SEASONAL REPORT

MSU Extension

AUTUMNAL EQUINOX 2019

Naim Edwards
Director of MSU-Detroit Partnership for Food, Learning & Innovation

Our First Growing Season

DIRECTOR REFLECTIONS

Happy Autumnal Equinox!
I am pleased that you are reading the first seasonal report from the Michigan State University - Detroit Partnership for Food, Learning, and Innovation or DPFLI for short. My plan is to send a report at the turn of every season.

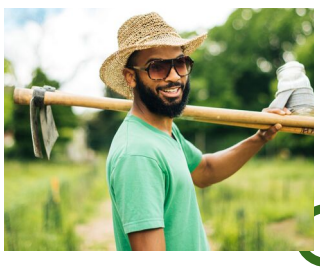
MSU hired me in May 2018 to direct and facilitate the development of the DPFLI, which is MSU's, and possibly one of the first, urban agriculture and forestry research center's in the United States. The space is a 3.4 acre, former school property in northwest Detroit, and it's development has been as challenging as its name is long.

Nonetheless, this year we've broken ground on our first building and begun engaging the ag community with a soil management research project - details on that on the next page. Given the site's name, I will strive to highlight topics in the areas of Food, Learning, and Innovation in each seasonal report.

It is an honor and a privilege to serve the residents of Detroit and southeast Michigan in this capacity. I look forward to healing the land, fostering equity, and fulfilling the mission of Michigan State University Extension.

Cordially,

Naim Edwards
Director of the DPFLI



Food: Agriculture in Detroit
Urban agriculture is transforming food culture and communities in Detroit. After visiting over 40 ag sites to become more familiar with current efforts, it became clear that the majority of vegetable growers in Detroit are neither for profit nor for maximizing production.

Rather, urban growers are cultivating produce for other reasons including:

- Food security - Increasing access to fresh produce
- Engaging different age groups in activities that improve health
- Strengthening the local food economy and building self-reliance
- Beautifying under-utilized land and restoring native habitats with plants

Atieno Nyar Kasagam, urban farmer and activist. Photo: Desmond Love at D-Town Farm

My site visits also allowed me to listen to growers' thoughts on how MSU Extension can contribute to Detroit's robust urban ag community through the DPFLI.

Some of the opportunities highlighted are improving soil health, compost production, managing weeds, and sharing resources. We can also engage neighbors of ag sites and partner more with the government to support the viability of farms and gardens.

Learning: Our first Building

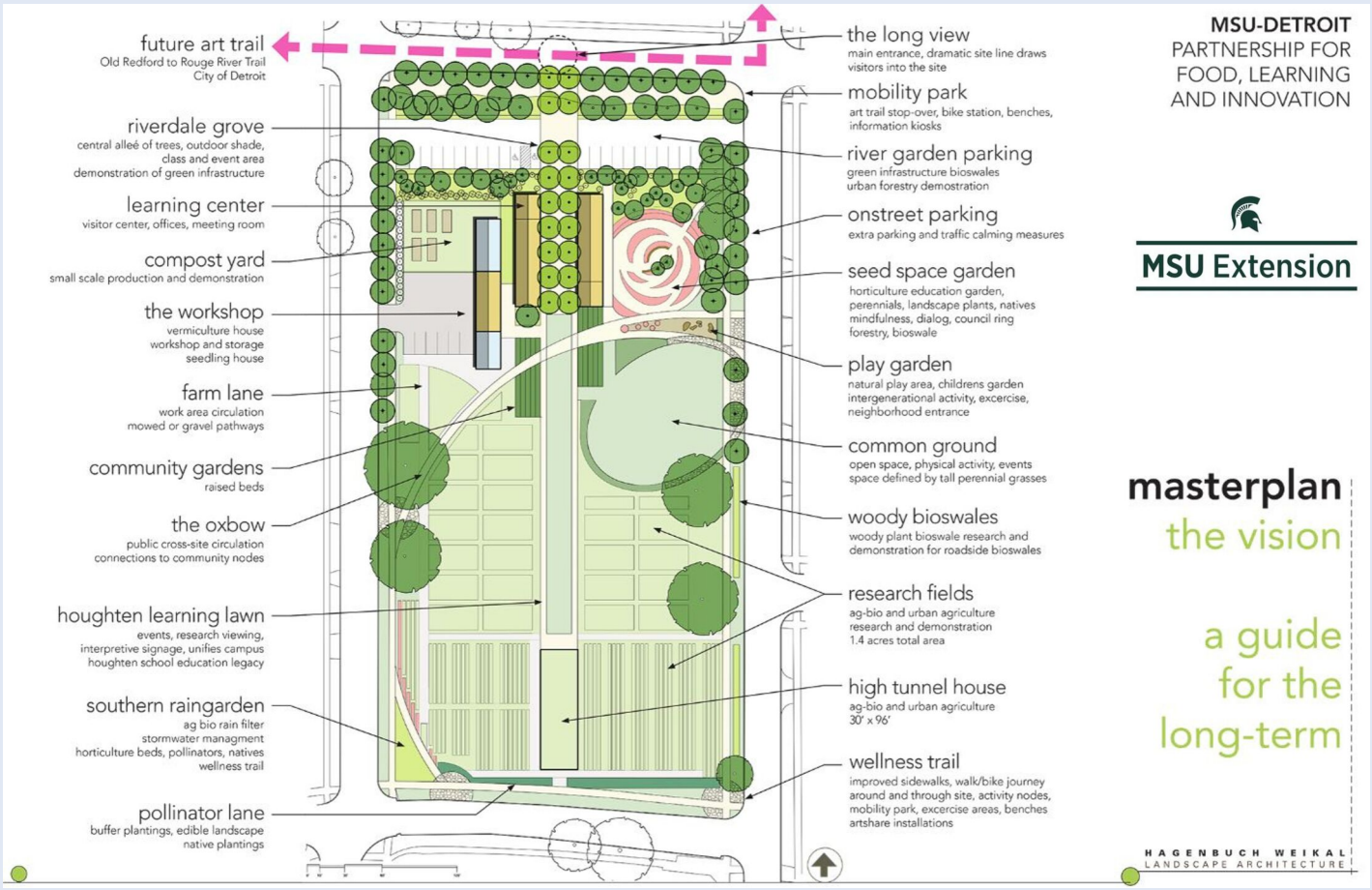
A significant lesson many stakeholders have learned thus far is what it takes to build in Detroit. After much ado and perseverance, construction of our learning center began after Labor Day. It will be approximately 1,200 square feet and consist of office space, bathrooms, storage, and a conference room. The space will also provide a much needed source of water and electricity at the site.

The process of getting to the point of construction was extensive. The university partnered with engineers, contractors, architects, funders, local organizations and different sectors of Detroit city government. Plans were drafted, reviewed, revised and approved. Hearings and meetings were held, and finally permits were issued.

We look forward to offering MSU Extension programming in the center starting in 2020. The conference room will also be available to the community for meetings and small events.

Above: The footing for the foundation of the first building at the DPFLI.

In the coming years, we hope to construct two more buildings - see the master plan below.



Above: Master plan of the DPFLI illustrated by Hagenbuch Weikal Landscape Architecture. Right: Cracked soil surface at the DPFLI indicating low organic matter and compaction.

Innovation: Urban Soil Management Research

Our first project at the DPFLI was inspired by the soil encountered at the site. The former land use - Thomas Houghton Elementary and its subsequent demolition degraded the soil. It is characterized as clay loam, high pH, low organic matter, and nutrient rich. The soil is also laden with construction debris and covered in invasive plants. (continued on next page)

Innovation: Urban Soil Management Project

The challenge of the soil is not unique to the DPFLI; many farms and gardens across the city occur on soils with similar characteristics where a property was demolished.

The circumstances presented an opportunity to begin to study practical ways urban soils can be improved. With input from local farmers as well as MSU faculty and staff, we set out to design the research project.

We divided a 50x50 square foot plot at the site into three tillage groups ranging from high soil disturbance to low. Three different cover crop mixes were planted into smaller plots within the tillage groups.

Cover Crop Mix	Species
Compaction	Crimson Clover, Forage Radish, Cereal Rye
Weed Suppression	Buckwheat, Cowpeas, Sudex
Perennial	Red Clover, Hairy Vetch, Wheat

Above: The cover crop mixes for the project and their group name.

We measured changes in compaction, water infiltration rate, root length and mass, and weed density. The project was conducted over a three month period from June to September.

More details can be found in the two-page handout attached. Final results for the first season will be shared in the Winter report, but some early observations include:

- Deep tilling (high soil disturbance) exposed a wealth of debris buried below the surface
- No-till plots had more vigorous cover crops, but also higher abundance of weeds than
- rototill and tractor till plots.
- The weed suppression mix accumulated the most biomass and had the lowest weed density.
- Preliminary water infiltration tests indicate rototilled plots had the fastest infiltration rate between tillage groups.

Above: Drone photographs of the Soil Management Project Plots. Photo: Edgar Cardenas

Additional Highlights:

- 23 Native Plant species reintroduced to DPFLI; 81 plant species total identified
- Lots of pollinators including rare native bees and monarchs sited!
- Sustainable Agriculture Research and Education grant awarded to Nicholas Medina (University of Michigan) to study biochar at DPFLI
- A 19 member advisory council established to ensure greater inclusion and community feedback for programs and development