs. The scope of the system can also be determined by the priority of the individuals and interests groups defining the system. For example, when health is the priority of a food system, there is no concurrent expectation that the food is locally grown. For instance, the New York City Green Cart program increases the availability of fresh produce to residents of the city in order to

\[\text{Christian J. Peters, Nelson L. Bills, Arthur J. Lembo, Jennifer L. Wilkins, and Gary W. Fick.} \text{ “Mapping potential foodsheds in New York State: A spatial model for evaluating the capacity to localize food production.” Renewable Agriculture and Food Systems: 24(1); 73.} \]

\[\text{Ibid, 79.} \]
provide more people with more opportunities to purchase fruits and vegetables closer to their homes; yet the produce sold on these carts is not limited to locally-grown or seasonal varieties. This initiative can be understood as promoting the local food system in the sense that it aims to provide better local access to healthy foods. It fulfills the moral economy piece of the foodshed framework.

This thesis is concerned with the New York City local food system. This involves the current policy and educational infrastructure that allows for the promotion of local food consumption for city school children. It also includes the physical growing space currently allocated for the production of food in New York City. Particular attention is given to the role of school gardens and other local sources that provide produce and local food for New York City school children.
Chapter 2: Inviting Food Back into the Metropolis

The Interdisciplinary Urban Context

The urban context is equally as complex as the food system and involves social, physical, political, economic, historical, and cultural considerations. Throughout the modern era the growth of cities has pushed agricultural land farther and farther afield, highlighting the conceptual division between the urban and rural contexts while simultaneously infringing upon that divide with the development of suburban, peri-urban and exurban areas. Urban development led to the loss of more than two hundred million acres of farmland in the United States in the second half of the twentieth century.  

According to a 2007 report released by the American Farmland Trust, “[f]armland is being lost to development in New York at a rate of approximately 26,000 acres per year.” Urbanization has also complicated the once obvious equation of agricultural land use based on transportation costs. Johann Heinrich von Thünen’s Isolation Model, which depicted a clearly divided set of concentric circles that represented the different uses of land, may have worked well for societal structures in the nineteenth century. But as the boundaries of rural and urban have collapsed, even a modified version of the model falls short in addressing the existence of traditionally rural processes that now take place inside major metropolitan areas.

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The devaluation of land for agricultural uses continues to threaten existing farmland in this country. Due to the increasingly globalized food market, American consumers do not necessarily feel the impact of the loss of farmland. Yet however much it is ignored, the interdependency between urban life and the rural farm still exists. There remains an extremely important, even vital connection between the agricultural practices of rural America and the country’s population-dense cities that depend upon vast resources, including food. As metropolitan growth requires larger areas of land beyond the city center, boundary spaces between the suburbs and completely rural land are being subsumed into metropolitan regions. Tom Daniels has pointed to the problem of urban growth happening on the fringe and the effect it will have upon already shrinking agricultural land area in the United States.  

Even as this development causes the loss of rural farmland, fringe inhabitants express their desire to integrate the rural and urban experiences: “Newcomers to the fringe are often searching for a lifestyle that offers the best of both city and country living.” This statement is reminiscent of Ebenezer Howard’s analysis of the Town Country Magnet and the subsequent conception of the Garden City. While Howard explained the obvious economic benefit of this kind of development – an increase in property value caused by the production of new rent money in the form of housing – Daniels suggests that demand for new development on the fringe was about more than just monetary gain. The Garden City commodified the natural environment and made it a real estate asset. According to Daniels, this is similarly the case with fringe development, because the benefits of living in these areas include quality

of life and community experience – characteristics that often appear to be lost in large cities. Yet the qualities that attract residents to consider a lifestyle further removed from the urban core are important for understanding the role of the rural in the experience of the urban. Sir Patrick Geddes’ writing on this relationship stressed the access to nature as fundamental to the “maintenance and development of life; of the life of youth, of the health of all.”

Some scholars have suggested that such a connection between the urban context and the agricultural and natural processes of the rural experience will eventually become obsolete. Economist Steven Blank has drawn connections between the shrinking agricultural sector in the United States and the influence of global economic development, citing technological innovation as the major catalyst for changes in the industry. While technological improvements have resulted in better practices for farming, Blank’s narrow economic focus blinds him to the crucial role of agriculture and food in American life as more than a mere economic industry. While an economic analysis of the changing role of agriculture is critical for understanding how the American agricultural sector has evolved to its current state, it does little to address the major problem of disconnectedness highlighted in the positions taken up by Wendell Berry. Blank makes a troubling prediction that the country’s agricultural sector will evolve to a point eventually where it does not even exist.

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30 Blank argues that ultimately agriculture is a poor long-term investment and predicts that eventually the sector will cease to exist: “In the ‘big picture,’ this reduction in American production agriculture sector is an improved, more efficient allocation of the nation’s and the world’s resources, making it a ‘good thing’ from an economic perspective (p. 109).”
The idea that agriculture becomes a less and less important part of the American economy reflects what geographer David Harvey considers to be the result of the urbanization of capital. Harvey depicts the changing nature of spatiality that came with the growth of cities and the change in the urban-rural relationship as a result of the growing influence of capitalism. Traditional boundaries between urban and rural blurred as a massive suburbanization and production came to characterize the urban experience. The perspectives of both Harvey and Berry sound the alarm about an onslaught of disconnectedness and consumerism resulting from an increasingly urban capitalist society. While Berry examined the experience of urbanization from the rural perspective, Harvey engages similar issues of human experience through an urban lens. Both point to the problems of becoming pure consumers – Berry focusing specifically on food and Harvey speaking more generally about accumulation and consumption. Utilizing a classical Marxist framework to support his argument that the urbanization of capital speeds the onset of class struggle, Harvey reveals concerns for the urban environment, in which people have a fragmented experience that delineates them by class and brings about opposition rather than cohesion. Consideration of seasonal production is related to this spatial component of urbanization. The disconnect between urban dwellers and their physical surroundings undermines the goals of the local food system, which include this attention to natural processes and the natural world.

Steven Blank’s sweeping conclusion that the American agricultural sector will one day become all but extinct, loses its footing with the increasing evidence of support for local food production and purchasing options within cities. Rather than extinction,

food is at the center of a revolution in the United States. Evidence of this transformed relationship between people and their food is found in the dramatic increase in CSAs. CSA, Community-Supported Agriculture, is based on the principle of shared risk, shared reward in local agriculture. Individuals and families purchase shares in a CSA and then receive a dividend of produce each week throughout the growing season. CSAs have increased in number from 2 in 1986 to 2,500 nationally in the last two-and-a-half decades. In New York City, policy organizations like the Hunger Action Network and Just Food have been cited as being instrumental in increasing the number of local CSA drop-off points within the city; more than one hundred sites now exist across all five boroughs.

Concurrent with the increase in CSAs for urban residents, several current initiatives in New York City seek to deal with the growing issue of food insecurity among poor urban communities. The United States federal food aid program formerly known as Food Stamps and now called the Supplemental Nutrition Assistance Program (SNAP), functions in partnership with local farmers’ markets so that families receiving this aid can buy more healthy food options. Through the use of electronic benefit transactions (EBT), which function like debit cards for SNAP dollars, farmers’ markets and CSAs are providing local, healthy food options for individuals and families who otherwise lack significant access to these foods. Expanding these options creates financial support for the “redesigned food system” while simultaneously improving the quality of

33 Christine Quinn, “FoodWorks: A Vision to Improve NYC’s Food System.”
food available and funded by federal dollars.\textsuperscript{34} The amount of EBT money spent at green markets has skyrocketed from near $0 in 2005 to around $250,000 annually, further evidencing the success of local policies that promote equity in the local food system.\textsuperscript{35}

Figure 1.1 EBT Sales at Green Markets\textsuperscript{36}

Policy actions such as these begin to solidify the presence of the local food system within the national, regional, state, and local experiences. The viable future of local food systems is dependent upon the ability to make such a system a permanent fixture in urban society; this is accomplished not only by political action but also through public buy-in

\textsuperscript{34} Nevin Coheh, “Building an Urban Food System for the 21st Century.” In \textit{From Disaster to Diversity: What’s Next for New York City’s Economy?} Edited by J. P. Hicks and D. Morris. (New York: Drum Major Institute, 2009), 1.
\textsuperscript{35} Christine Quinn, “FoodWorks: A Vision to Improve NYC’s Food System,” 22.
\textsuperscript{36} Graph from FoodWorks: A Vision to Improve NYC’s Food System,” 26.
and consciousness about the food options available. The local food system in New York City must be assessed for its relative state of permanence and sustainability. This thesis examines how the commitment to local food is demonstrated through local food education in New York City; it recognizes the role of seasonality that is integral to the functioning of a local food system; and it seeks to understand how this educational component of the local food system can adapt to better account for the role that seasons play in this system.
Chapter 3 – Seasonality

The role of seasons

In an anthropological study of the role of seasons on household food security, Ellen Messer emphasized that the ability of populations to ignore seasons in food production is specific to developed societies. Traditional communities practicing seasonal agriculture must still make intentional provisions in order to account for food shortages and malnutrition that often occur outside of the growing season. The urban milieu is a context in which nature has long been subject to domination; therefore while seasons exist, they rarely dictate the day-to-day experiences of urban residents. Yet, it is important to acknowledge that this inattentiveness to seasonal constraints undoubtedly varies according to particular urban contexts. Los Angeles, for instance, is much less impacted by drastic shifts in temperature throughout the year than is a city such as New York. Unlike cities and regions with relatively stable year-round climates, New York City and the Northeast region provide a particularly important case study for the role of seasonality in food production because these places experience all four seasons in their fullest forms.

Seasonality is simply defined as being dependent upon the seasons.\(^{37}\) In some regards this is an obvious component of a local food system; yet, in other ways this factor is strikingly absent from the current academic and political conversations about the challenges of promoting localized food systems. While in industrial food production this concept is purposely ignored and overridden, seasons define the capacity of a local food system, making this a highly distinctive characteristic of that system. Attempting to

account for the seasons in our food consumption patterns requires more than just an increased focus on buying local foods in season – lettuce in June, tomatoes in July, leeks in August, and apples in September. The concept of allowing seasons to play a major role in what we consume and when we consume it, is related to what Raymond D. Boisvert calls “stomach time.” Boisvert conceptualizes the American notion of time in philosophical terms, pointing out that the dominant focus on rational thinking and the primary role of Psyche has disallowed for any understanding of time as non-linear or outside man’s control.38 This reality presents a major tension and potential barrier to support for the permanence and augmentation of local food system options in American society. Arguably this is even more prevalent in the urban context, in which nature, time and food are heavily mediated through fast-paced technology-driven, human-controlled urban processes and experience.

Seasonality has been recognized as playing a substantial role in other arenas not related to food. Jake Bernstein has written about the role of seasons in trading and market analyses.39 Analogous to this paper’s postulate that seasonality is overlooked as an issue for the local food system, Bernstein argues that seasons and their influence are also ignored in stock and commodity price trends. Among the goals for his analysis Bernstein includes providing a logical and effective trading framework for the use of seasonals, and demonstrated that seasonality has a place in all (stock and commodity) trading systems.40 Similarly, I argue that with the New York City local food system, a framework for addressing seasonality in local food education efforts must be formulated. I seek to

40 Ibid.
demonstrate the significant place of seasonality in the educational efforts of this local food system.

New York City has already made policy commitments to local food production through its support for CSAs, school gardens and local food education. The New York City local food system has been promoted by the city government’s emphasis on healthy foods for residents (particularly children), municipal and school policy changes, and support for the purchasing of more localized food sources for city agency offices. Yet seasons and seasonal constraints have not been a part of the discussion with regards to continuing to promote locally grown food in a geographical location that must respond to the dictates of seasons. An examination of the impact of seasonality must coincide with addressing capacity and equitable access issues for the New York City local food system.

My participatory experience as a member of the South Bronx CSA from June to October 2011 served as an important gauge for urban residents’ willingness to buy into the notion of seasonal produce. CSA members received a healthy variety of produce each week; but the selection of food was dependent upon what was ripe and ready to be picked each Wednesday morning when the food was brought from Nolasco Farm in Andover, New Jersey to Brook Park in Mott Haven, in the South Bronx. As shareholders committed to the individual farm and farmer, each CSA member accepts the possibility of smaller offerings due to weather or other natural constraints. Each member also accepts that he or she will not have control over what produce will be available each week. This experience evidences the fact that the variety of produce was not a drawback to membership - quite the opposite. It fostered community dialogue around sharing new

41 “Introduction No. 452: A Local Law to amend the administrative code of the city of New York, in relation to the purchase of New York state food.”
recipes and exchanging ideas about how to utilize fruits or vegetables that might not otherwise appear in our shopping carts if we had gone to the grocery store. Seasonal variety offered us a chance for creativity and more social interaction through the process of acquiring and preparing produce to eat.

The central investigation of this thesis is the importance of seasonality in local food education. My fieldwork internship with the New York City Department of Education’s SchoolFood Garden-to-Café program offers a significant example of the role of seasonality in educating children on the benefits of growing and eating local, healthy food. Attentiveness to the seasonal growing patterns for produce in the northeast region of the United States can provide insight into increasing the scope and effectiveness of the Garden-to-Café program by highlighting new opportunities for local food education during the height of New York City’s prime summer growing months.

Figure 1.2 displays a rough estimate of the length of the growing season for a variety of fruit, vegetable and herb crops as they function in the northeastern United States. The beginning and end of each crop’s production time period can shift several weeks earlier or later, depending on the given conditions of any particular growing year.42 As the figure depicts, some crops, such as asparagus and potatoes, have almost no overlap in their yield periods. Others, such as cherries and blackberries, have an incredibly short window during which edible food is produced. Therefore the ability to grow and harvest different seasonal crops in New York City varies greatly according to crop and month. This is highly relevant for local food education in that the produce available for students in New York City schools during May and June will be completely

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different than what would appear in a school lunchroom in August, September and October. And some fruits and vegetables will barely appear in the lunchroom, because their peak yield time is during the summertime of late June through early August. These are important issues if the goal is to expose students to the full variety of the local food system’s offerings.

The variability of the produce available during any particular point in the growing season also dictated the quantity and variety of offerings available to showcase during these events. Thus the learning component of the Garden-to-Café effort has to rest more broadly on exposing children to the idea that food came from the garden, but examples of the wide varieties of food able to be grown could not be displayed in the short windows of time in which the available produce and herbs were picked and prepared. This experience offered a particular example of the role of seasonality in educating children on the benefits of local, healthy food. Seasonality creates an interesting challenge in the educational component of the local food system. New York City schools have the necessary support to allow for the creation of school gardens; this is promoted as being integral to the efforts of nutritional education for students.
Figure 1.2

Estimated Growing Season for Crops in the Northeastern United States

<table>
<thead>
<tr>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>Broccoli</td>
<td>Cabbage</td>
<td>Cauliflower</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Collards</td>
<td>Cucumbers</td>
<td>Eggplant</td>
<td>Lima Beans</td>
<td>Okra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onions</td>
<td>Peas</td>
<td>Peppers</td>
<td>Potatoes</td>
<td>Pumpkins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhubarb</td>
<td>Snap Beans</td>
<td>Squash</td>
<td>Sweet Corn</td>
<td>Tomatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinach</td>
<td>Blueberries</td>
<td>Cherries</td>
<td>Grapes</td>
<td>Peaches, Nectarines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pears</td>
<td>Raspberries</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strawberries</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Herbs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Ibid. Crops are shown from their earliest estimated month of production to their last pick date.
Technology and Nature

Exposing the question of seasonality is vital. Equally important for the continued success and sustainability of the New York City local food system are efforts to mitigate the challenges seasonality presents. Consciousness about and willingness to attend to seasonal constraints in food growth does not mean ignoring the technology available to stretch the growing season or the time period in which seasonal food can be consumed. The hoop house, which is a greenhouse constructed by laying tarp over a semi-circular steel framework, has provided farmers with the ability to extend the harvest, even to the point of producing food year-round in some instances.44

Figure 1.3, A hoop house

Particularly within New York City, utilizing new techniques for growing is imperative both because of the limited space for agricultural production but also because of the reality of the climate and relatively limited length of the growing season (outdoors). Dickson Despommier’s conception of a vertical farm is a departure from such familiar

45 http://commons.wikimedia.org/wiki/File:Hoop_house.jpg
manifestations of urban agriculture as rooftop gardens. Yet this idea stems from basic principles utilized in the common practice of enclosed or indoor farming, such as greenhouses and the hoop houses that cover a large number of crops across the United States. This experimentation is particularly adaptable to the dense urban landscape of New York City, as it will essentially create a farm on the various floors of a multi-story building within the urban core. Among the benefits of the vertical farm, Despommier includes job creation, increased food security and decreased “food miles” (how food has to travel from field to fork), zero runoff, a drastic reduction in water use, and consistent food production, which is a benefit of all indoor farming systems.46

While the vertical farm has many potential advantages, Despommier’s notion of farming intentionally evades seasonal limitations. In considering the reintegration of the natural processes of seasons into the urban mentality and food consumption practices, the elimination of such considerations goes against the more nature-sensitive approach that is being sought through this analysis. Despommier even seems to contradict himself in this regard, as he had earlier reflected: “[U]nless we make peace with the natural world, we will surely lose our place in it.”47 It is possible to adapt practices in the local food system to reflect the seasons rather than to reject them. To expand upon the aforementioned view of Despommier and many other scholars who recognized the gravity of our relationship

46 Dickson Despommier, The Vertical Farm: Feeding the World in the 21st Century. (New York: St. Martin’s Press, 2010). A major obstacle to any substantial use of vertical farms, or any other type of farm in the city for that matter, is the limited space available for such an endeavor. The utilization of prime urban real estate for agricultural purposes will certainly compete with the real estate priorities of New York City. In his book New York for Sale, Tom Angotti suggests that one of the major contradictions in urban planning is between real estate and communities. As we consider agriculture as a largely community-based, local process in this evaluation, it is important to understand that utilizing urban land for non-residential or traditional commercial purposes will more than likely cause backlash from the real estate sector. Historically as the city of New York has grown, vast swaths of farmland have been cheaply bought and sold to be developed for industry and housing needs. Thus the property cost for farmland, vertical or otherwise, is still a pressing issue in expanding these agricultural practices within the city’s boundaries.
47 Despommier, The Vertical Farm, 20.
to nature, making peace with the seasons will certainly reframe our connection to food and continue support for the local food system.
Chapter 4: Feeding the (Urban) Hungry

A Brief History of New York City School Food

The evolution of food culture and politics in the United States has resulted in a marked movement away from traditional food policy concerns. Historically this area of policy and politics focused on the development and sustainment of industrial agriculture. Yet in a movement that seems to be substantially impacting the current trajectory of agricultural practices in the United States, there is a noticeable shift toward the regional and local production and consumption of food. Urban areas are among the most influential and important milieus for this discussion and for political consideration and policy creation because of their high population concentrations and the shifting role of the natural environment in relationship to urban areas. This has been true throughout the changing discussion on the role of food and agriculture and can be seen specifically in the evolution of the school food program in New York City.

New York City was among the earliest of the urban school districts to implement a consistent school lunch program in the United States.48 More than fifty years prior to its formal integration into city schools, the New York City’s Children’s Aid Society began a school lunch program in 1853.49 The catalyst for the program’s implementation was growing concern about the poor nutritional health of New York’s school children. “Sixty or seventy thousand school children in New York” were estimated to be unable to do “good school work because of malnourishment.”50 A pilot program was created and

49 Kevin Morgan and Roberta Sonnino, The School food Revolution: Public Food and the Challenge of Sustainable Development (Sterling, Virginia: Earthscan, 2008), 44.
50 Ibid.
based upon the improvement in weight for one hundred and forty-three children over three months, a permanent program was put into place.

Supporters of the program wrote scathing critiques of the country’s dilemma: by 1900 children were required to be in school yet were provided no help for their empty stomachs. Robert Hunter, author of the influential 1904 book, Poverty, helped to illuminate the direness of the situation. “There must be thousands – very likely sixty or seventy thousand children – in New York City alone who often arrive at school hungry.”

Hunter’s work, in addition to John Spargo’s work, The Bitter Cry of the Children, brought hunger and education issues to the fore. Scattered local volunteer and non-profit efforts, like those of the New York City Children’s Aid Society, were taken up by municipal school boards nationwide and integrated into the larger efforts to address the growing nutritional needs of America’s urban schoolchildren.

Federal funding for such programs was not arranged until the Depression era.

Attempting to ameliorate the plight of the American farmer during the Depression, the federal government facilitated the transfer of surplus commodities from farmers to the school lunchroom. “In 1939, the number of schools receiving these commodities for their lunch programmes had reached 14,075, feeding a total of 892,259 children.”

This funding created a relationship between rural agricultural producers and urban school-aged consumers. As large urban school districts were among the first major benefactors of the institutionalized connection between farm and school, this federally supported

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51 Robert Hunter, Poverty (1904), 217. Quoted in Kevin Morgan and Roberta Sonnino, The School food Revolution, 44.
52 Kevin Morgan and Roberta Sonnino, The School food Revolution, 44. “Section 32 of the Agricultural Adjustment Act authorized the use of federal funds for food donations to schools.”
relationship becomes key to understanding the evolutionary connection between education and food in New York City.

Scholars like Lewis Mumford highlighted the importance of involving food production in the activities of the city; Ebenezer Howard promoted agricultural practices and proximity to the natural environment as crucial to the health and well being of human communities. John Dewey specifically involved children in food education at the University of Chicago Laboratory School. For Dewey, attention to and promotion of proximity to the natural world and the production of food was integrally related to the role of food for school children in the metropolis. As the federally funded school food program evolved from its inception in the first half of the twentieth century to become a permanent fixture in the educational landscape across the country, the New York City school food program became a leading influence in the country’s experiments, failures, and successes in school food service. Federal, state, and local officials charged with improving nourishment for American schoolchildren battled through issues of inadequate or reduced funding, poor food quality, the stigma of a free lunch program, students’ attraction to fast food, and ultimately the negative effects of a lack of local agriculture and local, healthy food education.

All of these issues had a major impact on New York City’s large urban school-aged population; and in turn, New York City’s response to these challenges were significant for smaller, less influential school districts struggling with the same problems.

55 Jane Poppendieck, Free For Fall: Fixing School Food in America. (Berkeley: University of California Press, 2010).
While the pitfalls and limitations of the program from its inception and subsequent development caused frustration and outrage among leaders working to protect health and promote the proper nourishment of the city’s children. But the trials and tribulations of school food in the United States ultimately led the Office of SchoolFood in New York City’s Department of Education to become a leader in local food education and urban gardening among school districts across the country. School and city officials sorted through the wrong ingredients for school lunches and exposed the detrimental effects of decreased funding for school lunch programs. Engaging students in understanding the nutritious value of the food they were consuming righted the relationship between children and their food and connected students to the source of their meals through school gardens and food education programming.

Setting the Stage for Local Food Education

Many components of the urban system, including academic institutions, political leaders, schools, and businesses, have set the stage for substantial local food commitments in New York City. This local mobilization has actually influenced state-level efforts. The State of New York created a food policy council in 2007, in the year following Mayor Bloomberg and New York City Council Speaker Quinn’s introduction of a New York City Food Policy Task Force and a new position for a Food Policy Coordinator. Citywide efforts have been furthered by research, particularly Dickson Despommier, whose vertical farm concept was discussed earlier; and Nevin Cohen, a
professor at The New School who specializes in urban food policy.\textsuperscript{57} In addition to his academic focus on New York City’s local food system, Cohen has been a key figure in producing policy recommendations for the formalization and institutionalization of the local food process.

Policy memoranda have been influenced by a variety of public and private interests and reflective of a desire to change the current food system; awareness and actual participation in local and regional farm production has dramatically increased.\textsuperscript{58} Organizations such as the Food Systems Network have formed around these issues and legislative changes have been proposed in order to support more local, healthy, affordable food options for the city’s residents.

The Food Systems Network, a collaborative organization comprised of non-profits, community groups, professionals, and government agencies, was created in 2004 by the efforts of the New York City Nutrition Education Network and GrowNYC (formerly the Council on the Environment of New York City).\textsuperscript{59} The organization’s mission reads, “Food Systems Network NYC is a membership organization working toward universal access to nourishing, affordable food. Through collaboration, education, and advocacy, the Network is helping to establish a just and vibrant regional food and farm economy that promotes human and environmental health and prevents hunger.”\textsuperscript{60} This network highlights the interconnections among various food and urban system components – governmental, community-based, non-profit, and business – through the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{58} Christine Quinn, “FoodWorks: A Vision to Improve NYC’s Food System.” 4.
\item \textsuperscript{59} “About & History.” Food Systems NYC. http://www.foodsystemsnyc.org/about.
\item \textsuperscript{60} “Mission.” Food Systems NYC. http://www.foodsystemsnyc.org/mission.
\end{itemize}
\end{footnotesize}
promotion of discussion and collaborative action for the localization of the New York City food system.

In February of 2010, Manhattan Borough President Scott M. Stringer unveiled a detailed report, “FoodNYC: A Blueprint for a Sustainable Food System,” specifically focused on food issues within the city. The report reflects the efforts to deal with the global food crisis and climate change on the local level in New York City. Stringer’s report reiterates the point that over half of the world’s population now lives in cities in order to show the pivotal role of cities in providing sustenance for their residents through the creation of a more local food system and an increased focus on providing more equal access to healthy and affordable foods. The report was a collaboration of the borough president’s office, New York University, and Just Food, a non-profit organization whose mission is to “to unite local farms and city residents of all economic backgrounds with fresh, seasonal, sustainably grown food.” Stringer’s efforts stress the central role of food in finding solutions to problems housed under four broad categories: health, jobs, hunger, and environment. These were the very same issue areas addressed in the American Planning Association’s Guide on Community and Regional Food Planning. These were also the broader issues addressed in “PlaNYC: A Greener, Greater New York,” the overarching mayoral plan produced in 2007. The plan provides a vision for the next twenty years of growth for the city and began to acknowledge the importance of discussing local food issues in the context of New York City.

Subsequently, in November of 2010, the New York City Council produced “FoodWorks: A Vision to Improve NYC’s Food System.” Representatives from universities, local farms, non-profit policy organizations, and government departmental officials collaborated with New York City Council speaker Christine Quinn, to produce a document in support of a increasingly localized food system that contains more healthy food options for New York City residents. Health benefits in a localized food system have become a key selling point to broadening the support base and participants; local food supporters are being joined and backed by health officials and professionals, and local politicians are increasing public support by highlighting the benefits for all in terms of increased healthfulness. The considerations in this policy plan are economic, health-related, environmental, social, and political. It highlights how this issue of local food appears throughout the urban system.

In August 2011 the New York City Council passed “Introduction No. 452: A Local Law to amend the administrative code of the city of New York, in relation to the purchase of New York state food.” This adjustment to the city’s administrative code is meant to monitor and maximize city agencies’ purchase of food grown within the state of New York. This amendment highlights the political opportunity structure that has brought local and healthy food issues into the urban context with a relatively high degree of success in influencing the kind of food system that is becoming more and more

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In addition to making new and innovative spaces to grow food within the city boundary, New York City is amending its zoning to reflect the successful efforts of local food initiatives. The FRESH (Food Retail Expansion to Support Health) program, which was created by the New York City Food Policy Task Force relies on zoning adjustments to increase the retail capacity for grocers selling fresh produce. http://www.nyc.gov/html/misc/html/2009/fresh.shtml

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Chapter 5: Continued Conversation of Times and Seasons

Education and Seasons

John Dewey’s educational philosophy included particular attention to the role and relationship of food and food processes. Dewey explicated the negative impact of modern society on the experience of such processes and products like food:

But with civilized man, all sorts of intermediate terms come in between the stimulus and the overt act, and between the overt act and the final satisfaction. Man no longer defines his end to be the satisfaction of hunger as such. It is so complicated and loaded with all kinds of technical activities, associations, deliberations, and social divisions of labor, that conscious attention and interest are in the process and its content. Even in the crudest agriculture, means are developed to the point where they demand attention on their own account, and control the formation and use of habits to such an extent that they are the central interests, while the food process and enjoyment as such is incidental and occasional.66

His point reinforces the dialectic of nature and the urban dweller. We are no longer simply taking in or enjoying food. The experience is mediated through various components of the urban system. Dewey continues, describing the cultivation of the soil and care for the plants that will have edible yields. He argues that involvement in these processes facilitates intentionality in one’s relationship to the earth:

The gathering and saving of seeds, preparing the ground, sowing, tending, weeding, […] making of improvements, continued conversation of times and seasons engage thought and direct action.67

The benefits of such a relationship and the attentiveness to the seasons and natural cycles of the food production process return us to a direct engagement in the natural world and divert our attention away from the distractions of our “civilized” culture, filled with

67 Ibid.
mediations, technologies, and means. Dewey particularly focuses on the benefits of incorporating such activities like cooking and growing food into school curriculum:

The foregoing may be summed up in terms of current phrases of pedagogy by saying that the child’s own life (as repeating within itself the familiar activities of food and shelter which centre in the home) gives the best basis for both correlation and apperception.

To build upon Dewey’s point, the repetition of behaviors such as planting seedlings or eating a homegrown salad, is a highly effective way to reinforce what a child knows and understands.

Dewey, Boisvert, and Berry all focus on the centrality of the process of growing and eating food as a part of our lives. I argue that the attentiveness to seasons in the efforts of the New York City SchoolFood’s Garden-to-Café program will assist the New York City local food system as a whole by reinforcing the centrality of the growth and harvesting of food. Benefits include knowledge about and gustatory experience of a greater diversity of foods grown from the garden throughout the length of the growing season; better appreciation for the natural processes (which is cited as one of the major goals of GrowNYC, the Citywide School Garden initiative); personal investment in the effort it takes to produce food (years of adjusting to the variations in soil, temperature, light, air, water, etc). Furthermore, given the environmental and food quality concerns become more prevalent, (nutritional content and pesticide content or runoff or air quality impacts on food produced in urban environments), it is crucial that children understand the relationship between actions and their respective impacts on the natural world. The aim is to display to children a dynamism in the relationship between people and their

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food source, with the natural world impacting what they have access to eating and when certain foods are available according to season.

While battles about the nutritional value of school food are ongoing, the national discussion about food has generally trended positively toward supporting more direct connections between food sources and consumers and more healthful food options with less processing.69 Rearranging the priorities and tactics of serving school meals in New York City came to a head in the early years of Mayor Michael Bloomberg’s administration.70 By 2010 a collaboration of the Mayor’s Fund, GrowNYC and other government agencies had established the Citywide School Gardens Initiative.71 This effort supports schools wanting to create garden space for New York City public school children. The School Gardens Initiative, which operates under the larger name Grow to Learn NYC, promotes garden and food education through funding, garden maintenance assistance, and coordinated educational tools and programs like the Garden-to-Café harvest events. Figure 1.4 illustrates the large number of school gardens already registered under this initiative throughout the five boroughs. A grant from the Fund for Public Health in New York City has propelled the healthy food options in schools to include a salad bar at each lunchtime period. In its promotion and actual achievements, the Garden-to-Café initiative has been integral to the efforts of nutritional education for students.

71 “About Grow to Learn NYC.” Grow to Learn NYC. http://www.growtolearn.org/view/aboutgrowtolearnyc.
Garden-to-Café, which is administrated the New York City Department of Education’s Office of SchoolFood, has solidified local, healthy food education components of New York City’s school lunch program. The permanency of the Garden-to-Café program has been reinforced by the same entities that gave birth to the school gardens initiative. Garden-to-Cafe began in 2008 with a pilot initiative including twenty city schools in the harvest day events. This initiative supported the efforts of schools already operating a garden, providing gardening education for students, and engaging the...
local community in these educational efforts. Funding from celebrity chef Rachel Ray’s non-profit, Yum-O!, has allowed for the continued growth of the Garden-to-Café program. The support of Yum-O! has provided Garden-to-Café school kitchens with new spatulas, industrial-sized salad spinners, large plastic garden baskets for the collection of the garden’s produce, and other similarly relevant tools that reflect the mission of the Garden-to-Café program. Having a proper way to gather, clean, and dry large amounts of greens, such as lettuce and herbs, has been crucial for making school garden cultivation and produce consumption permanent processes in New York City schools. The successful funding, implementation, and continuation of the Garden-to-Café program requires extensive collaboration among groups, organizations, and individuals, and becomes a strong case study for a systems evaluation. Furthermore the seasonal nature of the program makes it a perfect vehicle for the examination of the effectiveness of local food education within the system.

Garden-to-Café utilizes the borough chefs who rotate with a variety of other staff including the program coordinator and leading administrators of the SchoolFood program – all chefs – who travel throughout the city to facilitate the events, which take two days to execute. The first day in each school is spent prepping the produce and creating an adjusted lunch menu for the following day based on the quantity and type of garden products available for use. Based on this variation of quantity and type, the chef in charge of each event determines how best to highlight the fresh produce so as to engage the schoolchildren in a conversation about the food they taste and in many

instances that they have helped to cultivate. The purpose of these events is to help children make a connection between where their food comes from and its related nutritional quality and fresh taste. During the spring harvest season in 2011, the program facilitated events at nineteen schools throughout Manhattan, Brooklyn, and the Bronx. Throughout the 2010-2011 school year, the program partnered with fifty-five New York City public, charter, elementary, middle and high schools.\textsuperscript{74} In total, more than 35,000 school children throughout the Bronx, Manhattan, Queens, and Brooklyn were exposed to the programmatic efforts of the Garden-to-Café program.\textsuperscript{75} Garden-to-Café harvest events reflect the educational philosophy John Dewey integrated in his work at the University of Chicago Lab School, giving children a direct life experience of working in the garden and eating its yields.

Table 1: New York City Garden-to-School Program Schools

<table>
<thead>
<tr>
<th>Borough</th>
<th>Number of Garden-to-Café Schools</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronx</td>
<td>8</td>
<td>4,845</td>
</tr>
<tr>
<td>Manhattan</td>
<td>21</td>
<td>12,361</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>24</td>
<td>17,189</td>
</tr>
<tr>
<td>Queens</td>
<td>1</td>
<td>782</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>35,177</td>
</tr>
</tbody>
</table>

\textsuperscript{74} Data from Whitney Reuling, SchoolFood Garden to Café coordinator.

\textsuperscript{75} Data from Whitney Reuling, SchoolFood Garden to Café coordinator; “Inside Schools: Your independent guide to NYC public schools.” http://insideschools.org/index.php. Not all students at each school currently have the opportunity to participate in the Harvest Events. This is determined by the school’s lunch schedule, conflicting events, fieldtrips, etc.
Evidence from the lunchroom

Working as a culinary intern for the program during the spring harvest season of 2011, I experienced widely varied experiences for Garden-to-Café Harvest Events depending on the school. Harvest events take place during the months of May and June and again in October and November. Particularly with events occurring at the beginning of the summer growing season (around late May in New York), the program is challenged by the hectic and often rearranged schedules of the school day as adjustments are made for fieldtrips, graduations, and other special programming that takes precedent over the Garden-to-Café efforts presented during normal lunchtime periods. In addition to the challenges presented by the frenzied school day schedules of classes approaching the end of another school year, each school had its own manner of approaching the Harvest Event, tending the garden, and incorporating this local food education into their curriculum. In several cases it was apparent that the administration of the schools (particularly in buildings in which multiple, separate schools functioned independently) were not in close communication with the SchoolFood kitchen staff and thus the lunchtime accommodations for the Harvest Events were inhibited by special school events or absent classes in the lunchroom. In some cases the close proximity of multiple yet separate schools to a single garden complicated the harvest process and event. In other cases this situation created a positive, collaborative effect allowing more than one school to reap the benefits of the garden produce.

The first school for the week highlighted larger structural issues within the DOE and the individual schools as communication made it such that only one class of students was present to participate in the harvest event. The Ross Charter School (which is slated
to be closed) was gone for the day and only alerted the kitchen to this fact on the morning of the event. Another group of middle school children from a separate NYC public school in the same building were present for the lunch harvest event.

In other cases the school made a concerted effort to build the Harvest Events into the schedule, making it a special part of the school’s lunch experience for that particular day. Public School (PS) 11 in Chelsea put on a wonderful harvest event. Here, parental involvement was strong and clearly made the event much more vibrant. This school is actively expanding its garden and teaching students how to grow plants. This experience shed light on how much of a difference outside support and involvement can make for these programs.

*Foreign Foods*

In comparing two of the schools that participated in the Garden to Café program during the 2011 spring harvest days, there was a marked difference between the attitudes of staff and teachers at PS 41 in Greenwich Village and PS 154 near Prospect Park in Brooklyn regarding the perceptions of what children are willing to eat. The Greenwich Village School included many staff members from the kitchen who simply did not see the children being willing to try new things or eat healthy fruits and vegetables. This was quite the opposite in Brooklyn at PS 154, where parents and staff were noticeably inclined to include the children in the gardening and eating of the produce. This phenomenon can be observed in the instance of CSA produce selections as well. The foreignness of certain foods, even items as basic as lettuce or vegetables with homemade herb dressing, can be a conceptual barrier for children and their food providers, whether
that be parents or lunchroom staff.

Evidence from the harvest events revealed widespread enjoyment of what appeared to be for some school children novelty food items, such as tea brewed from fresh mint and basil leaves, salad dressings made with herbs from the planter gardens, and strawberries tossed with orange zest and balsamic vinegar served over the lettuce harvested right outside the classroom window. In some cases the available herbs and produce were incorporated into the already established lunch menu. For example, chicken or redskin potatoes were brushed with oil and herbs from the garden. Salad dressings made with garden herbs were put out on the existing salad bar stations.

The expansion of New York City school children’s produce vocabulary and gustatory knowledge of locally foods is necessarily linked to the ability to bring these foods into schools during their respective growing timelines. As seen in Figure 1.2 in Chapter 3, locally grown blackberries have virtually no hope for appearing on the lunch trays of New York City students due to their brief window for ripeness in July. Pears and blueberries barely make it to the beginning of a school year, when Garden-to-Café efforts may take a back seat to the flurry of activities that dictate the beginning of the school year calendar.

*Garden caretakers*

There is no rule of thumb for identifying the caretakers of the school gardens registered with the Garden-to-Café program. Some schools rely on dedicated parents to volunteer throughout the year to nurture the garden and educate the children about its processes and harvest. Some garden activity coincides with the school year, meaning that
at certain schools, the garden sees very little use and cultivation through the peak months of the summer growing season. Others have not-for-profit groups who have ownership of the garden, such as the NY Restoration Project (NYRP), a foundation created by the actress Bette Midler, whose garden sits adjacent to P.S. 5 in the very northern tip of Manhattan. The staff from NYRP is able to coordinate the available produce for the harvest events from Garden-to-Café without the school having to support the garden year-round. In other instances, non-profits and individuals care for the gardens but have little say in their ultimate success or demise as schools without sufficient resources to run and protect the activities of the garden simply bar the gates and disallow access.\textsuperscript{76}

Some gardens are community plots, which offer space for the schools to grow plants and involve their students in the process of growing. One example of such a garden at PS 43 in the Mott Haven neighborhood in the Bronx highlighted the shift that occurs from the months when school is in session to the summer. A caretaker of the garden, a man from the neighborhood with no formal affiliation to the schools or the Garden-to-Café program, remarked on the overabundance of peaches and tomatoes available in the summer and the lack of students and individuals utilizing the fruits. Encouraging us (myself and the Bronx regional chef) to return in the summer months to share in the garden yields, the gardener, a local community man, explained that many times the fruit would simply rot because no one came to gather and eat it. At the garden behind PS 43, the summer produce grown in gardens associated with Garden-to-Café schools is free and available.\textsuperscript{77}

A similarly loose summer structure existed at Open Road Park, the garden and

\textsuperscript{76} Interview with Paula Hewitt Amram. Founder, Open Road Park. 25 July 2011.
\textsuperscript{77} Ibid. This is also true with the produce at Open Road Park.
skate park adjacent to the Ross Global School. This garden and its produce suffered from a lack of sufficient staffing for the park’s activities, ultimately causing the school to close and lock the garden on the very day the Harvest Event was to take place. The volunteers who had harvested for the event and been the major catalyzers and caretakers of the garden’s edible yields had been given no notice of the garden being closed. The lack of sufficient staffing and or volunteer support for this Garden-to-Café registered garden was apparent because the school could not monitor the activities (some illegal) taking place in the garden and adjacent skate park.

It largely appears that the caretakers are seasonally associated with these gardens. Many of the caretakers are parent volunteers who might not frequent the school garden as often when schools are closed during the summer. Other caretakers, as seen in the example at PS 43, have no formal affiliation with the schools and so their interaction with the plots and produce does not coincide with a school year schedule. Without more formal collaboration and cooperation between the schools who manage their own gardens and the caretakers who volunteer from outside, a garden like Open Road Park could have its doors locked during the peak of its harvest season.

Seasonal Funding

The Garden-to-Café program is funded by grants, as are the programs that are paid for by the Fund for Public Health of New York, such as a salad bar initiative for NYC high schools.78 The impermanent nature of such funding significantly jeopardizes the ability to make these initiatives and programs permanent in schools. Related to

78 The Fund for Public Health has funded the implementation of permanent salad bars for New York City high schools.
seasonal food and seasonal education, the funding for many of the current food education programs in New York City schools is also seasonal and cyclical. This was a reoccurring issue that surfaced in many conversations regarding the security and permanence of such education efforts for the future. The grant-based funding system for many of the programs that bring local food and garden initiatives to NYC public schools creates a level of inconsistency if efforts are cut short by a loss of funding for staff positions to run these programs or the loss of funds to support the costs of the program.

This impermanence is also evidenced by the finite funding provided by Rachel Ray’s Yum-O! organization. While such monetary and supply contributions to Garden-to-Café are welcomed and necessary to continue the growth of the program, they do not ensure the sustainability of the program in the future. The piecemeal, grant funding for Garden-to-Café also results in the rotation of borough chefs to accommodate all events. This means that chefs payed through grants from the New York Fund for Public Health serve as the head chefs for some of the harvest events. At other times specific borough chefs employed by the Department of Education run the events. Thus the funding dictates which chefs prepare the harvest event meals; this setup runs the risk of having inconsistency in the culinary and educational components of the Garden-to-Café programs.

Moving forward with stomach time

John Dewey, Ralph Waldo Emerson, John Stewart Mill all argued for the great merits of experiential learning as both legitimate and significant. Emerson’s support for hands-on learning has been considered to be a diagnosis of “the critical problem in
education, the relation of learning to living.” Drawing on this perspective, there is close alignment with the lack of priority given to the role of food in the lives of New York City children. The dilemma goes beyond just introducing fresh produce in the lunchroom. As one keenly aware parent wrote in 2003, acknowledging the underlying prioritization of junk food in schools:

But it doesn't matter what you offer, if, as in my daughter's high school, you have 20 minutes for lunch and there are 150 other kids in front of you in the line for the "good" food. More often than not, she ends up with fries and a soda because she has no time for anything else and rarely gets to finish even that.

One particular experience from my time with the Garden-to-Café program gives hope for the reexamination of the relationship between these two things: food and time. At the Mott Haven Charter Academy in the South Bronx, lunch was served family style on the day of the Harvest Event. We prepared chicken with fresh herbs from the garden, rice and beans with sofrito, collard greens and Swiss chard from the garden, and salad with dressing all from the garden across the street, which is operated by the community members, the charter school and PS 43 across the street. Dewey’s emphasis on the formation of habits reinforces the benefits of such a family-style meal in the lunchroom.

Parent volunteers, chefs from Bubble (an organization partnering with the Academy to teach children about healthy foods) teachers, and staff all attentively facilitated the family style meal, complete with music playing the background. The reoriented toward the food and its source was notable. This change in the lunchroom dynamic addresses the concerns of the parent quoted above and supports a sense of time

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that places a high value on the quality, locality, and importance of nutritional, delicious food.

Currently in efforts to reintroduce New York City school children to locally grown, healthy food, there is a tension or territorial conflict arising from the presence of not-for-profit organizations and initiatives that are not affiliated with the SchoolFood Program, like Bubble, who come into the schools (at the schools' request) to prepare food, provide wellness classes and other such services. The non-government entities working in the educational sector of the local food system are perceived as competition rather than collaborators in the effort to connect New York City schoolchildren to the food they eat. With adaptations to the collaborative approach to these programs, more coordination could create additional support rather than additional headaches for schools wanting to utilize both the SchoolFood programming resources and outside non-profit services.

*Programming to the Season*

One ripe opportunity for expanding the reach of the Garden to Café program is to continue it in conjunction with the Summer Food service provided free to all children throughout New York City. This platform would provide both the audience and an important solution to the disconnect between the school gardens and the school children during the months that they are not in school. Utilizing these produce resources for the benefit of children accessing the free lunch program in the summer would particularly target children who are disproportionately adversely affected by low quality food because of their low-income family status. Specifically, an increased effort to connect the
SchoolFood Summer food service with the Garden-to-Café programs with NYCHA. Gardening educational programs could produce a collaborative success for children living in public housing. They could benefit not only from the food itself, but also the educational opportunity to learn about food production and participate in the gardening efforts. Figure 1.5 reveals the large number of summer school food sites in the city and the corresponding potential to engage schoolchildren in local food education throughout the summer.

In 1962 the New York City Housing Authority established its Garden Program, creating garden sites on the residential properties of public housing buildings in the city. Today the program includes an annual Gardening and Greening competition, which judges based on quality and quantity (of garden plots) in NYCHA housing facilities throughout the five boroughs. As the New York City free summer lunch program expanded in 2009, it was targeted specifically at NYCHA housing facilities throughout the five boroughs. The inconsistencies of garden caretakers, unused produce, and underutilization of these school gardens could be remedied through the utilization of the peak growing season activities as a support the NYCHA gardening and SchoolFood free summer lunch programs. Integrating these efforts could prove to be very important for seasonal food education for children in NYCHA housing, some of the most disadvantaged youth in the city.

Figure 1.5 Number of Summer School Food Sites

- Bronx: 95
- Manhattan: 61
- Queens: 72
- Brooklyn: 124
- Staten Island: 12

http://www.nyccah.org/maps/schoolfood/
Conclusion

In 2010 the federal government implemented legislation targeted at improving health and nourishment for children; the bill was a recommitment to some of the original goals of the 1946 National School Lunch Act. First Lady Michele Obama promoted the redesign of the United States Department of Agriculture’s “Food Pyramid,” which was replaced by the picture of a plate with different food groups represented in different portions according to the daily-recommended amount. The change was a simple, powerful visual cue to help people adopt healthy eating habits at meal times. “MyPlate” was indicative of the continuing changes being made to improve the health of Americans, with a particular focus on children’s ability to grasp the nutritional concepts. The federal focus on healthy food has been important, but secondary to the most recent local efforts that have directly impacted New York City schoolchildren.

The New York City Department of Education’s SchoolFood program is indicative of the challenge of incorporating locally grown, seasonal food into the kitchens of a highly regulated, high-volume, not-for-profit governmental organization. Yet significant strides have been made toward providing high-quality local food education and local food options on school lunch lines. New York City local food education efforts can become a prime example of intentional attentiveness to seasons in the local food system through the further development of the Garden-to-Café program. Currently there are more applicants to the program than it can support with the current level of funding and staffing available. Further success for Garden-to-Café activities depends upon continued political and

84 “Healthy, Hunger-Free Kids Act of 2010.”
85 “No More Food Pyramid: Nutritional Icon Is Now a Plate,” ABC News.
financial support for its and efforts and increased coordination among garden caretakers, SchoolFood administrators, chefs, non-profit organizations, and municipal leadership.

*Can/will we orient ourselves to the seasons?*

More and more we as consumers have come to enjoy what we want when we want it – 24/7. And yet we still play by some seasonal rules when it comes to our American cultural icons. Starbucks creates demand for its gingerbread latte and pumpkin cream cheese muffin by withholding these items from its display windows and menus until the assigned season (fall, winter, Christmas, etc.) arrives. Imagine if lines formed outside of supermarkets and farmers markets for the first available tomatoes of the season. While that vision might remain only hypothetical, reorienting our society toward a more season-sensitive, local food approach is within reach. The myriad of local food system efforts across the country supports this transition in food culture. The Garden-to-Café program in New York City offers one specific example for supporting the urban local food system and paying particular attention to its seasonal nature. Educating the next generation of eaters on the value and taste of the foods of the local food system ensures the continued awareness of the benefits of local food and the role of seasons in its production. Doing so within the metropolis continues to ameliorate the dynamic between urban residents and their food sources, moving urban society closer to the revised food system of the kind local food advocates promote and hope to see in the future.
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Seasonality & The Local Food System: The role of seasons in local food education in New York City

Thesis directed by Rosemary Wakeman, Ph.D.

This work examines the role of seasonal produce through two interdisciplinary and interrelated frameworks: the food system and the urban context. It is informed by current scholarship on three issues: first, access to and the quality of food in urban areas; second, the positive health impacts, increased social cohesiveness, and the promotion of greater equality facilitated by more sustainable local and regional food systems; and third, the relationship of urban dwellers to a particular manifestation of nature, the food they eat. Current efforts to promote local and regional food cycles aim to reconnect eaters with the natural processes of food growth, which cannot be fully understood without proper consideration and reverence for the role of the seasons. For this examination of seasonal food, New York City serves as the urban context and center of the local food system under consideration. The New York City local food system includes the current policy and educational infrastructure that allows for the promotion of local food consumption for city school children. It also includes the physical growing space currently allocated for the production of food in New York City. Particular attention is given to the role of school gardens and other local sources that provide produce and local food for New York City school children. New York City has made great strides in integrating local food production into the urban context through support for urban gardens and farming and the increased focus on community gardens and urban farms. The central investigation of this
thesis is the importance of seasonality in local food education. The author’s fieldwork internship with the New York City Department of Education’s SchoolFood Garden-to-Café program offers a significant example of the role of seasonality in educating children on the benefits of growing and eating local, healthy food. Attentiveness to the seasonal growing patterns for produce in the northeast region of the United States can provide insight into increasing the scope and effectiveness of the Garden-to-Café program by highlighting new opportunities for local food education during the height of New York City’s prime summer growing months.
VITA

Sarah Joan Benoit, daughter of Stephen and Kimberly Benoit, was born on January 12, 1987, in Torrance, California. After graduating in 2001 from Hackett Catholic Central High School in Kalamazoo, Michigan, she entered Loyola Marymount University in Los Angeles, California as a Presidential Scholar. In 2005 she graduated magna cum laude, receiving the Bachelor of Arts degree in Urban Studies and European Studies. From November of 2009 she worked in Student Affairs for the College of Engineering at the University of Michigan. She then entered Fordham University in the fall of 2010. While working toward her Master’s degree, Sarah worked as a graduate assistant for the Urban Studies Program at Fordham University and during the summer of 2011 served as an intern for the New York City Department of Education’s SchoolFood Garden-to-Café program.