PROMOTING URBAN AGRICULTURE AS AN ALTERNATIVE LAND USE FOR VACANT PROPERTIES IN THE CITY OF DETROIT: BENEFITS, PROBLEMS AND PROPOSALS FOR A REGULATORY FRAMEWORK FOR SUCCESSFUL LAND USE INTEGRATION

PROFESSOR JOHN E. MOGK

Assisted by

SARAH KWIAKOWSKI, J.D.
MARY JO WEINDORF (3L)

WAYNE STATE UNIVERSITY LAW SCHOOL
471 WEST PALMER
DETROIT, MICHIGAN 48202
313 577 3955

August 1, 2010

Contributions to the Paper's Analysis Were Received From Kami Pothukuchi, Associate Professor of Urban Planning, Wayne State University.

Table of Contents

I. Introduction

Urban agriculture is significant to the history of the City of Detroit, from ribbon farms to Mayor Pingree's famous potato patches of the nineteenth century, victory gardens and gardening angels of the twentieth century, and a burgeoning of garden network capacity through gardening programs in the twenty first century. To scale up the benefits of existing urban agriculture operations, especially as it confronts large expanses of vacant land, Detroit should actively promote urban agriculture on a widespread scale.[1] The enormity of Detroit's vacant land is overwhelming even to urban experts and there is little or no market demand for new residential, commercial, or industrial developments.[2] The few recent developments have been small, scattered, and required major public subsidies. Urban agriculture, on the other hand, does not rely upon subsidies and serves a local demand for wholesome, inexpensive food, while providing residents with jobs, a method for eliminating neighborhood blight, and a greater feeling of self worth.

Importantly also is the city's need to reduce its expense of policing and maintaining blighted lots. Urban agriculture is the only private use with the potential for significantly reducing the city's maintenance expense.[3] Detroit spends an estimated $800,000 annually[4] to maintain only a small percentage of its 55,000 tax reverted lots.[5] Tens of thousands of lots are not maintained and blight their neighborhoods, lowering adjacent property values and contributing to further abandonment. In addition to vacant land, there are more than 75,000 abandoned residential structures.[6] Some neighborhoods are more than fifty percent (50%) vacant.[7] Citywide, thirty percent (30%) of residential parcels no longer have homes on them.[8] These numbers increase daily as the city's foreclosure and abandonment crisis continues to expand.

Many cities in the nation are embracing urban agriculture.[9] None could benefit more than Detroit because of the size of its vacant land problem,[10] lack of investment demand, and the major obstacle created by an amendment to the Michigan Constitution in 2006 prohibiting the city's use of eminent domain to assemble sites for economic development,[11] as well making it more difficult to clear blighted neighborhoods.[12] Urban agriculture can be successful on sites of any size or shape, scattered or contiguous; making it one of the few productive land uses not requiring land assembly.

Detroit's unemployment rate of 28.9 percent[13] leads the nation and the city has one of the highest poverty rates.[14] In addition, the city leads the nation in violent crime[15] and high school dropout rates.[16] The city's median family income, once 120% of the national average, is now less than 60% driven down by joblessness[17] and the flight of the middle class that constitutes a large percentage of more than 1,000 residents on average that have left Detroit monthly over the past 50 years.[18] Statistics today are merely a snapshot of a population that continues to shrink daily.

Decreasing income levels and increases in unemployment and poverty have spurred a rise in malnutrition and hunger of Detroit residents.[19] Families once self-sufficient now use food banks and food stamps to supplement their budget.[20] Hunger and malnutrition affect their children's ability to learn and are believed to be factors contributing to Detroit school children performing at shockingly low achievement levels and recording alarmingly high dropout rates.

Urban agriculture on a grand scale is nothing new to American cities or, as suggested in the opening, Detroit.[21] The most successful home front effort during World War II was the growing of Victory Gardens by residents in every city and town in the country.[22] The United States Department of Agriculture reports that Victory Gardens produced an estimated nine to ten million tons of fruits and vegetables, more than 40% of the nation's crop, through the nearly

twenty million gardens planted in Americans' backyards and instilled the art of canning into urban life.[23]

> In post-World War II Detroit, gardening was supported by a variety of federal and local programs. These included the USDA's EFNEP (Expanded Food and Nutrition Education Program) in the 1970s and 80s and the Community Food Projects Competitive Grants Program starting in 1997. Starting around 1975, the city offered the Farm-A-Lot Program, which was run by the city's recreation department until budget cuts forced its elimination at the turn of the century. It provided tilling assistance, seeds and transplants, and gardening advice to local gardeners. Grassroots groups rallied to support urban agriculture, including through the Gardening Angels which organized inter-generational transfer of skills and knowledge, the Detroit Agriculture Network, which organized networks for sharing resources, and more recently the Garden Resource Program Collaborative, the D-Town Farm, and a myriad other organizations created to develop gardens, offer training and resources, and organize gardeners to build their capacity through increasingly sophisticated agricultural methods and gardening for market.
>
> Over the last six years, Detroit gardeners growing in backyards, schoolyards, and community gardens have steadily increased their numbers and their cumulative harvests, implemented increasingly sophisticated methods to grow efficiently and extend the season, and organized themselves into a cooperative to sell produce at Detroit's Eastern Market and neighborhood markets. The Garden Resource Program offers gardeners free soil testing for lead, seeds, transplants, compost and other resources.
>
> Recently, the city has started to see proposals by individuals and groups to undertake agriculture on a large scale never before proposed for Detroit—farms of hundreds, even thousands of acres. These proposals range from intensive vertical farms to fish farms and large scale production of fruits, vegetables, and grains for food and fuel. With the steady incremental growth of small-scale urban agriculture in Detroit, the new proposals for larger-scale, commercial farming, and the sharp economic downturn which has brought the vacant land issue to the forefront, the time is right to set in place policies that will allow Detroit to become a national leader in urban agriculture. [24]

Accordingly, the city is taking steps to amend its master plan and zoning ordinance to support urban agriculture.[25] Some Detroit residents have voiced concern about environmental problems that may be created by large, intensive operations, and have called for transparency in decision-making and monitoring processes.

There are upwards of 30,000 acres of vacant land in Detroit,[26] more than enough land to

support farming activities for every resident, cooperative, and for profit business that wishes to engage in urban agriculture. It would behoove the city and the community to explore ways to encourage and support different forms of urban agriculture--individual plots, community gardens, and the few larger sized farms that may overcome formidable obstacles to assembling sizeable agricultural sites. As farms scale up in size attention should be given to the impact of heavier machinery, trucks, and large quantities of chemical pesticides and herbicides, which may create special environmental problems.

Much has been said about the need to achieve economic justice in reshaping Detroit's economy for the 21st Century by assuring that all residents benefit from future economic planning. No activity has greater potential for realizing economic justice than urban agriculture, if city land is made available on a widespread basis to residents to help meet their nutritional needs. An important caution is that land being considered for agriculture should be tested for soil contamination, particularly lead, and remediated first before planting begins. The experience of Detroit groups such as the Garden Resource Program Collaborative, which provides its members with soil tests without cost to them (and recommends ways to mitigate impacts of mildly contaminated soil), and the Earthworks Urban Farm, Detroit's first USDA certified organic operation, need to be studied for widespread replicability.[27]

This paper will discuss agricultural uses suitable for Detroit, including experiences of other cities within the United States and Canada and optimal approaches for introducing agriculture into the city's planning and regulatory framework. Specifically, the following Part II describes the benefits of urban agriculture. Part III identifies problems associated with integrating agriculture into a traditional urban land use pattern. Part IV examines best practices of cities such as Madison, WI, Seattle, WA, Cleveland, OH, Bloomington, IN, and Toronto, ON,

in promoting and regulating agriculture. Part V describes incentives that could be adopted by the city to encourage agricultural use. Part VI discusses the Michigan Right to Farm Act. Part VII proposes how the City's master plan and zoning ordinance could be amended to accelerate and manage agricultural land use in Detroit. Part VIII provides concluding commentary.

II. Benefits of Urban Agriculture

Cities can benefit from urban agriculture economically, socially, and environmentally. Urban agriculture increases economic prosperity by creating jobs and developing new, local industries. Additionally, it improves the health and safety of residents by providing wholesome food and greater access to well-maintained green spaces, fostering a sense of community, building social capital and organizational capacity, and uniting residents around a common purpose. Urban agriculture improves the local environment by removing blight from vacant lots and returning a green landscape to the city's neighborhoods.

a. Economic Benefits

There is an increasing demand for locally grown food, especially in local restaurants and grocery stores.[28] The United States Department of Agriculture estimates that demand for locally grown food will rise from the $4 billion market in 2002 to a $7 billion market in 2012.[29] Importantly, money spent on local agriculture stays within the local economy.[30] Detroit's enormous vacant land inventory could provide wholesome vegetables and fruits for a large percentage of its population,[31] as well as its restaurants and retail food outlets.

Investing in urban agriculture is a smart business decision. Approximately every $1 invested in a community garden yields $6 worth of fruits and vegetables.[32] Researchers in Ohio estimate that "urban farmers can gross up to $90,000 per acre by selecting the right crops and

growing techniques."[33] In Philadelphia it is estimated that "urban market gardens" earn up to $68,000 per half acre.[34] Projections are that locally grown fruits and vegetables in Detroit could generate $200 million in sales and approximately 5,000 jobs.[35] When vacant land becomes clean, productive, and more attractive to existing and new residents through agriculture, the city's housing values will benefit and, in turn, its tax base.

b. Societal Benefits – Quality of Life

i. Food Security and Health

Access to quality food will promote healthier lifestyles for city residents. The lack of access to healthy and affordable food harms the health and wellbeing of Detroit residents and contributes to both hunger and obesity, which pervades the city.[36] While most Detroit streets are dotted with convenience and liquor stores, the city has no major food chains.[37] A study of all food stores in three low-income zip codes in Detroit found that only nineteen percent (19%), or fewer than one in five stores, carried a minimal "healthy food basket" (products based on the food pyramid).[38] As a result, city residents have limited access to food other than fast foods and poor quality, highly processed and highly caloric foods.

Detroit ranks fifth in the United States for its obesity rates.[39] The lack of access to healthy foods is one of the leading causes of obesity in Detroit.[40] In addition, locally grown food is more nutritious than food shipped to the city. When produce is transported long distances and subjected to heavy chemical preservatives, it loses nutritional value. Furthermore, the recreational activity that gardening promotes leads to a healthier lifestyle (as well as health benefits through horticultural therapy).

ii. Community Development and Improved Aesthetics

The secondary effects of urban agriculture are potentially unparalleled. Farms and gardens imbue a sense of community, pride, and belonging. Urban agriculture benefits youth education,[41] tourism, and community development through school programming, work programs, and other agriculture-related activities.[42] It can make the city attractive to new residents and improve the lives of current residents.[43]

iii. Reduction in Crime – Safe Neighborhoods

Cultivating blighted and unstable areas in Detroit could also reduce criminal activity. Vacant lots become illegal dumps for refuse[44] and are gapping holes in the cityscape, while vacant houses are subject to trespass, vandalism, and arson.[45] Farms and gardens can increase safety because the land will be occupied and monitored by those who farm and use it for agriculture related activities, thereby eliminating the need for the city to police and maintain the vacant property.

c. <u>Environmental Benefits</u>

Local food production reduces the need for packaging, refrigeration, storage, and transportation of food, decreasing energy usage and costs associated with the production of food. Additionally, harmful environmental problems can be minimized. Rooftop gardens, for example, are known for "harnessing rainwater that can overwhelm urban sewage systems."[46] They also keep buildings warmer in the winter and cooler in the summer, leading to reduced electricity usage and smaller utility bills.[47] Furthermore, properly managed urban agriculture can

turn wastewater and other agriculture byproducts from agricultural activities, such as composting, into resources that can be recycled and used again.[48]

III. Problems Related to Urban Agriculture and Regulation

Cities promote the public health, safety, morals, and general welfare through zoning. Zoning allows cities to effectively coordinate land uses among neighboring landowners and resolve community conflicts before they occur. It is the principal tool to address any problems associated with urban agriculture. However, local zoning in Michigan of "commercial production of farm products" is preempted by the provisions of the state's right to farm act discussed in section VI of this paper.

As cities expanded and absorbed surrounding open space and farmland, agricultural uses were phased out and eventually excluded altogether from the master plans and zoning ordinances of most cities. Today, however, expanding areas of vacant land in declining cities, such as Detroit, have little demand for traditional urban uses, and offer a renewed opportunity to promote agriculture. However, as agriculture returns, it is important to identify and manage the problems that agriculture--especially as it is conventionally practiced in more rural areas—could potentially cause in cities.

a. Environmental Concerns Related to Urban Agriculture

Environmental concerns with respect to urban agriculture relate to soil contamination, contamination of ground and surface waters, air pollution, increased water demand, potentially higher load on sewage systems, and the potential for the production of harmful waste materials. Some agricultural wastes if properly managed can be beneficially recycled through composting or transformation into fuel. The management process can be costly, however.[49]

ii. Problem: Soil Contamination

Risks related to soil contamination include: the potential that plants will absorb or transport contaminants, that groundwater will become contaminated, and that bioaccumulation will occur when livestock or humans ingest contaminated crops.[50] While certain chemicals naturally exist in soils, many are toxic at high concentrations. The ideal situation for production of agriculture products occurs where the contamination in soil does not exceed natural levels.[51] Lead is particularly hazardous and is found naturally in soils at a level of 10 parts per million (p.p.m.). The EPA standard for unsafe levels caused by lead contamination is 400 p.p.m.[52] There is the likelihood that a number of plots in Detroit do not meet the EPA standard.[53] Other contaminants with which to be concerned include: zinc, PAHs, chromium, copper, molybdenum, sulfur, cadmium, copper, zinc, PBTs, benzene, toluene, xylene, arsenic, mercury (historical use), chlordane and other chlorinated pesticides.[54]

The principal risk in urban gardens is from lead- contaminated soil or dust clinging to the plants as they are handled or ingested, which is especially significant for young people working in gardens, for whom EPA appropriately places a lower threshold given their development stage. It is also a major concern for urban agriculture because plants absorb lead through their leaves and from the soil.[55] Lead contamination is documented as widespread in Detroit. It is important to learn more about and support existing community-based efforts to help gardeners test for lead and undertake measures to minimize exposure through direct contact with soil containing lead or indirectly through ingestion of plant materials that may have uptaken lead. Building raised beds with clean soil is one such method, and knowledgeable gardeners such as those in existing gardening programs already use this and other related methods. Atmospheric pollution of gardens by lead is an understudied issue and also needs attention.

1. Existing Lead Contamination

Lead in Detroit soils is caused by lead paint chips and dust resulting from remnants of older demolished buildings, emissions from lead based gasoline engines, and air borne lead contaminants from the city's industry. Detroit is not alone in facing lead contamination. Recently, hazardous amounts of lead have been documented in the backyards and communities of such other major cities as New York, Baltimore, Boston, Chicago, Los Angeles, Minneapolis, and Philadelphia. A study shows that between 1950 and 1984 cars and trucks in Michigan emitted about 182,000 metric tons of lead and that in the year 2000 alone, Michigan companies legally released 24,345 pounds of lead and lead compounds.[56] The concern is great because lead does not evaporate, so harmful contaminates emitted long ago remain in Detroit's soil.[57] The problem is particularly acute as it relates to children who have a five times greater lead absorption rate than adults. Lead builds up in the body over years, and many of Detroit's children already have elevated levels from lead exposure since birth.

A recent study done by the Detroit Department of Health & Wellness and the Detroit Public Schools had startling results--of the 39,000 DPS children tested, 58% had a history of lead poisoning.[58] The study also showed that a link exists between high levels of lead present in children and low test scores within Detroit Public Schools. The study also found a link between high levels of lead and children within the Detroit Public Schools system that needed special education. Prime contributors to contamination in the Detroit area include former gas stations and industrial sites. Also, contamination is more likely to result if property use currently or in the past involved the application of lead paint, high traffic area, use or production of fertilizer or pesticides, commercial activity, treated lumber, machine repair, junk vehicles, furniture refinishing, fires, landfills, or garbage dumps.[59]

This risk can be managed by soil remediation after testing, if hazardous levels of lead are detected. The two principal approaches are (1) mixing or covering the high lead soil with clean soil or (2) physically removing and replacing the lead soil.[60] In addition, select crops, such as sunflowers, have the ability to absorb and remove lead from the soil.[61]

2. Raising Livestock as a Cause of Future Contamination

Pesticides, fertilizers, and untreated manure also can contaminate farming soils. Corn, wheat, and soybeans, which are usually used for feed crops, are the first, second, and fourth leading consumers of fertilizer.[62] Disposal and treatment of manure, unlike human waste, is not regulated by any standards and, as a result, untreated manure can be carried away by rainwater into feedlots, pastures, and water sources for human or animal consumption.[63]

3. Risk Directly Related to On-going Urban Land Uses

Contamination can also be introduced from adjacent properties through the movement of groundwater and rain runoff from roofs, roads, and other structures, and through the contamination of ground water. Given Michigan's location within the Great Lakes Basin and Detroit's proximity to the river, the ground water table is higher than in other areas, leading to greater ease of contamination by agricultural activities. Specifically, the current uses of urban land for industrial purposes inadvertently contaminate soil, making it unsuitable for agricultural production. Commercial and industrial chemicals cause contamination through accidental spills or leaks.

Urban cattle-raising can cause serious air and water quality issues. Cattle produce gaseous pollutants, which add to the already poor air quality present in urban areas. Four animal

contaminants in particular have been identified as problems related to urban cattle-raising: methane, reactive organic compounds, ammonia, and hazardous matter.[64]

The use of pesticides is also a concern due to the drift that occurs both during and after application. The U.S. Environmental Protection Agency (EPA) regulates pesticide spray and dust drift recognizing that "pesticide applications can expose people, wildlife, and the environment to pesticide residue that can cause health and environmental effects and property damage."[65] Both the EPA and the Michigan Department of Agriculture have set forth guidelines for the application of pesticides to reduce the amount of drift that occurs from the application of pesticides; however, neither regulation requires that no drift occur. [66]

ii. Problem: Water

1. Contamination

The Environmental Protection Agency (EPA) estimated that agriculture generates pollutants that degrade aquatic life and interfere with thousands of miles of river. Agriculture contributes to seventy percent (70%) of all water quality problems identified in rivers and streams.[67] Farms generate both liquid and solid waste that poses high risks for urban water sources. In the urban setting there is a great risk of chemical contamination in dense areas. Furthermore, attention must be paid to the unregulated use of uncomposted solids and untreated water that is often used to irrigate crops or to feed animals.

2. Consumption

Producing meat takes a large amount of water and animals need water to drink and to cool them. An average of 1,000 gallons of irrigation water is needed to produce approximately one pound of protein.[68] Agriculture in an urban setting introduces a competitor for clean water.

While access to clean water in Detroit on its face is not a problem, because the system has huge underutilized capacity, use of the system's water for urban agriculture should not deplete nor otherwise negatively affect water supplies for municipal residents.

iii. Problem: Waste Management

Management of solid and liquid waste is a major challenge faced by municipalities introducing agriculture.[69] Organic waste comes from both solid waste and organic sludge. Sludge is usually a by-product of wastewater treatment. Much of the waste generated can be recycled or managed to be profitable input for use in agriculture production.[70] An additional method includes composting to achieve sound waste reduction.[71] Municipalities must apply best practices for proper waste storage facilities.[72] Increased output of waste from agriculture must be anticipated and strategies must be devised which reduce waste or recycle it through composting and water treatment so that the environment and public health is not compromised.[73]

b. Agriculture Equipment

Agriculture equipment can cause problems when driven on urban roads and can increase noise pollution. Generally, the term "agriculture equipment" is meant to include: tractors, self-propelled machines, and equipment that may be towed by or attached to tractors or self-propelled machines[74] and excludes vehicles not used in the production of agriculture.[75]

i. Problem: Motor vehicle collisions with agriculture equipment on public roads

Even in rural areas, usual motor vehicle traffic encounters problems when sharing the roads with agriculture equipment. One of the main concerns is driver safety. In crashes involving farm vehicles, the farm vehicle occupant is killed almost twice as often as occupants of the other vehicle.[76] Most collisions occur during planting and harvesting[77] with a majority of

crashes occur between 3:00 and 6:00 P.M.[78] A Texas report states that common crashes between agriculture equipment and usual motor vehicle traffic include: rear end, left turn, passing, crossroads, and oncoming collisions.[79]

The two most common causes of collisions are that public roads are not wide enough for agriculture equipment and few traffic laws properly address issues related to agriculture equipment on public roads. For example, many traffic laws do not address proper lighting and marking of agriculture equipment for other drivers on the road.[80]

ii. Problem: Noise from agriculture equipment

Introducing agriculture equipment adds an additional contributor to urban noise pollution. Noise from agriculture equipment, like the loud persistent drone of tractor engine noise, will be unfamiliar and unpopular to city dwellers. There is a need to address potential conflicts with agriculture noises through proper time, manner, and place regulations.

Problems are also caused by larger trucks that may be needed to move agricultural inputs as well as harvest products and wastes. In addition, problems may be created of traffic capacity within urban neighborhoods, air pollution (exhausts), noise, smells and conflicts with pedestrian and other traffic.

c. Livestock in the City

Raising livestock in the city is highly contentious because cities are places of dense populations. An important first step should be to define at the outset what a municipality means by the term "livestock" in order to distinguish it from "domestic animals."[81] Boise, ID, has a helpful definition: "livestock…are defined as having a commercial use…these animals are typically raised to sell their products such as wool, milk, meat and pelts."[82] Another good model

is that of the Midwest Environmental Advocates, Inc., which defines "livestock" by listing specific animals. Those include: cows, cattle, sheep, goats, hogs, horses, mules, and poultry.[83] Not clearly defining the animals will cause difficulties in enforcing regulations.

Noise, smell, or other animal-related annoyances that affect neighbors and other adjacencies must be addressed.[84] Also, animals transmit diseases that can affect the public health.[85] Animal excrement not properly managed decomposes producing odor and breeding bacteria and flies. "Animal dung is a source of tetanus…especially if the animals are left outside to graze—a phenomenon often seen in the city."[86] Runoff from animal waste (urine), usually associated with dairy cattle, chicken sheds, and pig pens, pollutes surrounding areas and attracts "disease causing vectors, such as mosquitoes."[87] Raising livestock in urban areas can overwhelm sewage systems and contaminate water supplies. Detroit's sewage system, however, reportedly has excess treatment capacity.

An important criterion for examining the problems associated with urban livestock is the scale and degree of commercialization. Distinctions between different systems have been categorized as (1) subsistence backyard (or personal use); (2) semi-commercial (including community gardens); and (3) large-scale commercial systems. Large-scale commercial systems having livestock are potentially the most problematic because they produce large amounts of waste such as excrement and urine.[88]

i. Problem: Chickens and other fowl

Chickens and other fowl raise issues of nuisance, including noise, un-cleanliness from excrement and smell, unsightly coop construction, attracted rodents, and disease. Furthermore, the health and well being of the chicken must be considered. Other fowl, such as roosters, are extremely noisy and are generally prohibited by zoning regulations. However, many engaged in

agriculture acknowledge other benefits of keeping roosters, such as their fertilization of eggs which increases lecithin, an agent that counteracts cholesterol. Many health advocates seek fertilized eggs, thereby creating a market for them. A zoning ordinance should allow roosters in residential areas as long as the zoning ordinance restricts the number of roosters to an appropriate hen/rooster ratio and also protects the neighboring residents from excessive noise.

ii. Problem: Raising large animals

Rearing and pasturing large animals in the city raises several potential problems: (1) many acres to humanely pasture the animals; (2) significant impacts on human health and the environment; and (3) problems relating to nuisance such as noise, smell, and aesthetics.

Raising bovine requires larger tracts of land. It is possible to raise one dairy cow for personal consumption; however, if a plan is to include large-scale commercial dairy faming or beef cattle raising, planners need to consider a space-to-animal ratio which provides for overall health and safety of the animal and ensure that products from city-raised animals are not contaminated so not to pose a threat to human health.

d. Bees in the City

i. Problem: Managing the Honeybee

Urban beekeeping can have both a positive and negative effect on the declining Honeybee population. [89] Honeybees tend to do much better in an urban setting do to the diversity of agriculture to pollinate in contrast to the rural mundane choice of crops combined with the extensive use of pesticides.[90] However, amateur beekeepers can also harm the honeybee population by unknowingly allowing a diseased colony to die out and infect other healthy colonies nearby.[91]

ii. Problem: Preventing Injury to Neighbors

Due to the close proximity of residents in the urban setting, it is possible for the keeping of bees to constitute a nuisance based on the location of the hive, making the beekeeper liable for any injury the bees inflict on neighbors.[92] Furthermore, the Michigan Department of Agriculture promulgates GAAMPS that regulate beekeeping.[93] The GAAMPS regulate the number of bees allowed based on lot size and also take into consideration the placement of hives especially in the urban situation. The GAAMPS provide the following hive placement regulation:

> Correct placement of hives is an important consideration for responsible beekeeping in urban/suburban situations. Hives must be located in a quiet area of the lot, not placed directly against a neighboring property unless a solid fence or impenetrable vegetative barrier not less than six feet high forms the property boundary. Keep hives as far away as possible from roads, sidewalks, and rights of way. Hive entrances should face in such a direction that bees fly across your property. If this is impossible, use barriers (hedges, shrubs, or fencing six to twelve feet high) to redirect the bees' flight pattern.[94]

The GAAMPS also regulate the spraying of pesticides when there are bees that are active in a particular area.[95]

e. Size of Agriculture Use: Farm, Lot, or Plot-- Specific Concerns For Certain Uses

Whether a city should allow rooftop gardens, large-scale farms, farming in public places (parks, schools, government-owned land) or backyard gardening, depends very much on the nature and use of adjacent property. Conflicts may arise with respect to the keeping of animals, bees, chickens, or growing of tall crops such as corn near traditionally residential areas or near commercial business districts.

i. Rooftop Gardens

Rooftop garden structures need to be constructed (or reconstructed) to properly withstand additional weight and to ensure that there is proper drainage. The building code may need to be amended so that it reflects structural requirements for rooftop gardening.

ii. Conflicts between existing regulations

Existing regulations may conflict with agriculture uses. For example, landscape regulations may restrict the growing of taller crops such as wheat or corn. Grass height regulations that may interfere with gardens and farms and weed regulations should exclude crops or stipulate that landscaping associated with growing food does adhere to the city's definition of what is neat, clean, and in healthy condition. Also, any zoning provisions that ban fruit trees, which would in effect prevent the growing of orchards, would need to be amended. A new regulation could encourage fruit tree growing by stating a preference for them as an approved agricultural use.

iii. Land Tenure – Community and Side Lot Gardeners

Many residents in cities who are involved in agriculture do not own the land they use to grow food; the same is true for many "community gardeners" in Detroit who are often tenants. These growers do not have title to their land; therefore, they risk losing agricultural investments if land is taken for other purposes. Methods need to be created to encourage agricultural use through land trusts, longer term leases, and allied policy initiatives.[96]

iv. Land Assembly for Large-Scale Farms Tenure

Much of the vacant land in Detroit is tax foreclosed and is owned by the city, county, or state.[97] The city must decide how much of this land will be dedicated to farming as well as how agricultural land will be assessed and taxed. If scattered foreclosed city owned lots need to be aggregated and expanded into larger farm sites, a major obstacle is presented by an amendment to the Michigan constitution in 2006 prohibiting the city's use of eminent domain to assemble sites for economic development as well as making it more difficult to clear blighted neighborhoods.[98]

A further aggravating problem for land assembly is that many areas of the city are home to vacant buildings such as former schools, abandoned residential properties, and former industrial sites. To create open space, buildings and homes no longer occupied must be demolished. The process of demolition is both time-consuming and costly. Furthermore, sites that were formerly used for industrial purposes may be considered Brownfields and will require significant clean up before they can be used to grow agricultural products.

f. <u>Commercial Selling of Agriculture Products</u>

There is a growing trend for people to sell the excess products they produce through urban farming.[99] Growing food and selling it directly to the urban residents provides quick, inexpensive access for them to healthy food, an important benefit in Detroit whose neighborhoods suffer from low levels of access to fresh and healthy foods. However, the city must ensure that marketing activities do not conflict with current ordinances prohibiting street parking, signs, or commercial activities in certain zones, such as residential zones. In addition, regulations are important to protect consumers. For this reason, the city should consider regulating commercial selling of agriculture products grown in the urban setting to ensure that

food quality, health, and safety measures are observed.[100] The commercial production of farm products in Michigan is controlled by the state's right to farm act discussed in section VI of this paper.[101]

IV. Best Practices

Cities across the country have recognized the value of agriculture as an approved land use in urban areas. Local governments, such as in Madison, WI, have undertaken a complete overhaul of their comprehensive plan and zoning ordinance to promote food production and permit agriculture uses. Other cities, like Cleveland, OH, and Bloomington, IN, adopted amendments to their existing codes, which promote urban agriculture through community gardening, market gardening, and other urban agriculture activities. As discussed above, Detroit is perhaps the nation's best candidate for innovative strategies to address its land use issues. The absence of provisions addressing agriculture in the master plan and zoning ordinance necessitates that they be amended to include it.

Madison's new zoning law updates its 43-year-old code. The draft language of the proposed zoning changes includes in its intent and purpose section the objective "[t]o preserve productive agricultural land and provide opportunities for local food production."[102] Under the proposed zoning ordinance there are four agricultural uses: cultivation, animal husbandry, community garden, and market garden. The code updates the existing "agricultural district" and adds an additional zone, the "urban agricultural district."[103] The comprehensive language of the new zoning law describes accessory uses in urban agriculture zones as including sheds, garages, and solar and wind devices.[104] The ordinance states that the purpose of urban agricultural districts is as follows:

> [T]o ensure that urban garden and farm areas are appropriately located and protected to meet needs for local food production, and to enhance community health, community education, garden-related job training, natural resource protection, preservation of green space, and community enjoyment. Because urban agriculture will typically exist in close proximity to residential and other uses, concern will be given to ensuring compatibility between uses.[105]

The new ordinance includes detailed standards for dimensional requirements, including set back and lot width and for conditional uses.[106] Finally, the proposed ordinance requires that some uses in urban agricultural zones have a management plan, which will "address how the activities will be managed to avoid impacts on surrounding land uses and natural systems."[107]

Cleveland adopted an ordinance in 2007 creating an "urban garden district."[108] In February 2009, the city adopted an additional ordinance permitting residents to keep farm animals and bees.[109] Similarly, in August 2009, the Bloomington City Council unanimously approved an amendment to its Unified Development Ordinance to permit agricultural uses in the city.[110] While both Bloomington and Cleveland's codes did not specifically restrict agricultural activities, the amendments were deemed necessary by the local government bodies to make clear that agricultural activities were formally permitted.[111] The new amendments in Bloomington define two "food growing activities" permitted by the code: urban agriculture and community gardening.[112] The amendment permits urban agriculture and community gardening as uses in residential zones. The newly amended code defines "urban agriculture" as:

> [T]he growing food crops through plant cultivation. Urban agriculture includes but is not limited to the following accessory activities: backyard gardens, container gardens, edible landscapes, residential greenhouses, herb gardens, rooftop gardens, berry patches, vegetable gardens and other activities. Urban agriculture uses shall not include the raising of animals, except as permitted elsewhere in the Bloomington Municipal Code.[113]

The ordinances described above provide helpful guidance to assist Detroit in updating its comprehensive plan and zoning ordinance to recognize and regulate urban agriculture as a permitted use.

V. Economic Incentives to Promote Agriculture

While urban agriculture should not require economic incentives, Detroit could accelerate its introduction through their use. The city could make tax foreclosed vacant land available at reduced sale prices or under attractive leasing arrangements to those with experience in urban agriculture who can provide community benefits, engage in sustainable practices and participate in monitoring of agricultural operations. Taxing strategies to be considered include: tax abatements, tax credits, reduced tax assessments, and creating an agricultural enterprise zone involving other economic benefits.

a. Tax incentives

First, tax abatements provide an incentive for private enterprise to develop within a deteriorating area by reducing the tax rate or the taxable value of the project area, sometimes to its pre-development level. A good example of a city's use of tax incentives is a project in Chicago where the city encouraged planting of green roofs for nearly a decade.[114] Also, Seattle proposed a tax incentive for retrofitting roofs to build rooftop gardens.[115] A best practice suggested by the Chicago Botanic Garden at the Urban Agricultural Symposium in June 2009 also included tax rebates for residential and commercial property owners who use part of their property for an agricultural purpose.[116] Another example is in Buffalo, New York, where AgroPower Development Inc. utilized tax abatements and other tax incentive programs to locate its operations and reduced the burden of high start up costs for a project of its size.[117] A

financing plan was designed utilizing an enterprise zone, a state-run "green subsidy," and incentives from the local utility companies to offset the startup costs. The local utility reduced electric and natural gas rates. The business also benefited from tax credits based on projected new employment generated by the project.[118]

Enterprise zones are used as a development tool to encourage investment in blighted neighborhoods. A "food enterprise zone" in Detroit would focus on increasing local food production through urban agriculture. Locating a farming business in one of these zones would provide a business owner with substantial tax savings and other benefits. In Michigan, enterprise zones are known as "renaissance zones." In 1996, Michigan adopted the Michigan Renaissance Zone Act with the distinct purposes of facilitating economic development.[119] Under this act, local units of government can apply to have neighborhoods of 5,000 acres or less designated as a renaissance zone.[120] Businesses located in a renaissance zone benefit from having property, business, millage and utility taxes abated and receive a tax credit on the Michigan Single Business Tax. Generally, zones are established for a ten to fifteen year period and the tax abatement is phased out in the final three years of the zone.

b. Reduced tax assessments[121]

The city of Detroit could provide targeted tax relief for those who use land for agricultural purposes by reducing the assessment on agricultural land.[122] Almost every state in the country has used preferential tax rates to encourage farmers to maintain agriculture uses in the rural-urban fringe.[123] These rates reduce the overall tax burden farmers must pay. The land value is assessed for its agricultural use, as opposed to the value of its use as developable land, providing for a significant savings for farmers. These reduced taxing strategies are generally used to protect and support ongoing farming activities in traditional rural areas being overtaken

by urban sprawl. By applying the same technique to vacant urban land, Detroit would be promoting the creation and sustainability of agriculture within the urban area.

Preferential tax rates are not without controversy. For example, some current Detroit residents fear that introducing agricultural land use into the City of Detroit will effectuate a "land grab" or that land assessed at these preferential tax rates will be used for other purposes and for only symbolic farming activities.[124] Michigan already has legal protections in place addressing these issues. Under a provision in the Natural Resource and Environmental Protection Act[125] farmers are able to claim state income tax credits, which offset their local property tax bills. However, to enjoy the benefit of this preferential rate, farmers must sign a ten-year agreement stating that they will use the land for agricultural purposes. Michigan assesses a recapture tax on property that is converted from agricultural use to another use while receiving an agricultural tax break. Under the Agricultural Property Recapture Act,[126] a tax is owed for up to seven years immediately preceding the year in which the qualified agricultural property is converted by a change in use, either by sale or development. These or similar protections should be explored for a lower agricultural tax assessment strategy for Detroit.

c. Reduced land prices and leasing options for city owned land

As stated in Section I, *infra*, the city owns an enormous inventory of vacant land that continues to increase in size. Currently the city does not have a policy, which would allow it to lease publicly owned land to gardeners for a long term.[127] Implementing a flexible leasing option for community gardeners and other smaller-scale farmers is a policy used in many other cities. Leasing plots for community gardens through a city-run program, as opposed to selling plots outright, reduces the cost to the gardener and allows the city to retain ownership to put the land to another more profitable use if one arises at the end of the lease.[128] Leasing gives the city flexibility in how it manages its vacant land. However, before this leasing should be considered

as an option, the City of Detroit should eliminate any zoning constraints on the sale of food grown on public property that may now exist and address any city concerns in the terms of the lease agreement with the grower.[129]

Today, there is no unsubsidized market demand for development of most of the city's vacant land. The only practical solution is to use the land for gardens and farms. However, as markets change and as the economy in Michigan improves, the land may be more profitable for another use. It should be noted, however, that gardens require huge investments of labor and other resources; these investments should not be lightly considered in designating gardens as interim uses. Perhaps in an overall master plan, some land within or near viable neighborhoods could be allocated for more permanent gardens while other land designated for gardens on a shorter term basis; this would also help conceptualize gardens appropriately as the neighborhood development tools they are in other cities. Detroit should consider this flexibility when it decides what types of urban agriculture uses it will allow in its ordinance and how the city wants to manage its vacant land. Because the city owns so much vacant land, a combined approach of selling some land to developers and also having a city-run lease program could provide the flexibility for a thoughtful long-term plan for the city to introduce and sustain urban agriculture as part of a new productive mix of uses.

A good example of a program that leases city-owned land is in Seattle, WA. Seattle has long practiced a land lease option for its P-Patch Community Garden program. The city identified that there are two reasons why a lease program is beneficial. First, it allows the city planners to manage the growth and use of its land. Second, it affords stakeholders interested in community gardening or other agricultural activities to use land in a productive way that they might not otherwise be able to purchase.[130] An underlying policy and purpose of Seattle's land

lease program is that "municipal departments do not benefit from lands' vacancy and disuse, and are aided by the development and oversight" that the community garden program maintains.[131] The program in Seattle works where one city department coordinates with other appropriate city departments to broker lease agreements with gardeners. In addition, the city department works to broker agreements with private landowners and potential gardeners to use the land as a garden if it is currently vacant.

d. Expedited and reduced-cost permitting

A huge barrier to success of urban agriculture in Detroit is the time consuming and excessively costly permitting process. Currently, it would cost a community gardener seeking to establish a farm $1,000 just to apply for a special use permit, if such permits were required under a new agricultural ordinance. High rates do not encourage small growers and can be afforded by only the larger agricultural operation. The Department of Buildings and Safety Engineering should revaluate its fee structure and implement a plan for expedited permitting for all those who wish to use their land for agricultural purposes.

VI. The Michigan Right to Farm Act—Preemption of Detroit Zoning

The Michigan Right to Farm Act preempts local zoning where "commercial production of farm products" is permitted by the city. Moreover, it provides that a farm and farm operation, as defined in the Act, are not nuisances as long as they conform to Generally Accepted Agricultural and Management Practices (GAAMPS).[132] The Act was intended to protect existing farms from urban sprawl consuming farmland on their boundaries and not to protect new farms being located within existing developed urban communities. The Act has no rational application to agriculture within Detroit. The city should be free to regulate all permitted agriculture uses

through the adoption of local zoning and environmental standards that protect exiting neighborhoods.

The Act defines a "farm" as any "land, plants, animals, buildings, structures,…machinery, equipment, and other appurtenances used in the commercial production of farm products."[133] It defines "farm operation" as:

> [T]he operation and management of a farm or a condition or activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products, and includes, but is not limited to:
> (*i*) Marketing produce at roadside stands or farm markets.
> (*ii*) The generation of noise, odors, dust, fumes, and other associated conditions.
> (*iii*) The operation of machinery and equipment necessary for a farm including, but not limited to, irrigation and drainage systems and pumps and on-farm grain dryers, and the movement of vehicles, machinery, equipment, and farm products and associated inputs necessary for farm operations on the roadway as authorized by the Michigan vehicle code….
> (*iv*) Field preparation and ground and aerial seeding and spraying.
> (*v*) The application of chemical fertilizers or organic materials, conditioners, liming materials, or pesticides.
> (*vi*) Use of alternative pest management techniques.
> (*vii*) The fencing, feeding, watering, sheltering, transportation, treatment, use, handling and care of farm animals.
> (*viii*) The management, storage, transport, utilization, and application of farm by-products, including manure or agricultural wastes.
> (*ix*) The conversion from a farm operation activity to other farm operation activities.
> (*x*) The employment and use of labor.[134]

Agricultural activities not constituting a farm engaged in commercial production of farm products or falling within the above definition of farm operation are not covered by the Act. The term "commercial production" is not expressly defined in the Act. However, the Michigan Court of Appeals in *Charter Township of Shelby v. Papesh* interpreted the term as follows:

> Words that are not defined by a statute will be given their plain and ordinary meanings, and a court may consult dictionary definitions when ascertaining such a meaning. *Koontz, supra* at 312. "Commercial" is defined as "produced, marketed, etc., with emphasis on salability, profit, or the like," and "production" is defined as "the act of producing; creation or manufacture." *Random House Webster's*

College Dictionary (1992). Thus, "commercial production" is the act of producing or manufacturing an item intended to be marketed and sold at a profit.[135]

Farms and farm operations covered by the Act and complying with it are not subject to being regulated as public nuisances by local units of government and are immune from nuisance suits by neighbors. The Act states that it is "the express legislative intent that this act preempts any ordinance, regulation or resolution that purports to extend or revise in any matter the provisions of this act or generally accepted agricultural and management practices developed under this act." [136] The statute continues, "Except as otherwise provided in this section, a local unit of government shall not enact, maintain, or enforce an ordinance, regulation, or resolution that conflicts."[137]

The City of Detroit has a number of plots that are producing farm products for profit. These farming activities appear to fall within in a broad definition of a farm engaged in the "commercial production of farm products."[138] As such, if the City is found to permit these uses, they may not be able to be regulated nor will they constitute a public or private nuisance, as long as they conform to GAAMPS as promulgated by the Michigan Commission of Agriculture.[139]

However, these farming activities are not authorized uses under the City's master plan or zoning ordinance. Accordingly, their continued operation may be subject to termination as unpermitted uses. Municipal zoning ordinances are not limited to regulating or prohibiting nuisances, but rather to adopting zoning plans that further the public health, safety, morals and general welfare by serving a variety of public goals. If the City acquiesces in unpermitted farming activities for an unreasonable period of time, a court may refuse to enforce the city's zoning ordinance to terminate the activities on the basis of the doctrine of laches, with the result that they would be permitted.[140] (e.g. *City of Hancock v. Hueter*, holding that acquiescence in multifamily use in a single family zone for a period of eight years resulted in laches preventing

the city from enjoining multiple family use; [141] *In Re Crawford's Estate*, holding that where a claim on property was not made until five years after a quit claim deed was publically recorded, the doctrine of laches applied;[142] *McGregor v. Carney*, holding that laches applied denying a writ of mandamus when petition for writ of mandamus alleging unlawful discharge was not filed for eighteen months[143]). Time is not the only factor, however. In *Great Lakes Gas Transmission Co. v. Macdonald*, the Michigan Court of Appeals in 1992 said, "It is the effect, rather than the fact, of the passage of time that may trigger the defense of laches."[144] Also, the Court of Appeals in *City of Troy v. Papadelis* said that three years was enough for Laches to apply based on a lack of due diligence by the city in enforcing the zoning ordinance, but did not apply the doctrine because the property owners failed to demonstrate that the city's delay prejudiced them.[145]

Concern has been raised in the Right to Farm Act Policy Platform Adopted – February 19, 2010 by the Michigan Association of Planning that the opinions by the Michigan Court of Appeals in *Charter Township of Shelby v. Papesh*[146] and *Papadelis v. City of Troy*[147] "gives farm operations the right to move into areas, including residential areas, and qualify for nuisance protection under the Act by using GAAMPS."[148] However, in both *Papesh* and *Papadelis* farming operations were permitted uses by local government on the defendant's property, but subject to regulation by local zoning standards. The Court of Appeals ruled that the local standards were preempted by the Act.[149] This should not be a problem for the City of Detroit, since farming operations protected by the Act are not permitted anywhere under city's zoning ordinance as it currently stands, with the possible exception of nursery operations within a commercial zone.

The Act provides a process for adopting an ordinance that proscribes "standards different from those contained in the generally accepted agricultural and management practices."[150] The

process applies when current generally accepted agricultural and management practices are having "adverse effects on the environment or public health" within the City.[151] This paper does not address changes in GAAMPs standards that would be desirable for the city to make with respect to the commercial production of farm products. The act provides that when changes are in order, a "local unit of government may submit to the director [of the Michigan Department of Agriculture] a proposed ordinance prescribing standards different from those contained in generally accepted agricultural and management practices."[152] As long as the proposed ordinance does not conflict with any state or federal laws, it can be submitted "at least 45 days prior to enactment of the proposed ordinance."[153] After it has been received, the director holds "a public meeting in that local unit of government to review the proposed ordinance," and "within 30 days after the public meeting, the director [of the Michigan Department of Agriculture] shall make a recommendation to the [Michigan Commission of Agriculture] on whether the ordinance should be approved."[154] If the ordinance is not approved by the Michigan Commission of Agriculture, then it "shall not be enforced by a local unit of government."[155]

The city should seek to amend the Act to exclude agriculture in Detroit from its coverage. As long as the Act is applicable, if the City wishes to impose standards different than those of GAAMPs for a farm engaged in the commercial production of farm products, it must follow the above process provided for in the Act before it permits farm operations to commence. It is highly likely that the city will want to propose different standards, since GAAMPs addresses protecting existing rural farm operations from encroaching land developments, while the city will be addressing new farming operations in areas already developed, raising additional compatibility issues. If the proposed standards are not approved, the permit for the commercial production of farm products should be denied.

VII. Amendments to Detroit Master Plan and Zoning Ordinance

The discussion that follows is based upon the premise that the Michigan Right to Farm Act can be amended to exclude agriculture within the City of Detroit. However, if the Act cannot be amended, the city must be very careful permitting the commercial production of farm products in order to avoid its zoning authority being preempted by the Act in favor of standards established under GAAMPS.

a. Proposed Amendments to the Master Plan

Detroit's Master Plan adopted in 2009 does not fully address the critical opportunities and challenges associated with access to healthy and affordable food and economic growth through urban agriculture. It is important that the plan set out distinct goals for productively including urban agriculture in Detroit's future land use vision for the 21st Century. Focus should be on promoting agriculture as part of the city's economy, reducing vacant lots maintained by the city, increasing the access to healthy food, and protecting the city's residents from the dangerous effects of agriculture.

b. Amendments to the Purpose and Intent of Zoning Ordinance

The current zoning ordinance does not include any provisions that address or regulate agriculture with exception of nurseries. The zoning ordinance should be amended to include language which broadly promotes the use of agricultural and food production in the city. Model language can be found in Madison, WI's proposed ordinance. Section 28.002 of that ordinance specifically states that the intent of the code is to promote agriculture for the production of food. Through less direct language, Madison's code promotes agriculture by proscribing goals such as: preserving scenic beauty, addressing and mitigating climate change, ensuring open space, and

supporting recreation. Detroit should similarly model its language so that the ordinance promotes agriculture, food production, and environmental stewardship.

In addition, the zoning ordinance should be amended to include a new article addressing the following proposed agricultural uses.

i. Household Garden Accessory Use

The zoning ordnance should be amended to include household gardens as an accessory use in all zones. This use is defined as the growing of food crops through cultivation of fruits, vegetables, plants, flowers, or herbs for personal and household use only. Household garden agriculture is allowed in back yards and side yards as well as in containers. The land must be dedicated to some other principal use. A vacant lot qualifying as a household garden accessory use must be owned or leased by the person wishing to cultivate it and adjacent to other property also owned or leased and occupied by that person. A special use permit is only required for rooftop gardens and vertical gardens.

In certain instances where the structures comply or are brought into compliance with the building code requirements, rooftop[156] and vertical gardening[157] should be permitted. However, rooftop gardens and vertical gardening should require a permit from the Buildings and Safety Engineering Department.[158] In addition, certain structures, such as sheds, small greenhouses and hoophouses,[159] should be permitted so long as they also meet building code requirements. (*See* Appendix A).

ii. Community and Market Gardens

In addition to recognizing and allowing household gardens, the ordinance should be amended to protect existing and promote new community gardens. In Detroit there are between

113-263 existing community gardens.[160] In total, the Detroit Agriculture Network estimates that there are approximately 900 urban gardens in the city.[161] This amendment is necessary to create policy to protect these gardens while promoting strategic development of future gardens. Unlike household gardens, community and market gardens will allow selling of products grown on-site and will require a special use permit in certain enumerated districts. However, the primary goal of community gardens, as in the case of household gardens is to cultivate food for personal consumption by supplementing other sources of food. (*See* Appendix B).

iii. Special Use Permit for Farm Animals, Chickens, and Bees

Raising and keeping of farm animals, chickens, and bees should be restricted in all zones in the city except as specifically provided for in the Urban Farming Special Development District and under a special use permit. Accordingly, property owners who wish to keep farm animals, chickens, or bees on property not zoned for urban farming, as described below, must apply for a special use permit. (*See* Appendices C - E).

iv. Urban Farming Special Development District

The city should amend the zoning ordinance to include an Urban Farming Special Development District for larger farming operations as a planned development zone. Adopting the approach utilized in Madison, Wisconsin is recommended. (*See* Appendix F).

VIII. Conclusion

The city of Detroit can no longer afford to maintain the vast amounts of vacant land that it owns. The maintenance of this land is sapping the city of valuable financial resources. At the same time, Detroit is faced with a void of nutrition combined with high rates of crime and vandalism spurred on by thousands of vacant lots and buildings. Urban agriculture is not a

panacea of all of Detroit's problems, but addresses many of the city's problems through a single comprehensive program that can easily be incorporated into the city's master plan and zoning ordinances. Although there are certain barriers to the adoption of urban agriculture, the benefits of urban agriculture far outweigh its shortcomings. Where farming takes hold, Detroit will no longer need to spend money to secure, clean, and maintain vacant property because these properties will be returned to a productive, sustainable use. Additionally, quality of life for residents will improve. Farming, whether through small-scale gardens or large urban farms, can enhance the esthetics of the city, create jobs, and improve food safety, quality, and access. Urban agriculture is not only a practical economic development model for a struggling Detroit, but it is also a creative and sustainable method to restore Detroit's vacant land to a viable use.

Appendices

All appendices assume the Michigan Right to Farm Act can be amended to exclude agriculture within the City of Detroit.

APPENDIX A

HOUSEHOLD GARDEN – ACCESSORY USE

(a) Purpose. To protect existing and establish new household gardens as important personal and household resources that meets the needs for personal and household production, promote personal and household health, personal and household education, leisure and recreation, environmental enhancement, provide for green space, and encourage economic development opportunities.

(b) Definition. Household garden agriculture is the growing of food crops through cultivation of fruits, vegetables, plants, flowers, or herbs for personal and household use only and must be conducted on land that is dedicated to some other principal use. A vacant lot may also qualify as a household garden if it is owned/leased by the person wishing to cultivate it and is adjacent to property also owned/leased and occupied by that person.

(c) Activities permitted. Household garden activities include, but are not limited to, the following accessory uses: backyard gardens, container gardens, residential greenhouses and hoophouses, herb gardens, vegetable gardens, and other activities. Household agricultural uses shall be grown and maintained free from odors outside of growth area. The site shall be designed and maintained so that water and fertilizer will not drain onto adjacent property or into the city's waste water system.

(d) No Permit Required. No permit from the Buildings and Safety Engineering Department is required prior to installing a household garden with the exception of Rooftop Gardens and Vertical Gardens:

(1) Definition Rooftop Garden. A roof area covered wholly or in part with plants and landscaping materials in accordance with a plan approved by the building department.

(2) Definition Vertical Farming. Self sufficient garden systems attached to the exterior of a building or structure in accordance with a plan approved by the building department. The plants root in a structural support which is fastened to the wall itself. The plants receive water and nutrients from within the vertical support instead of from the ground.

(3) To obtain a permit, you will need drawings that document the design. If your home is a free-standing single-family house, you may draw the plans yourself. If your building has more than one dwelling unit, or if the building is commercial or industrial, the plans must be prepared by an architect licensed in the state of Michigan. The plan will be reviewed by the Zoning Board.

(4) Drawings must include:

(A) Drawings of existing roof conditions, including dimensions of all structures on the roof.

(B) Structural framing drawings.

(C) Weight capacity of the existing roof. This includes calculations of snow load, snow drift load if your roof abuts a taller part of the building, and the weight of plant material both wet and dry.

(D) Drawings of the proposed garden. This includes all plant, soil and subsoil layers, irrigation and drainage, a landscape diagram of where plants will be and their growing heights, and any changes being made to the roof such as raising exhaust stacks or adding guardrails.

(e) Activities prohibited. The term "accessory use" shall not be construed to include the raising of animals, chickens, or the keeping of bees, except as permitted elsewhere in the Detroit Zoning Ordinance.

(f) Compatibility. Household garden agriculture is compatible with all land use designations shown on the Zoning Ordinance Map and shall be a permitted accessory use in these zones so long as the use enhances the principle use of the property.

(g) Permitted structures. In conjunction with household garden agriculture, no building or structure shall be permitted on the site. However, sheds for storage of tools may be constructed subject to the requirements of section _____ of the Building Code or greenhouses or hoophouses that consist of buildings made of glass, plastic, or fiberglass in which plants are cultivated may be constructed subject to the requirements of section _____ of the Building Code.

APPENDIX B

COMMUNITY AND MARKET GARDENS

(a) Purpose. To protect existing and establish new community or market gardens as important community resources that meet the needs for local food production, promote community health, community education, leisure and recreation, environmental enhancement, provide for green space, and encourage economic development opportunities.

(b) Definitions.

(1) Community garden: means an area of land managed and maintained by a group of individuals to cultivate fruits, vegetables, plants, flowers, or herbs for personal or group use. Community gardens may be subdivided into plots for cultivation by one or more people or it may be cultivated by the group.

(2) Market garden: means an area of land managed and maintained by an individual or group of individuals to grow and harvest fruits, vegetables, flowers, or herbs to be sold for profit.

(3) Greenhouse: means a building made of glass, plastic or fiberglass in which plants are cultivated.

(4) Hoophouse: means a structure made of PVC piping or other material covered with translucent plastic, constructed in a half-round or hoop shape.

(c) Activities Permitted. Community and Market Garden activities include:

(1) Growing of fruits, vegetables, plants, flowers, or herbs for personal or group use

(2) Community gardens which may have occasional sale of items grown on site

(3) Market gardens which includes sale of crops produced on-site

(d) No Permit Required. No permit is required in enumerated districts in order for citizens to develop and maintain community or market gardens.

(d) Activities Prohibited. Community or market gardens do not include the raising of animals, chickens, or the keeping of bees, except as permitted elsewhere in the Detroit Zoning Ordinance.

(e) Compatibility. Community and market gardens are permitted uses in the following zones: residential, multifamily, mixed-use, and industrial, subject to the following regulations:

(1) Environmental Site Assessment. Site users must provide an Environmental Site Assessment to identify any historical source of contamination. The source of contamination must be tested to determine type and level of contamination. Appropriate remediation must be undertaken to ensure that soil is suitable for gardening.

(2) Operating Rules. Site users must establish a set of operating rules which address the governing structure of the garden. The rules must also include: hours of operation, maintenance and security requirements, and a garden coordinator to serve as a contact person. The name and telephone number of the contact person shall be kept on file with the city's Planning and Development Department.

(3) Site Design. The site must be designed so that water and fertilizers will not drain onto adjacent property or into the city's waste water system.

(4) Nuisance. No community or market garden may be operated in a way as to be a nuisance to adjacent properties. Sites shall be grown and maintained free from odors outside of growth area.

(5) Buildings. Limited to tool sheds, rest-room facilities, composting toilets, and planting preparation houses. Buildings shall be set back from property lines a minimum distance of five (5) feet. No building or other structure shall be greater than twenty-five (25) feet in height. The combined area of all buildings, except hoophouses and greenhouses, shall not exceed fifteen percent (15%) of the garden site.

(6) Accessory Structures. Limited to hoophouses and greenhouses intended to extend growing season and constructed in accordance with the city's Building Code, section _____.

(7) Fences: Fences shall be constructed in compliance with of the Zoning Ordinance.

(8) Signs: Signs shall be limited to a business or identification sign as defined in Sections of the Zoning Ordinance. Signs shall be constructed in compliance with the height requirements of Section of the Zoning Ordinance.

APPENDIX C

RESTRICTIONS ON THE KEEPING OF FARM ANIMALS: CLEVELAND, OHIO MODEL[162]

(a) Purpose. The regulations of this section are established to permit the keeping of farm animals in a manner that prevents nuisances to occupants of adjacent properties and prevents conditions that are unsanitary or unsafe.

(b) Definitions. Terms used in this Section shall have the meanings assigned to them in the following definitions.

(1) Farm Animal. "Farm animal" means any domestic species of animal that is kept and raised for use as food or in the production of food or in the operation of a farm and is not a house pet such as a dog, cat or similar animal.

(2) Cage. "Cage" mean a structure, not necessarily attached to the ground, with a top and sides and designed to provide shelter and protection for small animals or birds.

(3) Enclosure. "Enclosure" means a set of walls or fences designed to confine animals or birds to a space that is large enough to permit the animals and birds to roam relatively freely in an open yard area.

(4) Similar Animal. Any farm animal that is similar to other animals listed in a particular category of permitted animals with respect to impacts on nearby properties, including noise, odors, safety hazards or other nuisances.

(c) Permit Required. A special use permit is required for the keeping of animals except as otherwise provided in the zoning ordinance. Additional requirements include:

(1) Application for Permit. Anyone proposing to keep farm animals in the City of Detroit or to expand such use shall apply for approval from the Department of Buildings and Safety Engineering, which shall determine if the application is in compliance with regulations regarding construction and permitted placement of enclosures, fences, cages, coops, stables and other structures used in keeping of farm animals and whether the property is occupied by a condemned building.

(2) Building Permits. A Building Permit shall be required for installation of a fence or for construction of a stable or other structure routinely requiring such permit, except that no Building Permit shall be required for cages, that are not permanently attached to the ground or to another structure and do not exceed thirty two (32) square feet in area nor eight (8) feet in height. No Building Permit shall be required for the barrier constituting a required enclosure if such barrier is not permanently attached to the ground and does not exceed three (3) feet in height; and no permit shall be required for a "flyway" barrier not exceeding six (6) feet in height and six (6) feet in length.

(d) Animals. The keeping of farm animals and cages and enclosures for the keeping of such animals, shall be governed by the following regulations:

(1) In Residential Districts. In Residential Districts, the following regulations shall apply.

(A) Number. No more than one farm animal shall be kept on a parcel of land for each 800 square feet of parcel or lot area. For a standard residential lot of _____ square feet, this regulation would permit no more than a total of ____ such animals.

(B) Setbacks. The cages housing farm animals may not be located in the front yard or side street yard areas and shall not be located within five (5) feet of a side yard line nor within eighteen (18) inches of a rear yard line, except where the rear lot line forms the side lot line or front lot line of an abutting property, in which case the setback from such rear lot line shall be five (5) feet.

(C) Coops and Cages. All animals shall be provided with a covered, predator-proof cage or other shelter that is properly ventilated, designed to be easily accessed and cleaned, and of sufficient size to permit free movement of the animals exclusive of areas used for storage of materials or vehicles. The total area of cages on a lot shall not be greater than thirty-two (32) square feet for up to six (6) animals. Cages shall not exceed fifteen (15) feet in height.

(2) In Non-Residential Districts. In zoning districts other than Residential Districts, all regulations applicable in Residential Districts shall apply except that the number of such animals shall be limited to one (1) animal for each four hundred (400) square feet of lot area.

(e) Goats, Pigs, Sheep and Similar Animals. The keeping of goats, pigs, sheep and similar farm animals, and stables and enclosures for the keeping of such animals, shall be governed by the following regulations.

(1) In Residential Districts. In Residential Districts, no goats, pigs, sheep or similar farm animals shall be kept on a parcel of land less than 24,000 square feet in area. For a parcel that is at least 24,000 square feet in area, a maximum of two (2) such animals may be kept on the property, with one (1) additional animal permitted for each additional 2.400 square feet of area. Stables or other enclosures for such animals shall not be permitted in front yards or in side street yards and shall be set back at least forty (40) feet from any street and from any property other than a property located in an Industrial District and shall be set back at least one hundred (100) feet from a dwelling on another parcel or from the permitted placement of a dwelling on an adjoining vacant parcel.

(2) In Non-Residential Districts. In zoning districts other than Residential Districts, no goats, pigs, sheep or similar farm animals shall be kept on a parcel of land less than

14,400 square feet in area. For a parcel that is at least 14,400 square feet in area, a maximum of two (2) such animals may be kept on the property, with one (1) additional animal permitted for each additional 1,200 square feet of area. Stables or other enclosures for such animals shall be set back at least forty (40) feet from any street and from any property other than a property located in an Industrial District and shall be set back at least one hundred (100) feet from a dwelling on another parcel or from the permitted placement of a dwelling on an adjoining vacant parcel.

(f) Activities Prohibited. No horses, cows, alpacas, llamas or similar animals shall be kept on a property except in areas specifically designated for the keeping of such animals.

(g) Sanitation and Nuisances. Farm animals shall be kept only in conditions that limit odors and noise and the attraction of insects and rodents so as not to cause a nuisance to occupants of nearby buildings or properties and not to cause health hazards. Furthermore, farm animals shall not be kept in a manner that is injurious or unhealthful to the animals being kept on the property.

(h) Slaughtering of Animals. Animals shall not be slaughtered on site, except as otherwise provided in this ordinance.

APPENDIX D

RESTRICTIONS ON THE KEEPING OF CHICKENS: CLEVELAND, OHIO MODEL[163]

(a) Purpose. The regulations of this section are established to permit the keeping of chickens in a manner that prevents nuisances to occupants of adjacent properties and prevents conditions that are unsanitary or unsafe.

(b) Numerical Limit. No more than four hens and one rooster may be kept in any zone, except as otherwise provided in the zoning ordinance.

(c) Permit Required. A special use permit is required for the keeping of chickens except as otherwise provided in the zoning ordinance. Requirements include:

> (1) Application for Permit. Anyone proposing to keep chickens in the City of Detroit or to expand such use shall apply for approval from the Department of Buildings and Safety Engineering, which shall determine if the application is in compliance with regulations regarding construction and permitted placement of enclosures, fences, cages, coops, stables and other structures used in keeping of chickens and whether the property is occupied by a condemned building.
>
> (2) Building Permits. A Building Permit shall be required for installation of a fence or for construction of a stable or other structure routinely requiring such permit, except that no Building Permit shall be required for coops, that are not permanently attached to the ground or to another structure and do not exceed thirty two (32) square feet in area nor eight (8) feet in height. No Building Permit shall be required for the barrier constituting a required enclosure if such barrier is not permanently attached to the ground and does not exceed three (3) feet in height; and no permit shall be required for a "flyway" barrier not exceeding six (6) feet in height and six (6) feet in length.

(d) Setbacks. The cages or coops housing chickens may not be located in the front yard or side street yard areas and shall not be located within twenty (20) feet of nearest residential property and in other zones shall not be located within five (5) feet of a side yard line nor within eighteen (18) inches of a rear yard line, except where the rear lot line forms the side lot line or front lot line of an abutting property, in which case the setback from such rear lot line shall be five (5) feet.

(e) Coops and Cages. All chickens shall be provided with a covered, predator-proof cage or other shelter that is properly ventilated, designed to be easily accessed and cleaned, and of sufficient size to permit free movement of the chickens exclusive of areas used for storage of materials or vehicles. The total area of cages on a lot shall not be greater than thirty-two (32) square feet for up to six (6) chickens. Cages shall not exceed fifteen (15) feet in height.

(f) Chicken or Bird Noise. It shall be unlawful for any person or other party operating or occupying any building or premises to keep or allow to be kept any chicken or bird that makes noise so as to habitually disturb the peace and quiet of any person in the vicinity of the premises.

(g) Sanitation and Nuisances. Chickens shall be kept only in conditions that limit odors and noise and the attraction of insects and rodents so as not to cause a nuisance to occupants of nearby buildings or properties and not to cause health hazards. Furthermore, chickens shall not be kept in a manner that is injurious or unhealthful to the chickens being kept on the property.

(h) Slaughtering of Chickens. Chickens shall not be slaughtered on site, except as otherwise provided in this ordinance.

APPENDIX E

RESTRICTIONS ON KEEPING BEES: CLEVELAND, OHIO MODEL[164]

(a) Purpose. The regulations of this section are established to permit the keeping of bees in a manner that prevents nuisances to occupants of adjacent properties and prevents conditions that are unsanitary or unsafe.

(b) Definition. **"**Bees" means any life stage of the common honey bee, Apis Mellifera L.

(c) Permit Required. A special use permit is required for the keeping of bees except as otherwise provided in the zoning ordinance.

(d) In Residential Districts. In Residential Districts, the following regulations shall apply.

> (1) Number. No more than one (1) beehive shall be kept for each 2.400 square feet of lot area, and no beehive shall be kept on a lot less than 2,400 square feet in area.
>
> (2) Location and Setbacks. No beehive shall be kept closer than five (5) feet to any lot line and ten (10) feet to a dwelling or the permitted placement of a dwelling on another parcel, and no beehive shall be kept in a required front yard or side street yard. The front of any beehive shall face away from the property line of the Residential property closest to the beehive.
>
> (3) Fences and Shrubs. A solid fence or dense hedge, known as a "flyway barrier," at least six (6) feet in height, shall be placed along the side of the beehive that contains the entrance to the hive, and shall be located within five (5) feet of the hive and shall extend at least two (2) feet on either side of the hive. No such flyway barrier shall be required if all beehives are located at least twenty-five (25) feet from all property lines and for beehives that are located on porches or balconies at least ten (10) feet above grade, except if such porch or balcony is located less than five (5) feet from the property line.
>
> (4) Water Supply. A supply of fresh water shall be maintained in a location readily accessible to all bee colonies on the site throughout the day to prevent bees from congregating at neighboring swimming pools or other sources of water on nearby properties.

(e) In Non-Residential Districts. In Zoning districts other than Residential Districts, all regulations applicable in Residential Districts shall apply except that the number of beehives shall be limited to one (1) for each 1,000 square feet of lot area.

(f) Activities Prohibited. No Africanized bees may be kept on property under the regulations of this Section.

APPENDIX F

SPECIAL DEVELOPMENT DISTRICT, URBAN FARMING: MADISON, WISCONSIN MODEL[165]

[The UA District is a new district designed to recognize and designate urban-scale farming as a zoning district within the City.]

(a) Purpose. The purpose of this district is to ensure that urban garden and farm areas are appropriately located and protected to meet needs for local food production, and to enhance community health, community education, garden-related job training, natural resource protection, preservation of green space, and community enjoyment. Because urban agriculture will typically exist in close proximity to residential and other uses, concern will be given to ensuring compatibility between uses.

(b) Dimensional Standards, Permitted and Conditional Uses. Standards represent minimums unless otherwise noted. Dimensions are in feet unless otherwise noted.

Urban Agricultural District	
	All permitted and conditional uses
Lot area (sq. ft.)	15,000 square feet*
Lot width	50 feet
Front yard setback (structures)	15 or the setback of the adjacent district, whichever is greater
Side yard setback (structures)	6 or the setback of the adjacent district, whichever is greater
Rear yard setback (structures)	20 or the setback of the adjacent district, whichever is greater
Maximum height	25 feet
Maximum lot coverage (buildings and paved areas)	15% (excluding greenhouses and hoophouses)
* Lot area of less than 15,000 square feet may be allowed as a conditional use	

(c) Management Plan Required for Certain Activities. Urban agricultural operations that involve any of the following activities must prepare a management plan that addresses how the activities will be managed to avoid impacts on surrounding land uses and natural systems. The management plan will be reviewed as part of the site plan review process or as part of the conditional use process, as specified below.

(1) Animal husbandry, (includes keeping of more than four (4) chickens, beekeeping and fish farming);

(2) Off-street parking of more than 10 vehicles;

(3) Processing of food produced on site;

(4) Spreading of manure;

(5) Application of agricultural chemicals, including fertilizers and pesticides;

(6) Use of heavy equipment such as tractors.

(d) Conditional Use Approval for Certain Activities. The following activities as part of an urban agricultural operation require conditional use approval. The management plan required for these activities will address how the activities will be managed.

(1) Animal husbandry;

(2) Spreading of manure;

(3) Spraying of agricultural chemicals, including fertilizers and pesticides;

(4) Use of heavy equipment such as tractors outside of standard operating hours (7:00 A.M. to 10:00 P.M.)

[The intent of the management plan requirement is to establish a threshold between typical urban agriculture activities and more intensive activities that could impact nearby residents and will require a management plan. For examples of further regulations on some accessory uses such as farm stands and farmers markets see MADISON WISCONSIN, PUBLIC REVIEW DRAFT § 28K.[166] *For an example of regulations for compost bins see* MADISON, GENERAL ORDINANCES § 7.361.[167]*]*

[1] This recommendation is based upon the premise that the Michigan Right to Farm Act can be amended to exclude agriculture within the City of Detroit. However, if the Act cannot be amended, the city must be very careful permitting the commercial production of farm products in order to avoid its zoning authority being preempted by the Act in favor of standards established under GAAMPS. *See infra* Part VI.

[2] John Gallagher, *Detroit's Fight Against Vacant Land Gets Tougher*, DETROIT FREE PRESS, Sept. 29, 2009, *available at* http://forum.skyscraperpage.com/showthread.php?t=174034. It should be noted that the 40 square mile estimate in 2009 is more likely now closer to 50 square miles of vacant land. As more citizens flee the city for better opportunities, more property becomes vacant. Recently, Detroit's Mayor Dave Bing began an initiative to knock down 3,000 vacant properties in 2010, and called in his state of the city address in March 2010 to knock down a total of 10,000 during his first term in office. While an important endeavor, demolition of vacant and nuisance property creates another problem – increased vacant land. As demolition becomes a priority and as structures are actually demolished, the square mileage of the city's vacant land will inevitably increase. *See* Suzette Hackney, *State of the City to Highlight Demolition Plans*, DETROIT FREE PRESS, March 21, 2010, *available at* http://www.freep.com/article/20100321/NEWS05/3210421/State-of-the-City-to-highlight-demolition-plans.

[3] *See*, Daniel Okrent, *The Death – And Possible Life – of a Great City*, TIME, Sept. 2009, *available at* http://www.time.com/time/nation/article/0,8599,1925796,00.html (compounding the problems associated with maintaining these costs and services, Detroit is severally undercapitalized at a $300 million shortfall in the budget to maintain only the basic municipal services).

[4] Jodi Wilgoen, *Detroit Urban Renewal Without Renewal,* NEW YORK TIMES, July 7, 2002, *available at* http://www.nytimes.com/2002/07/07/us/detroit-urban-renewal-without-the-renewal.html?pagewanted=1.

[5] Michael McKee & Alex Ortolani, *GM's Bust Turns Detroit Into Urban Prairie of Vacant-Lot Farms*, BLOOMBERG, December 8, 2009, *available at* http://www.bloomberg.com/apps/news?pid=20601087&sid=aMV8_J49diKs.

[6] Tom Walsh, *Demolition hopes are High for Detroit Officials*, DETROIT FREE PRESS (July 2, 2010), http://www.freep.com/article/201007020300/COL06/7020387. Others have claimed that the number is around 31,000 vacant residential structures. John Gallagher, *The Good, the Bad and the Vacant*, DETROIT FREE PRESS, Feb. 20, 2010, at A01, A08-A09.

[7] McKee & Ortolani*, supra* note 5; *see also* The Data Collaborative, "Detroit Residential Parcel Survey, Feb. 2010, *available at* http://www.d-acis.org/Home/parcelsurvey.

[8] *See* John Gallagher, *Survey Finds Third of Detroit Vacant*, DETROIT FREE PRESS, Feb. 20, 2010, *available at* http://www.freep.com/article/20100220/BUSINESS04/2200371/1318/Survey-finds-third-of-Detroit-lots-vacant. The article quotes from a survey conducted by Detroit Data Collective. The survey reports that there are 343,849 residential properties in the city and that 35% of those properties are currently vacant. *Id.*

[9] Mayors and city leaders in Madison, WI, Bloomington, IN and Cleveland, OH, are responding to food insecurity and local demand for fresh food by amending comprehensive plans and adopting ordinance favorable to urban agriculture. *See* Dave Cieslewicz, Mayor of Madison, WI, *Urban Agriculture*, MAYOR DAVE'S BLOG (Aug. 29, 2009) http://www.cityofmadison.com/mayor/blog/index.cfm?Id=177; Carrol Krause, *Urban Farming on the Rise*, HEARLD-TIMES HOMES, Feb. 13, 2010, *available at* http://www.heraldtimesonline.com/stories/2010/02/13/homes.qp-2451190.sto; Erin Kleinerman, *Cleveland Council Approves Urban Farming, Teardown of Foreclosed Homes,* THE PLAIN DEALER, Feb. 2, 2009, *available at* http://blog.cleveland.com/metro/2009/02/down_on_farm_in_cleveland.html.

[10] There are over 91,000 vacant lots, 60,000 of which are owned by the city. Maps: See the Results, DETROIT FREE PRESS, Feb. 20, 2010, *available at* http://www.freep.com/article/20100220/BUSINESS04/100220001/1318/; *See*

also Mark Dowie, *Food Among the Ruins*, GUERNICA, August 2009, *available at* http://www.guernicamag.com/spotlight/1182/food_among_the _ruins/.

[11] MICH. H. R. BALLOT PROPOSAL 06-04, *available at* http://www.michiganlegislature.org (the ballot proposal was placed on the November 2006 general election ballot in order to "freeze the state's eminent domain law to prevent rulings such as in [*Kelo v. City of New London*]" and "require[es] 125 percent of market value compensation for the taking of private residences."); *See also*, MICH. CONST. art. X, §2 (1963) (as amended by the 2006 ballot proposal).

[12] Under the amendment to Michigan's constitution, the "area-wide" blight test was eliminated. Therefore, at present, developers seeking to invest in a blighted area must prove blight on a parcel-by-parcel basis, imposing a barrier to accumulating contiguous plots for larger projects. MICH. CONST. art. X § 2.

[13] Posting of Tahman Bradley to The World Newser, *Unemployment in Detroit Climbs to 28.9%,* Aug. 28, 2009, available at http://blogs.abcnews.com/theworldnewser/2009/08/unemployment-in-detroit-climbs-to-289.html (citing a Michigan Department of Labor and Economic Growth report).

[14] Patricia Montemurri, Kathleen Gray, & Cecil Angel, *Detroit Tops Nation in Poverty Census*, DET. FREE PRESS, August 31, 2005, *available at* http://www-personal.umich.edu/~gmarkus/montemurri.htm. (In 2005, the United State Census determined that at least one-third of the City of Detroit's residents lived below the poverty level.).

[15] Zack O'Mally Greenburg, *America's Most Dangerous Cities,* FORBES, April 2009, *available at* http://www.forbes.com/2009/04/23/most-dangerous-cities-lifestyle-real-estate-dangerous-american-cities.html (reporting staggering statistics from the FBI that there are 1,220 violent crimes committed per 100,000 people in Detroit. Violent crime includes: murder and non-negligent manslaughter, forcible rape, robbery and aggravated assault).

[16] *See* Editorial Projects in Education Research Center, *Closing the Graduation Gap*, CITIES IN CRISIS 2009, April 2009, *available at* http://www.americaspromise.org/~/media/Files/Resources/CiC09.ashx; *see also* Karan Dybis, *A Disturbing Trend for Detroit Schools*, TIME, Sept. 21, 2009, *available at* http://detroit.blogs.time.com/2009/09/21/a-disturbing-trend-for-detroits-schools (discussing the positive economic impact increased graduation rates would have in Detroit. The report estimates that "[i]f the Detroit metro area were to reduce by 50 % the number of students who fail to graduate with their class, it could enjoy more than $130 million in additional wages and 8,000 new homeowners").

[17] *See* One D Scorecard, *Economic Prosperity Scorecard*, *available at* http://www.onedscorecard.org/ScoreCard.html#view=1 (last visited July, 28, 2010) ("The Detroit CSA had 3,159 fewer establishments in 2006 than in 2003, putting it at 53rd of 54 metro areas. This translated into 417,918 jobs lost during the same time period. The only metro losing a greater number of establishments and jobs was New Orleans").

[18] Thirty-five percent of the city is uninhabited. Allan Popelard & Paul Vannier, Detroit: *America's Slow Ground Zero*, AMERICAN PENDULUM, Jan. 13, 2010, http://www.americanpendulum.com/2010/01/americas-slow-ground-zero/. In 2008, the population was 200,000 people less than it was in 1970. Looked at another way, the city lost half its population – almost one million residents – in fifty years. Kurt Metzger, *Counting on Black History Month*, THE DETROIT DATA GURU, Feb. 2, 2010, http://detroitdataguru.wordpress.com/page/3/. In the year 2007-2008 alone, the metro area lost 62,000 people due in the most part to the poor regional economy. Kurt Metzger, *Haulin' It Out of Michigan*, THE DETROIT DATA GURU, May 2, 2010, http://detroitdataguru.wordpress.com/page/3/.

[19] Sherri Welch, *Food Banks Add Sites, Partners to Meet Growing Demand*, CRAINS DETROIT BUSINESS, April 4, 2010, *available at* http://www.crainsdetroit.com/article/20100404/SUB01/304049983#. In Wayne, Oakland and Macomb counties the number of people who were "food insecure" increased by eighteen percent. *Id.* In Detroit specifically, the major food distributors increased the pounds of food handed out by twenty-five percent in 2009. *Id.*

[20] Steve Hargreaves, *Hunger Hits Detroit,* CNNMONEY.COM, Aug. 13, 2009, http://money.cnn.com/2009/08/06/news/economy/detroit_food/. (reporting that it is no longer just the homeless or really poor that struggle to buy food, but now the middle class in Detroit is going hungry).

[21] *See* MELVIN G. HOLLI, REFORM IN DETROIT: HAZEN S. PINGREE AND URBAN POLITICS 70 (Greenwood Press 1981) (1969). This excerpt discusses that in the 1890s, when Detroit was suffering from a poor economy and hunger, Mayor Pingree instituted a "potato patch" plan to cultivate vacant lots so that citizens could grow their own food. *Id.* Although met with much consternation from community and church leaders, the program was wildly successful and popular producing a cash value of crops over $30,000 in 1816. The program, recognized for its success, was adopted and modeled in several other cities such as New York, Minneapolis, Seattle, and Denver. *Id*.

[22] In 1944-1945, the Detroit Zoning Code provided for backyard gardens in R-1 land designations. In the R-1, residential zone, a rear district (i.e. back yard) was required (30 feet in depth) *See* DETROIT ZONING CODE § 5.6 (1944-45). Unlike today, a permitted use in the R-1 district was the "growing of vegetables, fruit, flowers, shrubs, and tress" so long as it was not for profit. *See* DETROIT ZONING CODE § 5.1(8) (1944-45).

[23] Claudia Reinhardt, The Ganzel Group, *Farming in the 1940's: Victory Gardens*, WESSELS LIVING HISTORY FARM, http://www.livinghistoryfarm.org/farminginthe40s/crops_02.html (last visited July 30, 2010).

[24] Email from Kami Pothukuchi, Associate Professor of Urban Planning, Director, SEED Wayne, Wayne State University to John E. Mogk, Professor of Law, Wayne State University Law School (May 24, 2010, 10:19:42 EST) (on file with author).

[25] Nancy Kaffer, *Detroit Officials Work to Create Zoning Code for Urban Farming,* CRAIN'S DETROIT, March 23, 2010, *available at* http://www.crainsdetroit.com/article/20100323/FREE/100329977/#.

[26] This number is derived by multiplying the number of vacant square miles (approximately 47) times the number of acres in a square mile (640).

[27] Lead uptake by plants depends, among other things, on the ph content of the soil. United States Department of Agriculture, Natural Resources Conservation Service, *Heavy Metal Soil Contamination*, 2000, *available at* http://soils.usda.gov/sqi/management/files/sq_utn_3.pdf. PH balance is better maintained when soil management practices include compost and the use of cover crops. *Id.*

[28] *See* Roseanne Harper, *Local Challenge*, SUPERMARKET NEWS, Jan. 11, 2010, *available at* http://supermarketnews.com/topics/local-produce/local-challenge-0111/; Jeff Wells, *Market of Choice is Keeping It Local*, SUPERMARKET NEWS, Mar. 15, 2010, *available at* http://supermarketnews.com/topics/local-produce/market-choice-keeping-local-0315/; *Local Food Tops 2010 Restaurant Trends*, SUPERMARKET NEWS, Dec. 14, 2009, *available at* http://supermarketnews.com/topics/local-produce/local-food-tops-trends-1214/.

[29] DEBRA TROPP, EMERGING OPPORTUNITIES FOR LOCAL FOOD IN U.S. CONSUMER MARKETS 3 (Aug. 2008), *available at* http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5072587

[30] Jim Nichols, *For Profit Urban Gardens are Growing*, CLEVELAND PLAIN DEALER, July 6, 2009, at A-1, *available at* http://www.cbgarden.org/uploadedFiles/About_Us_Home/About_Us_Subpages/PDJULY6%202009.pdf (If locally grown food is bought in cities where it is grown, "just a few percent more…[could be] 'hundreds of millions of dollars captured [locally]." The article reports that in Northeast Ohio, people spend $7 billion on food, $1 billion in Cleveland. The majority of that food is shipped from far away, the average distance being 1,300 miles.).

[31] Gallagher, *supra* note 2.

[32] Anne C. Bellows, *Health Benefits of Urban Agriculture Public Health and Food Security*, FOOD SECURITY, *available at* http://www.foodsecurity.org/UAHealthArticle.pdf (last visited July 30, 2010).

[33] Nichols, *supra* note 30.

[34] *Id.*

[35] John Gallagher, *Community Farming a Seed of Hope in City Soil: Comfort Food Grown in Detroit*, DETROIT FREE PRESS, July 5, 2009, at B.1 (report from Michael Hamm, C.S. Mott professor of sustainable agriculture at Michigan State University).

[36] Elizabeth Royte, *Street Farmer*, NEW YORK TIMES MAGAZINE, July 1, 2009, *available at* http://www.nytimes.com/2009/07/05/magazine/05allen-t.html?_r=4&sq=street%20farmer&st=cse&scp=1&pagewanted=all.

[37] Paul Edward Parker, *Smaller Cities Seen as Leading the Way in Urban Agriculture*, PROVIDENCE JOURNAL BULLETIN, Sept. 27, 2009, *available at* http://www.projo.com/news/environment/content/SUSTAIN_FEST_09-27-09_2KFRVVN_v30.32a8ebb.html; Micki Steele, *Detroiters Reap Farms' Benefits*, DETNEWS.COM, July 23, 2010, *available at* http://detnews.com/article/20100723/LIFESTYLE14/7230375/Detroiters-reap-farms--benefits.

[38] POTHUKUCHI, K. THE DETROIT FOOD SYSTEM: A HANDBOOK FOR COMMUNITY PLANNERS. WAYNE STATE UNIVERSITY (2003).

[39] Rebecca Ruiz, *America's Most Obese Cities*, FORBES, Nov. 11, 2007, *available at* http://www.forbes.com/2007/11/14/health-obesity-cities-forbeslife-cx_rr_1114obese.html?partner=aol.

[40] *Detroit Tries Peddling Produce Like Ice Cream,* ASSOCIATED PRESS, Aug. 11, 2009, *available at* http://www.msnbc.msn.com/id/32371552.

[41] *See* Paul Sommers & Jac Smit, *CFP Report 9: Promoting Urban Agriculture: A Strategy Framework for Planners in North America, Europe and Asia*, THE INTERNATIONAL DEVELOPMENT RESEARCH CENTER, 1994, *available at http://www.idrc.ca/en/ev-2124-201-1-DO_TOPIC.html* (After the 1992 Los Angeles riot, rehabilitation funds were used to create a 7.5 acre community garden. The program involved youth who were either current gang and potential gang members to work in the garden.).

[42] Katherine Brown, *Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe*, FOOD SECURITY, Feb. 2002, *available at* http://www.foodsecurity.org/urbanag.html **(**communicating the esthetic benefits of urban gardening by stating that "[th]e regenerative effect of urban agriculture is especially visible when vacant lots are transformed from eyesores--weedy, trash-ridden, dangerous gathering places--into bountiful, beautiful and safe gardens that feed peoples' bodies and souls").

[43] Some proposals for large scale urban agriculture projects include activities such as "u-cut" Christmas tree farms and apple orchards that are open to the public. *See*, Jennifer Guerra, *Old State Fairgrounds Could Become Home to Urban Farm*, MICHIGAN RADIO, April 4, 2010 *available at* http://www.publicbroadcasting.net/michigan/news.newsmain?action=article&ARTICLE_ID=1633031; Other projects are community collaborative that include services, such as addiction recovery projects, for citizens. *See* Sherri Welch, *Recovery Park Seeks to Harvest Jobs with Farm*, CRAINS DETROIT BUSINESS, Mar. 21, 2010, *available at* http://www.crainsdetroit.com/article/20100321/SUB01/303219972.

[44] Jane E. Schumkoske, *Community Development Through Gardening: State and Local Policies Transforming Urban Open Space,* 3 N.Y.U. J. LEGIS. & PUB. POL'Y 351, 353, (1999-2000).

[45] Tammy Stables Battiglia, *Fire rips through 4 abandoned homes in Detroit*, DETROIT FREE PRESS, Mar. 31, 2010 *available at* http://www.freep.com/article/20100331/NEWS01/100331005/Fire-rips-through-4-abandoned-homes-in-Detroit; *see also* Corey Williams, *Detroit Schools Slow to Tear Down Vacant Building*, ASSOCIATED PRESS, Mar. 18, 2010, *available at* http://www.salon.com/wires/us/2010/03/18/D9EH88HO0_us_detroit_schools_vacant_buildings/index.html.

[46] Robin Shulman, *Raising the Root: Some City Dwellers Are Hoping Rooftop Farming Will Bear Fruit,* THE WASH. POST, Sept. 12, 2009, *available at* http://gothamgreens.com/raising_the_root.pdf.

[47] *Id.*

[48] Katherine Waser, *Editor's Note: The Newly Recognized Importance of Urban Agriculture*, ARID LANDS NEWSLETTER, (University of Arizona, Tucson, Arizona), 1997, http://ag.arizona.edu/OALS/ALN/aln42/ednote42.html.

[49] *See generally* CHRISTINE FURDLEY, URBAN WASTE AND RURAL FARMERS: ENABLING LOW-COST ORGANIC WASTE REUSE IN DEVELOPING COUNTRIES, (2002), *available at* http://www.cityfarmer.org/UrbanRuralWaste.html; *see also*, International Development Research Center, *Guidelines for Municipal Policy on Urban Agriculture: Recycling Organic Waste in Urban Agriculture*, Vol. 5, Mar. 2003, *available at* http://www.idrc.ca/uploads/user-S/10530123150E5.pdf.

[50] ALLISON HOULINHAN TURNER, URBAN AGRICULTURE AND SOIL CONTAMINATION: AN INTRODUCTION TO URBAN GARDENING 1 (2009), *available at* http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG25.pdf.

[51] *Id.* at 2. Examples of contaminates which are present in urban environment that are injurious to human health include: heavy metals (lead), pesticides, and polychlorinated biphenyls (PCB's). *Id.* at 6.

[52] Many health experts urge a higher standard of at least 300 p.p.m. and higher standards yet have been adopted by Minneapolis at 100 p.p.m. and the Netherlands at 40 p.p.m. Carl J. Rosen, *Lead in the Home Garden and Urban Soil Environment*, 2010, *available at* http://www.extension.umn.edu/distribution/horticulture/DG2543.html; Kate Murphy, *For Urban Gardeners, Lead is a Concern*, N.Y. TIMES, May 13, 2009, *available at* http://www.nytimes.com/2009/05/14/garden/14lead.html?pagewanted=1&_r=1.

[53] Furthermore, the plots would most certainly not meet the higher 300 p.p.m standard proposed by many health experts and most certainly a great many plots would fail the highest standards of Minneapolis or the Netherlands. Rosen, *supra* note 52; Murphy, *supra* note 52.

[54] United States Department of Agriculture, *supra* note 27.

[55] *See* Michigan Department of Environmental Quality, *How Does Lead Affect our Environment?,* April 9, 2004, *available at* http://www.michigan.gov/deq/0,1607,7-135-3307_29693_30031-90418--,00.html (reporting that lead can remain in the environment as dust indefinitely) (hereinafter "DEQ Release").

[56] Wendy WeNdland-Bowyer, *High Lead Levels About in Detroit and Metro Area*, DETROIT FREE PRESS, Jan. 23, 2003, *available at* www.protectingourhealth.org.

[57] *See*, DEQ Release, *supra* note 55.

[58] Kristi Tanner-White, *High Lead Levels Hurt Learning for DPS Kids: More than Half of Students Tested have Poisoning History*, DETROIT FREE PRESS, May 16, 2010, http://www.freep.com/apps/pbcs.dll/article?AID=/20100516/news01/5160413/1319/high-lead-levels-hurt-learning-for-dps-kids&&template=fullarticle. *See also* Joe Swickard, *Lead-Poisoned Kids Left Untreated in Detroit*, FREEP.COM, July 8, 2010, *available at* http://www.freep.com/article/201007080300/NEWS01/7080404 (pointing out that "[e]ven at low levels, lead can cause brain and neurological damage and can harm hearing and kidney functions, lead experts said. Increasingly, lead exposure is linked to speech, learning and behavior problems. Very high levels can cause seizures and death).

[59] Turner, *supra* note 50 at 7.

[60] Rosen, *supra* note 52.

[61] Janice Price & Stephen Dare, *Sunflowers for Lead. Spider Plants for Arsenic*, METRO JACKSONVILLE, June 15, 2010, *available at* http://www.metrojacksonville.com/article/2010-jun-sunflowers-for-lead-spider-plants-for-arsenic.

[62] MICHAEL F. JACOBSON, SIX ARGUMENTS FOR A GREENER DIET 96 (Center for Science in the Public Interest 2006) *available at* http://www.e-booksdirectory.com/details.php?ebook=2293.

[63] There are measures available to farmers in the traditional context that serve as safeguards to these problems. First, a farm may use a comprehensive nutrient management plan. A Comprehensive Nutrient Management Plan (CNMP) is a total planning tool that details the animal production related activities for a specific farming operation. Second, the Michigan Right to Farm Act provides for complaints involving environmental concerns arising from animal waste contamination and requires farmers to maintain farms at certain quality levels as to not present problems to the environment. *See* MICH. COMP. LAWS ANN. §286.474 (West 2010).

[64] Malongo R.S. Mlozi, *Urban Agriculture: Ethnicity, Cattle Raising and Some Environmental Implications*, AFRICAN STUDIES REV., Dec. 1997, Vol. 40, No. 3, at 5.

[65] U.S. Environmental Protection Agency, *Pesticide Spray and Dust Drift*, http://www.epa.gov/opp00001/factsheets/spraydrift.htm (last visited June 17, 2010).

[66] *See id*.; Mich. Dep't of Agriculture, *2010 Pesticide Utilization/Pest Control GAAMP*, http://www.michigan.gov/mda/0,1607,7-125-1567_1599_1605-70360--,00.html (last visited June 17, 2010).

[67] Jacobson, *supra* note 62, at 94.

[68] *Id.* at 89.

[69] *See e.g.*, Olufunke Cofie & A. Adams Bradford, *Organic Waste Reuse for Urban Agriculture*, INTERNATIONAL DEVELOPMENT RESEARCH CENTRE, *available at* http://www.idrc.ca/en/ev-103817-201-1-DO_TOPIC.html (last visited July 31, 2010).

[70] *Id.* (composting not only reduces waste, but also can be used as a commercial agricultural product which is sold to other farmers).

[71] Rita Lindayati, *CFP Report 19: Urban Agriculture: A Survey of Academic Expertise and Programs in Canada*, THE INTERNATIONAL DEVELOPMENT RESOURCE CENTER, 1996, http://www.idrc.ca/en/ev-2472-201-1-DO_TOPIC.html.

[72] *See* MIDWEST ENVIRONMENTAL ADVOCATES, INC., MODEL LIVESTOCK ZONING ORDINANCE: THE BALANCE BETWEEN ENVIRONMENT, ECONOMY, AND AGRICULTURE: SAMPLE PROVISIONS 5 (2002), *available at* http://www.midwestadvocates.org/advocacy/factories/services/zoning.html (hereinafter "Model Zoning").

[73] *Id.* at 10. It should be noted that composting itself raises negative implications. Urban solid waste may contain high levels of human excreta. Additionally, compost piles must be highly managed and monitored very closely so that pathogens will not survive the composting process and eventually be carried to fields when applied to soil

[74] The Committee on Agricultural Safety and Health Research and Extension, *Agricultural Equipment on Public Roads*, NATIONAL AG SAFETY DATABASE, Feb. 2009, *available at* http://nasdonline.org/static_content/documents/2140/d001906.pdf.

[75] *Id.*

[76] *Id*.

[77] DAVID W. SMITH, SAFE TRACTOR OPERATION: DRIVING ON HIGHWAYS 1(Sept. 2004), *available at* http://agsafety.tamu.edu/Educational%20Material/Index.html.

[78] *Id*.

[79] *Id*.

[80] *Id*.

[81] This paper will adopt the broad definition used by Boise: commercial livestock includes animals that are raised for the specific purpose of selling the livestock or livestock products. BOISE MUN. CODE § 11-09-09.4. This means animals that either will be raised or slaughtered for meat or animals that will be raised for the products they produce such as milk, cheese, and eggs.

[82] Bingo Barnes, *Urban Ranching, An Animal Farm in Your Own Backyard*, BOISE WEEKLY, *available at* http://m.boiseweekly.com/gyrobase/urban-ranching/Content?oid=921769.

[83] Model Zoning, *supra* note 72, at 6.

[84] Michigan's Right to Farm Act was established to promote agriculture and specifically states that a farm will not be considered a nuisance so long as it conforms to generally accepted agriculture and management practices as established by the Michigan Department of Agriculture. MICH. COMP. LAWS ANN. §286.473(1). Private nuisance suits are prohibited by the Right to Farm Act where the generally accepted agriculture and management practices are adhered to. *Steffens v. Keeler*, 200 Mich. App. 179, (1993).

[85] *See* World Health Organization, *Zoonoses*, 2010, *available at* http://www.who.int/topics/zoonoses/en/ ("A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans. Animals thus play an essential role in maintaining zoonotic infections in nature. Zoonoses may be bacterial, viral, or parasitic, or may involve unconventional agents. As well as being a public health problem, many of the major zoonotic diseases prevent the efficient production of food of animal origin and create obstacles to international trade in animal products.")

[86] Mlozi, *supra* note 64 at 4.

[87] *Id*.

[88] Food and Agriculture Association of the United Nations, *Livestock Keeping in Urban Areas*, FAO ANIMAL PRODUCTION AND HEALTH PAPERS 151, 2001, *available at* http://www.fao.org/docrep/004/y0500e/y0500e00.htm#toc; *see also* Model Zoning, *supra* note 72 (the model ordinance has three levels of animal raising: 1) a concentrated animal feeding operation of more than 500 animals; 2) small animal feeding operation consisting of fewer than 150 animals; and 3) and animal feeding operations of 150 animal units with certain other restrictions).

[89] Alision Benjamin, *Fears for Crops as Shock Figures from America Show Scale of Bee Catastrophe*, THE OBSERVER, May 2, 2010, *available at* http://www.guardian.co.uk/environment/2010/may/02/food-fear-mystery-beehives-collapse; Marion Tanguy, *Can Cities Save our Bees?*, GUARDIAN.CO.UK, June 23, 2010, http://www.guardian.co.uk/commentisfree/2010/jun/23/can-cities-save-bees; Anais, *Bee the Solution, Not the Problem*, URBAN HOMESTEAD IN THE CITY, May 28, 2010, http://urbanhomestead.org/journal/2010/05/28/bee-the-solution-not-the-problem/.

[90] Marion Tanguy, *supra* note 89. *See also* Hugh Raffles, *Sweet Honey on the Block*, N. Y. TIMES, July 6, 2010, *available at* http://www.nytimes.com/2010/07/07/opinion/07Raffles.html?_r=1&emc=eta1 (explaining that urban honey is also "likely to have significantly less chemical residue than commercial honey made beyond the boroughs. This is partly due to the high levels of pesticides in commercial agriculture and party because small-scale beekeepers tend to use fewer drugs in the care of their hives than commercial operators).

[91] Anais, *supra* note 89. MCLA also contains sections aimed at keeping bee colonies healthy by minimizing the spread of bee diseases. *See* MICH. COMP. LAWS ANN. §§ 286.808a, 286.811, 286.814 (West 2010).

[92] Ferreira v. D'Asaro, 152 So.2d 736 (Fla. 1963); *see also* 86 A.L.R.3D § 829 (2009). The outcome of the case may also depend on whether a determination can be made as to which hive the bee causing the injury belongs. *Id.*

[93] MICHIGAN DEPARTMENT OF AGRICULTURE, GENERALLY ACCEPTED AGRICULTURE MANAGEMENT PRACTICES FOR THE CARE OF FARM ANIMALS (January 2010), *available at* http://www.michiganbees.org/wp-content/uploads/2010/03/bee-GAAMPS.pdf.

[94] *Id.* at 79.

[95] *Id*. at 82.

[96] KATHERINE H. BROWN & ANNE CARTER, URBAN AGRICULTURE AND COMMUNITY FOOD SECURITY IN THE UNITED STATES: FARMING FROM THE CITY CENTER TO THE URBAN FRINGE, (Community Food Security Coalition, Oct. 2003), *available at* http://www.foodsecurity.org/urbanag.html.
[97] *Farm Could Make Detroit Hot Spot for Fresh Foods*, DETROIT FREE PRESS, at A14, April 2, 2009.

[98] MICH. COMP. LAWS ANN. art. X, § 2 (West 2010).

[99] *See generally* BROWN & CARTER, *supra* note 96.

[100] *Id.*

[101] MICH. COMP. LAWS ANN. § 286.472-.474 (West 2010).

[102] City of Madison, *Zoning Code: Public Review Draft*, § 28.002(1)(o), June 2009, *available at* http://www.cityofmadison.com/neighborhoods/zoningRewrite/documents/LegistarPublicHearingDraft.pdf

[103] *Id.* §§ 28.092 – 28.093.

[104] *Id*. § 28.091.

[105] *Id*. § 28.0502(1).

[106] *Id.* § 28.0502(2).

[107] *Id.* § 28.0502(3).

[108] CITY OF CLEVELAND ZONING CODE, Title VII, § 336.01, *et. seq.*

[109] *Id.* § 347.02

[110] John Gruslka, *Mayor's Proclamation on UA and Community Gardening,* CITY FARMER NEWS, Aug. 11, 2009, *available at* http://www.cityfarmer.info/2009/09/05/urban-agriculture-comes-to-bloomington/.

[111] *See* Amendment UDO-095 to the Bloomington, IN Unified Development Code, *available at* https://bloomington.in.gov/media/media/application/pdf/5244.pdf.

[112] *Id.*

[113] *Id.* § 20.11.

[114] Marriane Burros, *Urban Farming, A Bit Closer to the Sun*, NEW YORK TIMES, June 6, 2009, *available at* http://www.nytimes.com/2009/06/17/dining/17roof.html

[115] LEAH ERICKSON ET AL., URBAN AGRICULTURE IN SEATTLE: POLICY AND BARRIERS 26, *available at* http://www.chicagofoodpolicy.org/Urban%20Agriculture%20in%20Seattle%20Policy%20and%20Barriers.pdf (last visited July 31, 2010).

[116] *See* Symposium, *Urban Agriculture: Feeding the Movement: Proceedings from World Environment Day* (June 5, 2009), *available at* http://www.chicago-botanic.org/wed2009/documents/WED_Proceedings_0629.pdf

[117] Jerry Kaufman and Martin Bailkey, *Farming Inside Cities, Entrepreneurial Urban Agriculture in the United States*, LINCOLN INSTITUTE OF LAND POLICY, 19 (2000) *available at* http://www.queencityfarm.org/FarmingInsideCities.pdf.

[118] *Id.*

[119] MICH. COMP. LAWS ANN., §125.2681, *et. seq*.

[120] *Id.* § 125.2684(1)(c).

[121] MICH. COMP. LAWS ANN. § 211.9(j) (exempts from personal property taxes any property "actually used in agricultural operations, and farm implements held for sale or resale by retail servicing dealers for use in agricultural production"). *Id.*

[122] David Witford, *Can Farming Save Detroit?,* CNNMONEY.COM, Dec. 29, 2009, *available at* http://money.cnn.com/2009/12/29/news/economy/farming_detroit.fortune/index.htm.

[123] The rural-urban fringe is generally known as the land that barriers rural land from encroaching urban land. *See* Thomas S. Hard, *Differential Assessment of Farmland on the Rural Urban Fringe*, AMER. J. OF AGRICULTURAL ECONOMICS, Vol. 52, No. 1 (1972). *See e.g.*, Michigan Department of the Treasury, Qualified Agricultural Property Exemption Guidelines, *available at* http://mi.gov/documents/Qualified_Agricultural_Prop_139854_7.pdf (last visited June 18, 2010). This tax exemption reduces the millage rate and since property taxes are determined by the taxable value of the property multiplied by the millage rate, a reduction in the millage rate can significantly lower property taxes. *Id*. at 1. There are two separate ways for a property to qualify for this exemption: "1. Classification of the parcel as agricultural by the local (City or Township) assessor on the assessment roll **or** 2. Devotion of more than 50 percent of the acreage of the parcel to agricultural use as defined by law." *Id.* at 4 (emphasis in original). In fulfilling the first criterion, the parcel need not use 50 percent of the acreage to qualify and in fulfilling the second criterion a parcel need not be zoned agricultural. *Id*.

[124] State Environmental Resource Center, *Issue: Farmland Tax Break Loophole*, May 14, 2004, *available at* http://www.serconline.org/farmlandTaxLoophole.html.

[125] MICH. COMP. LAWS ANN. §324.36109 (West 2009).

[126] MICH. COMP. LAWS ANN. § 211.1003. (The recapture tax equals the tax benefit obtained with respect to the property as the result of the cap in the period between the date of the first exempt transfer and the subsequent change in use.)

[127] While not the focus of this paper, strengthening and better utilizing the concept behind the Detroit and Wayne County land banks systems, would potentially be a way to manage vacant land leases for community garden and other agricultural activities in Detroit. Currently, property owned by the Michigan Land Bank can be leased for a one year term for $50.00 with an option to renew. University of Michigan, School of Social Work, http://www.ssw.umich.edu/public/currentProjects/goodNeighborhoods/accessing%20land%20manual_10_1%5B1%5D.pdf

[128] Annemarie Mannion, *Green Acres in the Big City: Increase in Urban Agriculture Leads to New Ordinances*, AMERICAN CITY & COUNTY, July 1, 2009, *available at* http://americancityandcounty.com/admin/urban-agriculture-ordinances-200907/.

[129] Steele, *supra* note 37.

[130] ERICKSON ET AL., *supra* note 115 at 6-7.

[131] *Id.* at 7.

[132] MICH. COMP. LAWS ANN. § 286.473(a) (West 2010). "GAAMPs are set by the Michigan Commission of Agriculture. The Commission is required by law to Review the standards annually and revise them as considered necessary.'" Peter Goralski, *The Michigan Right to Farm Act*, Aug. 26, 2008, http://www.michiganpolicy.com/index.php?option=com_content&view=article&id=125:jasnfierwnp&catid=2:agriculture-policy-briefs&Itemid=17.

[133] MICH. COMP. LAWS ANN. § 286.472(a) (West 2010).

[134] *Id.* § 286.472(b).

[135] Charter Tp. of Shelby v. Papesh, 267 Mich. App. 92, 100-01, 704 N.W.2d 92, 99 (2005).

[136] MICH. COMP. LAWS ANN. § 286.474(6) (West 2010). MICH. COMP. LAWS ANN. § 286.472(d) defines generally accepted agricultural and management practices:

> (d) "Generally accepted agricultural and management practices" means those practices as defined by the Michigan commission of agriculture. The commission shall give due consideration to available Michigan department of agriculture information and written recommendations from the Michigan state university college of agriculture and natural resources extension and the agricultural experiment station in cooperation with the United States department of agriculture natural resources conservation service and the consolidated farm service agency, the Michigan department of natural resources, and other professional and industry organizations.

Id.

[137] *Id.*

[138] Email from Kami Pothukuchi, Associate Professor of Urban Planning, Director, SEED Wayne, Wayne State University to John E. Mogk, Professor of Law, Wayne State University Law School (May 26, 2010, 20:16 EST) (on file with author).

[139] MICH. COMP. LAWS ANN. § 286.473. These nuisances can include "usual and ordinary noise [from farm operation], dust, odors, and other associated conditions." MICH. COMP. LAWS ANN. § 286.473c-.474 (West 2010).

[140] Hancock v. Hueter, 118 Mich. App. 811, 325 N.W.2d 591 (1982); *In Re* Crawford v. Hammonds, 115 Mich. App. 19, 26, 320 N.W.2d 276, 279 (1982); 2 JOHN G. CAMERON, JR., MICHIGAN REAL PROPERTY LAW § 23.30 (3rd ed. 2005).

[141] City of Hancock v. Hueter, 118 Mich. App. 811, 817-18, 325 N.W.2d 591, 593-94 (1982).

[142] In Re Crawford's Estate, 115 Mich. App. 19, 26-27, 320 N.W.2d 276, 279 (1982).

[143] McGregor v. Carney, 271 Mich. 278, 279-80 (1935).

[144] Great Lakes Gas Transmission Co. v. MacDonald, 193 Mich. App. 571, 578 485 N.W.2d 129,133 (1992).

[145] City of Troy v. Papadelis, 226 Mich. App. 90, 572 N.W.2d 246 (1997).

[146] *Papesh*, 267 Mich. App. 92, 704 N.W.2d 92.

[147] Papadelis v. City of Troy, 2009 WL 5194532 (Mich. Ct. App. 2009).

[148] MICHIGAN ASSOCIATION OF PLANNING, RIGHT TO FARM ACT POLICY PLATFORM, Adopted—Feb. 19, 2010, at 3, *available at* http://www.planningmi.org/downloads/rtfa_board_adopted_policy_feb_19_2010.pdf.

[149] *Papesh*, 267 Mich. App. 92, 94, 4 N.W.2d 92, 96.

[150] MICH. COMP. LAWS ANN. § 286.474(7).

[151] *Id.*

[152] MICH. COMP. LAWS ANN. § 286.474(7).

[153] *Id.*

[154] *Id.* In conducting this review, the director should consult "the departments of environmental quality and community health and shall consider any recommendations of the county health department of the county where the adverse effects on the environment or public health will allegedly exist." *Id.*

[155] *Id.*

[156] "In the simplest terms, a green roof is plants on top of a roof. Also known as a rooftop garden, a green roof typically consists of the following components: an insulation layer, a waterproof membrane to protect the building from leaks, a root barrier to prevent roots from penetrating the waterproof membrane; a drainage layer, usually made of lightweight gravel, clay, or plastic; a geotextile or filter mat that allows water to soak through but prevents erosion of fine soil particles; a growing medium; plants; and, sometimes, a wind blanket." BRIAN GILLIGAN, O'HARE NOISE COMPATIBILITY COMMISSION, GROWING GRASS AND REDUCING NOISE: CITY OF CHICAGO'S GREEN ROOF PROGRAM, Mar. 2, 2005, at 4, *available at* http://www.techtransfer.berkeley.edu/aviation05downloads/Gilligan.pdf.

[157] Vertical farming can be accomplished many ways – planting on slanted containers built onto the side of buildings, vertical apparatus set up in back yards, or by using crawling plants. *See* The Vertical Farm Project, 2009, http://www.verticalfarm.com/; Bryn Nelson, *Could Vertical Farming be the Future,* MSNBC, Dec. 17, 2007 *available at* http://www.msnbc.msn.com/id/21154137/.

[158] Permits are necessary because prior to designing and constructing a rooftop garden it must first be determined if the roof can support the additional weight of soil and plants. CHICAGO DEPARTMENT OF ENVIRONMENT, A GUIDE TO ROOFTOP GARDENING 7, *available at* http://www.cityofchicago.org/content/dam/city/depts/doe/general/GreenBldsRoofsHomes/GuidetoRooftopGardening_v2.pdf (last visited Aug. 1, 2010). A licensed structural engineer or architect should be hired to conduct a structural analysis. *Id.*

[159] See, Slyvia Rector, *Hoophouse Ventures Prove Crops can Thrive Year-Round in Michigan,* DET. FREE PRESS, April 8, 2010 *available at* http://www.freep.com/article/201004080300/FEATURES01/4080397. (Hoophouses help to extend the growing season, sometimes even allowing a grower to plant and harvest food year-round. They can be simple structures and are generally unheated.)

[160] *See* Elizabeth Wahl, *Urban Gardens Are Detroit's Hope*, SLOW FOOD DETROIT, http://www.slowfooddetroit.org/articles6.html (last visited Aug. 1, 2010); Garden Resource Program, 2010, http://www.detroitagriculture.org/GRP_Website/Garden_Resource_Program.html.

[161] Witford, *supra* note 122.

[162] CITY OF CLEVELAND, OHIO, ZONING ORDINANCE § 347.02, Dec. 31, 2009, *available at* http://caselaw.lp.findlaw.com/clevelandcodes/cco_part3_347.html.

[163] *Id.*

[164] *Id.* For additional information on proper techniques of beekeeping see Michigan Department of Agriculture, *Generally Accepted Agriculture and Management Practices (*Jan. 2010), http://www.michigan.gov/documents/MDA_Care_Farm_Animals_GAAMP_129713_7.pdf.

[165] City of Madison, *Zoning Code: Public Review Draft §* 28.0502, June 2009, *available at* http://www.cityofmadison.com/neighborhoods/zoningRewrite/documents/ZCRDraftCode.pdf.

[166] *Id.*

[167] CITY OF MADISON, GENERAL ORDINANCES § 7.361, June 2006, *available at* http://library.municode.com/index.aspx?clientId=50000&stateId=49&stateName=Wisconsin.