Jan Richtr, Matthew Potteiger, "Farming as a Tool of urban rebirth? Urban agriculture in Detroit 2015: A Case Study", *In: Localizing urban food strategies. Farming cities and performing rurality.* 7th International Aesop Sustainable Food Planning Conference Proceedings, Torino, 7-9 October 2015, edited by Giuseppe Cinà and Egidio Dansero, Torino, Politecnico di Torino, 2015, pp 463-477. ISBN 978-88-8202-060-6

FARMING AS A TOOL OF URBAN REBIRTH? URBAN AGRICULTURE IN DETROIT 2015: A CASE STUDY

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Keywords: Detroit; case study; urban agriculture; shrinking cities; planning

Abstract: While a very complex urban system of Detroit crumbled and the city shrunk in capital, human resources, businesses and structures, new urban niches have reopened. The most noticeable changes in Detroit's landscape are urban agriculture projects that have been spread all around the countless vacant lots and a new urban morphology and metabolism are emerging. Urban agriculture can be seen as the major driver of change. One would say that transformation into a rural-like agricultural landscape with small urban islands could be the Detroit's future. The paper explores the contemporary urban agriculture scene in Detroit analyzing the range of urban agriculture projects and organizations. Detroit demonstrates the important role of grassroots, NGO's, entrepreneurs and also government planning and policy. The case study reveals the value of urban agriculture in reimagining urban landscapes and food systems of shrinking cities and the importance of a systemic network in this process. This kind of approach could be transferable to the European cities rather than individual projects and strategies that have to be always carefully contextualized.

1. Introduction

"Detroit is the next Detroit" is often quoted by Detroiters when discussing the city's future. Redevelopment of the Motor City is sometimes compared to Silicon Valley or Brooklyn, but people of Detroit see their city as a unique place. Indeed, Detroit is unparalleled in many ways. The city has given to the world the automobile, assembly line, civil rights movement and black power or the rich music cultures ranging from Motown to Electronica. In many ways it could be seen as the pure expression of Corporate America. For most of the twentieth century Detroit was the model for the world of modernism in terms of a belief in technological advances and optimizing profit from speculative capital through industrialized production – economic monoculture of automobile production (Daskalakis, Waldheim, Young, Stalking Detroit. p. 10). While other cities have experienced post-industrial decline, the dramatic scale of transformation of Detroit renders these changes particularly legible. Americans are aware of what Detroit represents and that's why many thought that the destiny of the United States in 2008 was foreshadowed by the massive economic decline of Detroit. But Detroit of 2015 is a different city. It still attracts attention, not for its crime, bankruptcy, ruins or urban prairies, but for new possibilities that have opened after the unprecedented fall.

Many Detroiters feel that Detroit bankruptcy filing in 2013 was actually the best thing that could happen to the city at that moment. "This is actually an opportunity to stop, hit ground zero and start to build from here," says one interviewed person in our study. The change that many feel could be characterized as a change of paradigm in what urban renewal means in case of Detroit. People have started to see more opportunities in all the urban blight that can go many ways - affordable living for students, young people or artists, new artistic scenes created by newcomers or entrepreneurial opportunities and revitalizing local communities through urban agriculture (UA). While there is going

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to be still a lot of negative issues because of great inertia of the economic decline and Detroit will be still the icon of urban decay in the US, the empty urban and cultural space can be filled in again and the city transformed. The question is, in what way Motor City is going to transform.

2. Problem Recognition

The urban agriculture initiatives in Detroit are recognized as the ones most advanced (Viljoen and Bohn 2014) in the North America. However the picture of urban agriculture in Detroit from other places in the World can be a little bit exaggerated by relying only on a view based on media coverage and popular Internet sources like Facebook or Youtube that can European and other urban gardeners use as available reference and inspiration. The perpetuation of images of the ruins of Detroit juxtaposed with urban agriculture as a narrative of resurgence tends obscure the complexity of stakeholders and range of interests and values at play. This paper aims to gather more specific descriptions of activities of major urban agriculture organizations in Detroit as part of Detroit's transformation and missions of four selected organizations active in urban agriculture movement in Detroit and tries to critically answer the question what kind of practice and strategies could be transferable to European cities.

2.1 Research Questions

1. What is the current situation of urban agriculture in Detroit?
2. How is urban farming recognized as relevant strategy for transformation of post-industrial landscapes in Detroit?
3. Is Detroit's urban agriculture model applicable in European context?

2.2 Goals

1. To explore and describe the contemporary urban agriculture scene in Detroit;
2. to assess their activities and related them to each other and city policies;
3. to discuss the present four cases of urban agriculture organizations and discuss applicability of the Detroit UA model in European context.

3. Methodology

This research involves semi-structured interviews with individuals representing selected urban agriculture organizations in Detroit, conversations with Detroit community members, relevant literature and policy documents reviews, site visits and basic spatial analysis to spatially describe the urban agriculture sites and activities. The interviews were conducted over a time span starting first in the summer and fall of 2008, and again during the fall of 2014 and spring of 2015 varying in length from 30 to 60 minutes. We examined in each interview the key statements, important concepts and processes of how the organizations work and developed. Common patterns and themes were identified a cross the individual interviews. Results of the interviews were related to relevant literature and policy documents reviews.
We used publicly accessible Detroit municipality map to show individual urban agriculture sites in a map with adequate relation to each other using a vector editor.

4. Case Study of Major Urban Agriculture Organizations in Detroit

In the following stories we profile several major urban agriculture organizations in Detroit. The stories focus on development of these organizations and their activities, programs and missions in Detroit, as well as the level of collaboration with other organizations, communities and municipality. We introduce and describe Greening of Detroit, Earthworks, Detroit Black Community Food Security Network and Michigan Urban Farming Initiative. The information sources are our own interviews with organizations representatives, personal site visits, conversations and official websites.

4.1 Greening of Detroit

Greening of Detroit (*GoD*) started twenty-five years ago in 1989 for the purpose to plant trees to replace those lost to Dutch elm disease which killed half a million trees in Detroit area during the second half of the 20th century. The organization planted 85,000 trees since then. *GoD* is a nonprofit resource agency with board of directors and 25 fulltime employees. From this perspective, it is the largest investigated urban agriculture organization in Detroit. Experts like landscape architects, foresters or professionals with degree in environmental sciences are employed there. The mission of the organization is to build a sustainable community through planting trees, creating green spaces, urban agriculture and jobs. The organization expanded its scope and began to incorporated urban agriculture activities and programs after 2003 when the city's "farm a-lot" program ended. At that time *GoD* had "never planted a vegetable", but there was no other group with the capacity or mission to develop a comprehensive urban agriculture program (Atkinson, 2008) the *Detroit Agriculture Network* (*DAN*) had no infrastructure to support a coordinated UA program and *Michigan State University* had not developed capacity to work with neighborhoods. In the first year of what became the *Garden Resources Program, GoD* worked with 42 families and 39 community and school gardens (Atkinson, 2008).

4.1.1 Programs and Activities

The *GoD* has currently four main programs: the *Garden Resource program*, *Build a Garden program* and *Urban Agriculture Adult Apprenticeship program* as well as several other activities as part of other partnerships. The *Garden Resource Program* once supported the majority of gardens in Detroit (over 1500), providing seeds, soil testing, transplants, organization and training classes. However, they do not participate in this anymore. The reason why they stopped doing this was because some of the people who worked in urban agriculture department of the organization spun off and started their own organizations and *GoD* did not want to compete with these other organizations and therefore *GoD* focused on other activities and services, school programs, nutrition education, and market gardening as described further.

The current organization's activities include job training such as *Landscape technician program* for Detroiters who are unemployed or have social barriers to get an employment. Next is *Build a Garden* program, where they support Detroit residents to set up an urban garden. *GoD* helps to deliver highly subsidized raised beds, their own compost and instructions how to garden. Through this program they have supported 63 new urban gardens. *GoD* has also partnership program *Urban Agriculture Adult Apprenticeship program* for teaching people how to run small production farm. The organization also cooperates with local schools. In 2014 they built six school gardens along with outdoor classrooms, a nutrition education curriculum, and the gardening curriculum.

Another program is *Green Corps Youth Employment program* mainly for managing trees planted in prior years by *GoD*. *GoD* hires between 80-200 Detroit's high school students to help with watering the trees planted during the summer. The students also help to maintain greenways in parks and are taught about urban agriculture as well. Therefore the seasonal staff can grow up to several hundred people, although most of this work force is composted from volunteers.
Vacant lot treatments is another important activity, when the organization works with local community groups on various strategies for revitalizing abandoned lots (e.g. trees, community garden, park or pocket park). This treatment program was also the original reason for the organization getting into job training.
The goal of all these programs is to teach people how to grow food, eat healthy, and support their families and neighborhoods as well as their own partial self-sufficiency. Other activities include educational workshops on the three farm gardens that are owned and managed by the organization itself.

4.1.2 Farm Sites

The *Market Garden* is one-hectare urban garden founded on a former industrial site on Orleans St. in a vicinity of the Detroit's *Eastern Market*. This garden has a fulltime farm manager and also works as demonstration site for training programs, classes and workshops. The produce from the Market Garden is primarily sold through *GoD's* Community supported Agriculture program.

Figure 1. Market Garden. Photo Jan Richtr.

Lafayette Greens community Garden on 132 W Lafayette Blvd is the only urban agriculture project in Detroit located in the downtown area. Prior to the garden an abandoned art-deco building existed on the site, which was torn down in 2010. Kenneth Weikal Landscape Architecture firm designed in 2012 the garden for the *Compuware Corporation,* which ran the community garden for 2 years and then donated the project to *Greening of Detroit* in March 2014, although the City of Detroit owns the land. The garden has an onsite coordinator employed by *GoD* and volunteers help maintain the space. All production from this garden is donated to food banks and other social enterprises. Part of the production is given to the volunteers themselves. Because the site is open to the public during the daytime from March until October, the priority is put on aesthetics, rather than education and production. Due to this reason the garden does not have a compost operation on site and ornamental flowers are grown together with herbs, vegetables and fruits. The garden was also part of a research on pollinators in urban areas conducted by the *University of Michigan* in 2014. The garden hosts various artistic, cultural, social and wellness events throughout the season.
Romanowski Park is located in southwest Detroit and has a farm garden in its center managed also by *GoD*. The orchard, berry shrubs and vegetable plots are in open space. The organization cooperated with local school on this garden in the past, but the school was closed recently and local

community involvement is not as good as the organization would like, so they are in an interim phase now trying to figure out what direction this garden will take.

Figure 2. Lafayette Greens community Garden. Photo Jan Richtr.

Figure 3. Public garden and orchard in Romanowski Park. Photo Jan Richtr.

4.1.3 Food production

The produce from *GoD* gardens is not sold at the Eastern Market like in case of other UA farmers, but through different channels to not compete with small farmers .

4.1.4 Financing

GoD is financed mostly by foundations, state grants, corporate funding and small donations with an annual budged just under 4 million USD. Part of those finances is also received by small contracts for services. They are trying to appeal to local citizens to contribute small donations with the goal to get more Detroiters involved. According to the interview, funding is still the biggest issue, because demand for activities and services is higher than their financial capabilities.
GoD also contracts some services. For instance tree planting for Detroit Water and Sewage services within projects to decrease negative impact of storm waters on sewers.

4.1.5 Relationships with Other Entities in the City

The organization is trying to build various relationships with the city and district managers. They have a community engagement team, which is specifically tasked to build those relationships. Currently

the organization is also looking for opportunities to partner with other teams around the *Detroit Future City* framework, as well as build other relationships on the city level. GoD has a seat on food policy council or *Green task force*.

4.2 Detroit Black Community Food Security Network and D-Town Farm

Detroit Black Community Food Security Network (DBCFSN) was established in 2006 to address issues with food quality, availability and security especially for Detroit's African American community, while realizing that better local food system can benefit to all Detroit residents.
Another significant reason for the formation of *DBCFSN* was a perceived disproportion between urban agriculture endeavors run by mostly white citizens and majority of African Americans in Detroit community.
"We observed that many of the key players in the local urban agriculture movement were young whites, who while well-intentioned, never-the-less, exerted a degree of control inordinate to their numbers in Detroit’s population. Many of those individuals moved to Detroit from other places specifically to engage in agricultural or other food security work. It was and is our view that the most effective movements grow organically from the people whom they are designed to serve. Representatives of Detroit’s majority African American population must be in the leadership of efforts to foster food justice and food security in Detroit." (detroitblackfoodsecurity.org)
DBCFSN is primarily focused on creating project towards to community self-sufficiency and healthy food awareness. The organization is oriented especially to urban agriculture, policy development and co-operative buying.

4.2.1 Farm Sites

DBCFSN currently runs one production site, but had several more in the past that had to be discontinued due to other intended use by the property owners. In 2008 DBCFSN acquired 0,8-hectare site in the City of Detroit’s Meyers’ Tree Nursery in Rouge Park for its D-Town Farm. Farm is the largest *DBCFSN* operation so far established. *DBCFSN* leases the property for one dollar annually for ten years from the City of Detroit. The farm has several hoop houses, in ground vegetable plots, composting site and apple orchard. Since 2008, they acquired an additional 2 hectares. It is currently probably the largest single farm site for urban agriculture in Detroit. The farm has one fulltime employee, five part-time farmers and around ten internships annually.
The farm produces various vegetables and the food production is connected with extensive compost operation. They compost also materials like expired foodstuff from local supermarket or *Forgotten Harvest* - an organization focused on collecting unused food and food waste have been added. Also, several members of the *DBCFSN* bring in kitchen waste and other household organic material. Avalon bakery from Detroit and one other restaurant used to bring food scraps and coffee grounds in the past as well. Even though they still use city water supply to irrigate drops, the farm is moving toward more self-sufficiency and an irrigation pond and small solar project is being constructed this year.

4.2.2 Programs and Activities

DBCFSN has a youth program called *Food Warriors Youth Development Program* and they have location in various schools in Detroit. *Summer Urban Agriculture Internship Program* helps to bring

interns on farm. They also have *Volunteer incentive program*, where people volunteer in exchange for so-called *D-Town dollars* that can be used to purchase produce from the farm.
Amongst other activities belong *Annual Harvest Festival*, *What's for Dinner? Lecture Series* they also organize a co-op called *Ujamaa Food Buying Club* (detroitblackfoodsecurity.org).

4.2.3 Financing

DBCFSN and its farm are financed through several grants and donations. The major grant is a three-year grant from the *W.K. Kellogg Foundation* with amount of 750 000 USD. They also have smaller grants and donations for farming tools and structures. Selling produce at local farmers markets and *Eastern Market* also contributes a small amount of income to the farm.

4.2.4 Relationships with Other Entities in the City

Relationships with the neighborhood around the farm are not on the level that would be considered by *DBCFSN* as satisfactory, although the community's knowledge of the farm is increasing.
The *Greening of Detroit* resource organization manages the area around *D-Town farm* as tree nursery and they share with them some resources on site. *D-Town farm* also collaborates with *Keep growing Detroit* on workshops, community training activities and moving produce.
Due to *DBCFSN* advocacy for creating Food security policy, the organization was appointed to develop this policy for the city of Detroit in 2006. They had been working on the policy draft also in collaboration with professor Kami Pothukuchi from *Wayne State University*. The city council passed the resolution adopting this policy in March 2008. *DBCFSN* worked further with members of city council and in October 2008 the City Council passed the resolution on the development of *Detroit Food Policy Council*.

4.3 Earthworks Urban Farm

Earthworks urban farm (Earthworks) is one of the most well-established urban agriculture projects in Detroit located on 1264 Meldrum St. It is an integral part of the *Capuchin's Soup Kitchen* since 1998. The soup kitchen has been in operation since 1929 as a part of the *Capuchin order* monastery across the street from the farm. *Capuchins* traditionally work with people in need including youth, therefore *Earthworks* continues in this mission and works with local community and the neighborhood and address issues related to the lack of full service grocery stores in the neighborhood.

4.3.1 Programs and Activities

Earthworks has 6 fulltime employees. Two of them do youth programming five days a week. They teach environmental awareness, growing food and healthy nutrition and cooking. One employee works on outreach and another person runs adult programming. Earthworks also has a lot of university students who can have practice at the farm. They also cooperate with journalist and researchers. Next is *Adult program* - people work four days a week to get experience and learn farm skills for their own UA projects. This program is also used for people who need to do community service ordered by a court. Earthworks also run a 9 month more intensive UA program that is much more intensive. People in the program work 24 hours a week starting at the beginning of the season

until its end. They leave the program with a certification that says they have safe food handling practices, so if they will want to work in a restaurant, food processing facility or food whole selling.
Earthworks also has a market stand on site and people from the neighborhood can access fresh fruits and vegetables. Their prices are set very low and residents can use electronic benefits card (*EBT*) to acquire produce from the farm. This card works like a normal credit card, but provides public benefits to qualified individual below a certain income threshold. Other public program called WIC is mostly for the needs of women and their young children.

Figure 4. Public garden and orchard in Romanowski Park. Photo Jan Richtr.

4.3.2 Food Production

Earthworks has about one-hectare of land dedicated to food production. The plots are spread out throughout the neighborhood within 2 block of the *soup kitchen*. Around 95% of the produce goes into the soup kitchen itself. They also send food home with volunteers who help at the farm.
They use one heated greenhouse especially for transplant production at the beginning of the season. They also have one unheated greenhouse used for growing produce in ground. They use their own compost from all available organic material from the city and food waste from the *soup kitchen*.
It is also one of few farming sites in Detroit, where they have substantial infrastructure for rainwater harvesting. The greenhouses have gutters for rainwater collection and several water tanks equipped with pumps and irrigation systems. However most of the irrigation water still comes from the city water supply.
Interestingly, Earthworks is organic certified that is quite unusual for UA operation in the US.

4.3.3 Financing

Earthworks is organized under the *Capuchin's Soup Kitchen* and creates relatively small part of their budget. Like some other UA organizations they sell produce under the retail price, therefore it makes very small part of their income. They receive private and corporate donations as well and apply for grants especially for acquiring new equipment and structures.

4.3.4 Relationships With Other Entities

Earthworks as a contracted grower grows transplants for *Keep Growing Detroit* who distributes them to thousands of backyard and community gardeners in the city. Compared to other organizations that farm on leased land, Earthworks own the land where the greenhouses are located. Other land for production is used in partnership with other organizations.

In the future, they want to use their capacities and non-profit status for small infrastructural projects like community greenhouse or cold storage and cellars for small local growers.

4.4 Michigan Urban Farming Initiative

Michigan Urban Farming Initiative (*MUFI*) on 7432 Brush St. is a non-profit organization established in 2011 by several students, who moved to Detroit. *MUFI* is run only by volunteers with a core team of 10 young, mostly white and educated people. They grew food on 0,8-hectare in 2014 and describe *MUFI* as "a very comprehensive organization" that focuses mainly on innovations in urban infrastructure through research supported onsite projects.

4.4.1 Current Activities and Planned Projects

The mission is primarily to "challenge assumptions held about how blight and urban infrastructure can be used". Therefore they create cost comparative models for blight deconstruction and scalable models for blue and green infrastructure as part of various research projects. These projects are based primarily around new uses of abandoned properties that MUFI purchases in *Wayne County Tax Auctions* or from *Detroit Land Bank Authority*. The first purchased building is being reconstructed into a future community resource centre with a multipurpose space including a commercial kitchen for educational programming such as agricultural skills, nutritional literacy, and food preparation. Another abandoned house is going to be reconstructed into farm internship housing. Another purchased structure is planned to be a place for a veteran cooperative housing program. They are deconstructing one of the structures down to the foundations for a shipping container type of housing. Another project is creation of a retention pond from an uncovered basement by installing a water resistant membrane. All this with the goal to research and prove a concept of functional use of the urban infrastructure for less than the City of Detroit is currently spending on turning it into the vacant land by demolition, which is relatively expensive (around 15,000 USD according to the interviewed individual). They are also working on projects to develop a pocket vineyard and a farm to table restaurant.
MUFI's activities related to social justice issues and social inequality in the food system are organized especially through selling produce in local community for prices under retail value and through food donations.

4.4.2 Food Production

The first year of *MUFI* operation was oriented almost exclusively to site clean-up, landscaping work and "building presence in the neighbourhood". Food production on site followed in the second year, when MUFI produced 12,000 pounds of food. *MUFI* distributes its production to four main ways. First, there are individual households purchases where people come to the site, harvest with *MUFI* volunteers who weight the harvested produce and suggest donation based on their market guide. The second path of their produce goes to local markets like *Oakland avenue farmers market*, *Wayne state farmers market* and *Eastern Market*. The last channel for their produce are grocery stores and restaurants. The unsold remainders of production goes as donation to *Coalition on Temporary Shelter* and *Forgotten Harvest*.

Figure 5. Michigan Urban Farming Initiative farm site. Photo Jan Richtr.

4.4.3 Resourcing

Selling produce is not the main financial source. The main financing are research grants that acquire data from *MUFI*'s projects, but 90% of the total budget comes from winning social media contests. "*Corporations used to have these community grant things that you apply for and then they've realized they will get more publicity if they open it up to any non-profit and make then compete against each other in a public voting on social media and as organization run by people around 20+ we have a lot of Facebook leverage,"* describes MUFI representative and explains another reason for specific way of funding: *"The grant industry is really difficult to break into. You need to be a veteran non-profit with a demonstrated history of success. ... It is fairly a political process and if the leadership is half young white people, nobody wants to fund that in Detroit."* Other donations include for instance a greenhouse from *National Resource Conservation Service*.

They were able to have 4 500 volunteers working on the site since its establishment in 2011, with over 50 000 volunteer hours. Those volunteers were equally from the Detroit community and southeast parts of Michigan area. "W*e are also, in a sense, acting as a platform to get people from around into the city often under the pretence of saving Detroit through volunteering, but it gets them in the door and what turns out to be the case is, they end up loving and buying property and moving into the city."*

5. Spatial Analysis

We have located major urban agriculture sites within the Detroit city borders and related them to the main urban typology of the city. It is important to point out there are substantially more smaller urban agriculture sites in Detroit that are not projected on the map. The total number of backyard gardens, school gardens, small farms and community gardens in Detroit is estimated to be over 1500 (Economic Analysis of Detroit's Food System, 2014; Greening of Detroit - interview).

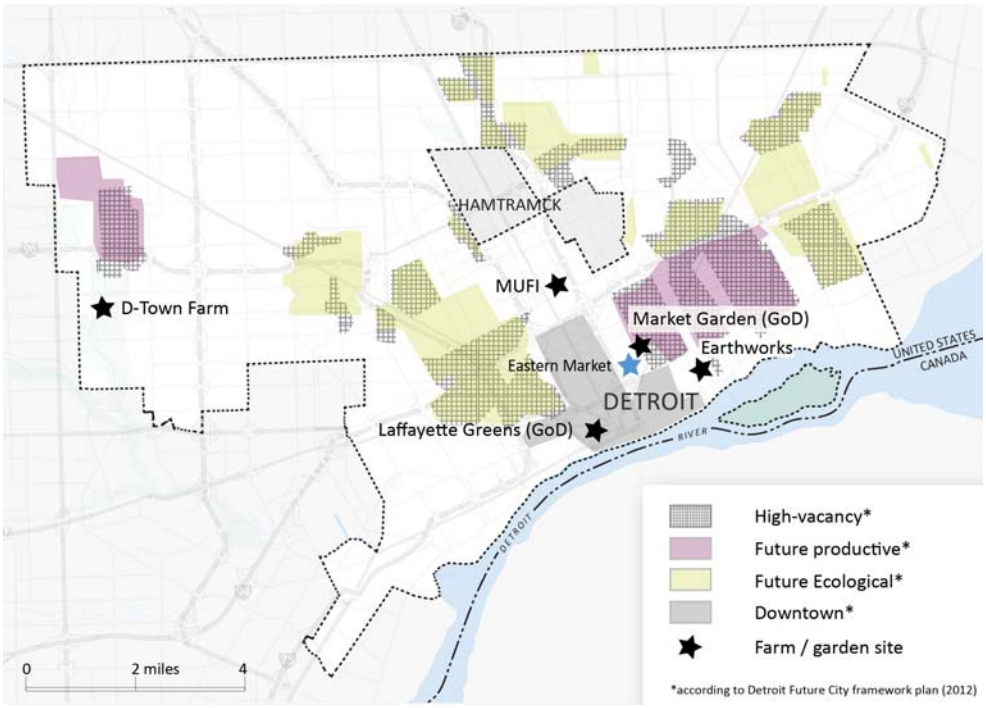

Figure 6. Map of the urban agriculture sites presented in the paper in relation to downtown, high-vacancy areas and proposed productive and ecological areas by Detroit Future City (2012).

6. Discussion

The presented cases of UA organizations, their missions, programs, other activities and sets of issues show extensive and complex UA scene in Detroit. First we summarize and further discuss five characteristics we have identified as most relevant for Detroit case study and also discussed them in context of European Urban Agriculture.

6.1 Detroit as Unique Laboratory of Urban Agriculture

Detroit's 103 square kilometers of vacant land, extensive historical footprint of automotive industry, profound social inequality and the largest municipality with bankruptcy filing in the US history makes from this city a truly extraordinary place. It highlights two things that we consider if Detroit is going to be used as a model city for urban agriculture efforts in other parts of the world. Firstly, as other authors pointed out (e.g. Viljoen and Bohn 2014), this extreme urban environment provides countless places, opportunities and diverse social environments to develop and test new models of urban agriculture. This aspect makes Detroit one of the few places in the world, where urban agriculture can become a significant tool for city transformation. The second important aspect is the scale of this transformation. If the City of Detroit is going to redevelop according to the *Detroit Future City* strategic framework plan, a groundbreaking UA policy will need to be adopted. Such policy will require careful adaptation in different urban environments because of different social and urban assets.

The asset of a great amount of vacant land also influences the character of UA typologies of Detroit gardens and farms. As the UA cases show, vertical types of food production are not present in Detroit. Detroit does not grow vertically. There are no rooftop farms, vertical farming or farming

integrated into buildings as in case of several projects in New York City, Toronto or Chicago. The vastness of vacant land has also determined the way in which urban farming is established within the legal framework of property rights. Many Detroit gardens are located on land without tackling the legal relationship with the plots under the gardens due to massive disorder in ownership of Detroit's vacant lots. This results in a situation that would be generally different in dense urban areas of European cities with relative scarcity of available land.

6.2 Diversity of Endeavours, Cooperation and Competition

Continuous growth in size and number of UA endeavors in the City of Detroit in combination with current population of six hundred thousands people can create a "tension" or competition amongst the individual organizations. As one interviewed person said "*There is a lot of competition in the urban agriculture space here ... People tend to collaborate, but they also tend to compete*." The gradual development of the individual endeavors in the last couple of years has created diversity and new partnerships for cooperation, but also leads to competition over resources and ideas on how urban agriculture in Detroit should look like. By resources we mean especially financial resources in particular, in the form of grants and donations. This kind of resource is fairly limited and organizations have to compete to get it. Other resources like available land and workforce are practically limitless in Detroit. Natural resources and other physical elements can be relatively easily accessible through the systemic network of resource organizations. The major UA organizations actively cooperate in terms of participation on creating food system and food security policies in Detroit and bring into the process priceless experiences and knowledge. Therefore, Detroit provides great example of coordinating the diversity of these efforts and accepting the differences, although it could be said that there is still present a political realm connected to social inequalities and race issues (see next chapter), and missions or practices of UA endeavors are perceived by some through these lens. We can assume that the number of UA endeavors is going to further increase due to more agriculture friendly policies in Detroit and those will need to search for new financial resources and market niches.
The lesson that could be learned from this for UA projects in Europe is that the value of networking and creating partnerships in urban environment is highly beneficial and most probably also a successful long-term strategy and that such partnerships and cooperation can overcome political differences as we can seen in Detroit, where these "tensions" are still present, but do not limit the beneficial cooperation amongst most of the endeavors.

6.3 Social Justice and Race Issues

Due to history of social disparities amongst the white and black population in Detroit and the fight for social justice by the African American community, these issues are also an integral part of the UA scene in Detroit. That is also the central narrative of *DBCFSN*, which addresses these issues through urban agriculture, food related education and increasing self-sufficiency of particularly black communities. Therefore land cultivation and food production has become a tool to work with these issues.
Such socially oriented grass-roots movements creates a counterweight for endeavours that seek different goals while using urban agriculture as a mean how to achieved such goals. The classical example in Detroit is *Hantz Farm* project, which applies a capitalistic approach in urban agriculture. Hantz Farm stated strategy is to use urban agriculture as a means to create scarcity of real estate, which will increase land values. Meanwhile the vacant land that was acquired at a low rate will be

used for timber production by creating forested areas. Although we did not include Hantz Farm project in our case study, there are other authors who describes some concerns shared by local communities about this project (Giorda 2012; Viljoen and Bohn, 2014, Cohen 2014).
This provides a cautionary narrative about the disparities in political and economic power and how can they impact land tenure and social justice values of urban agriculture.
Giorda (2012) identified two basic narratives for UA in the Detroit's future development. The first one is based on very strong social movement dated back to the 1960s, when Detroit's black community started to fight for its rights and against the city that was building its "apple with a hollow core" on exploitation of African Americans. "As many Detroit gardeners are the heirs of the activists who fought in the past for social justice and equal rights, their quest for locally produced food is informed by the concept of food justice" (Giorda, 2012). The second narrative is the capitalistic one. The Detroit's tradition of entrepreneurial spirit and use of technologies along with "big money" creates a conflict with the food justice approach as in case of *Hantz farms,* and partly also in the case of *Michigan Urban Farming Initiative*, where the historical perspective of racial issues in Detroit is exposed. It is still not clear yet, which one of these two narratives will prevail in following Detroit transformation.
The historical and social framework, as well as those two competing approaches in UA are not so familiar and hard to recognize from the European perspective. We could say Detroit is still perceived here as the city in unprecedented decline, and because of the lack of knowledge about more fine scale relationships between individual organizations and UA projects, the picture of urban agriculture in Detroit can be easily fetishized, especially if seen on the stage with such fascinating scenery of industrial ruins.

6.4 Addressing Educational, Economic and Environmental Aspects of Urban Agriculture

All of the organizations presented have programing for youth and adult education (*MUFI* is constructing community resource centre also for education programing). The education of Detroiters in farming techniques and creating knowledge and skills about urban agriculture is an integral part of UA in Detroit.
The financial feasibility of UA endeavours in Detroit is strongly supported by the work of volunteers. Some of the events like tree planting or site clean-ups were attended by hundreds of volunteers. Many of described endeavours could not be possible without unpaid hard work of those individuals.
Another interesting fact is that selling produce does not create substantial income for the investigated organizations.
Environmental aspects are evident, especially in the form of self-reliance of urban communities, which is, again, connected to social issues and strengthening independence on capitalistic agro-food system. We have also found that the term "climate change" is not present in the Detroit's UA narrative. We think that it is because UA endeavours deal with a more immediate set of locally based, and more pressing environmental and social issues in Detroit. We also argue that it is the main difference between Detroit's narrative of urban agriculture and narrative that we can find in contrast to Europe.
In the European context sustainable development managing climate change, short supply chains and food security are one of the key arguments for current Urban Agriculture efforts (e.g. COST UAE - www.urbanagricultureeurope.la.rwth-aachen.de).

6.5 Missing Progressive Policy for Urban Agriculture in Detroit

The history of urban agriculture in Detroit dates back to the late 19th Century, when Mayor Hanzen Pingree sponsored potato patches for Detroiters to overcome the economic crisis and to Liberty and Victory gardens in World War I and II (Giorda 2012) as well as to vegetable backyard gardens of African Americans who came to Detroit after the war to work in the auto industries (Treuhaft et al. 2009). All the UA organizations studied here have been in Detroit long before the recent bankruptcy filling, and UA present in Detroit today has been slowly gaining momentum at least for the last ten years. Because most of the literature sources and studies are dated prior the bankruptcy filing, we have tried to outline and discuss more tangible changes that came after this event. For most of this time, UA, as a legitimate land use, was not recognized by the City of Detroit in zoning codes. It changed in April 2013 when the City of Detroit passed the code for urban agriculture, but still prohibits all farm animals (Cohen 2014) including bees.

Detroit Future City (*DFC*) strategic framework is a multi-year comprehensive planning process that resulted in long-range plan to articulate a vision for the future of Detroit's urban realm (Cohen 2014). The way *DFC* incorporates urban agriculture into the future redefinition of Detroit land use is unprecedented and unique due to the size of areas that are proposed to be transformed into rural like productive and innovative landscapes accommodating diverse types of farming practices such as urban forests, aquaculture facilities and testing plots of innovative farming practices (Detroit Future City 2012). Although, today none of the presented farm sites studies here are located in one of the areas with the highest vacancy (see figure 6). A substantial program for large-scale urban agriculture will be required to transform these rural-like spaces and introduce urban agriculture into these areas.

Urban agriculture as a legitimate and even important part of Detroit renewal is also a political issue, and UA organizations in Detroit play a key role in adopting the UA policy. The combined efforts with other UA organizations is one of the few things that European counterparts should pay attention to, because these strategies for cooperating and communicating together are more transferable than the particular goals and missions of the individual urban agriculture organizations in Detroit.

7. Conclusions

The case study reveals the large diversity of projects, actors and approaches that are linked into a networked system that coordinates various resources across multiple sites and scales. The case study reveals the value of urban agriculture in reimagining urban landscapes and food systems of shrinking cities and the importance of a systemic network in this process. This kind of systemic approach could be transferable to the European cities rather than individual projects and strategies that have to be always carefully contextualized. Urban agriculture in Detroit is not yet a fully sustainable enterprise from the economic point of view, but the UA activities have their values in other metrics.

8. References

Cohen, N. 2012. Planning for urban agriculture: problem recognition, policy formation, and politics. In: A. Viljoen and J.S.C. Wiskerkeeds, eds. Sustainable food planning; evolving theory and practice. Wageningen Academic Publishers.

Cohen, N. 2014. Policies to support Urban Agriculture: Lessons from New York and Detroit. In: A. Viljoen and K. Bohn, eds. Second Nature Urban Agriculture. Routledge, 300 pp.

Daskalakis, G., Waldheim, C., Young, J. eds, 2001. Stalking Detroit.

Detroit Future City, 2012. Detroit Strategic Framework Plan.

Economic Analysis of Detroit's Food System, 2014. A report commissioned by the Detroit Food & Fitness Collaborative, and produced by Econsult Solutions, Inc. and Urbane Development, LLC. Available at: <http://www.gcfb.org/site/DocServer/DETROIT_book_r6_8_29_14_lowres.pdf?docID=9962> [Accessed 20 September 2015].

Giorda, E. 2012. Farming in Motown: competing narratives for urban development and urban agriculture in Detroit. In: A. Viljoen and J.S.C. Wiskerkeeds, eds. Sustainable food planning; evolving theory and practice. Wageningen Academic Publishers.

Treuhaft, S., Hamm, M.J. and Litjiens, C. 2009. Healthy food for all. Building a sustainable Food System in Detroit and Oakland. PolicyLink and Michigan State University, USA, 64 pp. at:<http://www.fairfoodnetwork.org/sites/default/files/HealthyFoodForAll_FullReport.pdf> Accessed 20 September 2015].

Viljoen, A. and Bohn, K. 2014. Laboratories for Urban Agriculture: The USA - Detroit. In: A. Viljoen and K. Bohn, eds. Second Nature Urban Agriculture. Routledge, 300 pp.