

The Urban Foodshed Collaborative: Linkages between People, Places, and Plants in the Urban Ecosystem

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Linkages of Sustainability Final Presentation

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The Urban Foodshed Collaborative

- ▣ The Urban Foodshed Collaborative is a fledgling organization situated in a dynamic environment:
 - **Sliver lot** land tenure is tenuous, at best;
 - the success of **community gardens** are contingent on community interest, participation, and support;
 - **Sale of fresh, local produce** to restaurants and retailers is dependent on market demand, competitor's pricing, and favorable weather conditions;
 - Ability to **employ youth** will, after initial funding runs out, be reliant on profit generated by the UFC

Decision-Making Process: Determining Priorities

The Stakeholders:

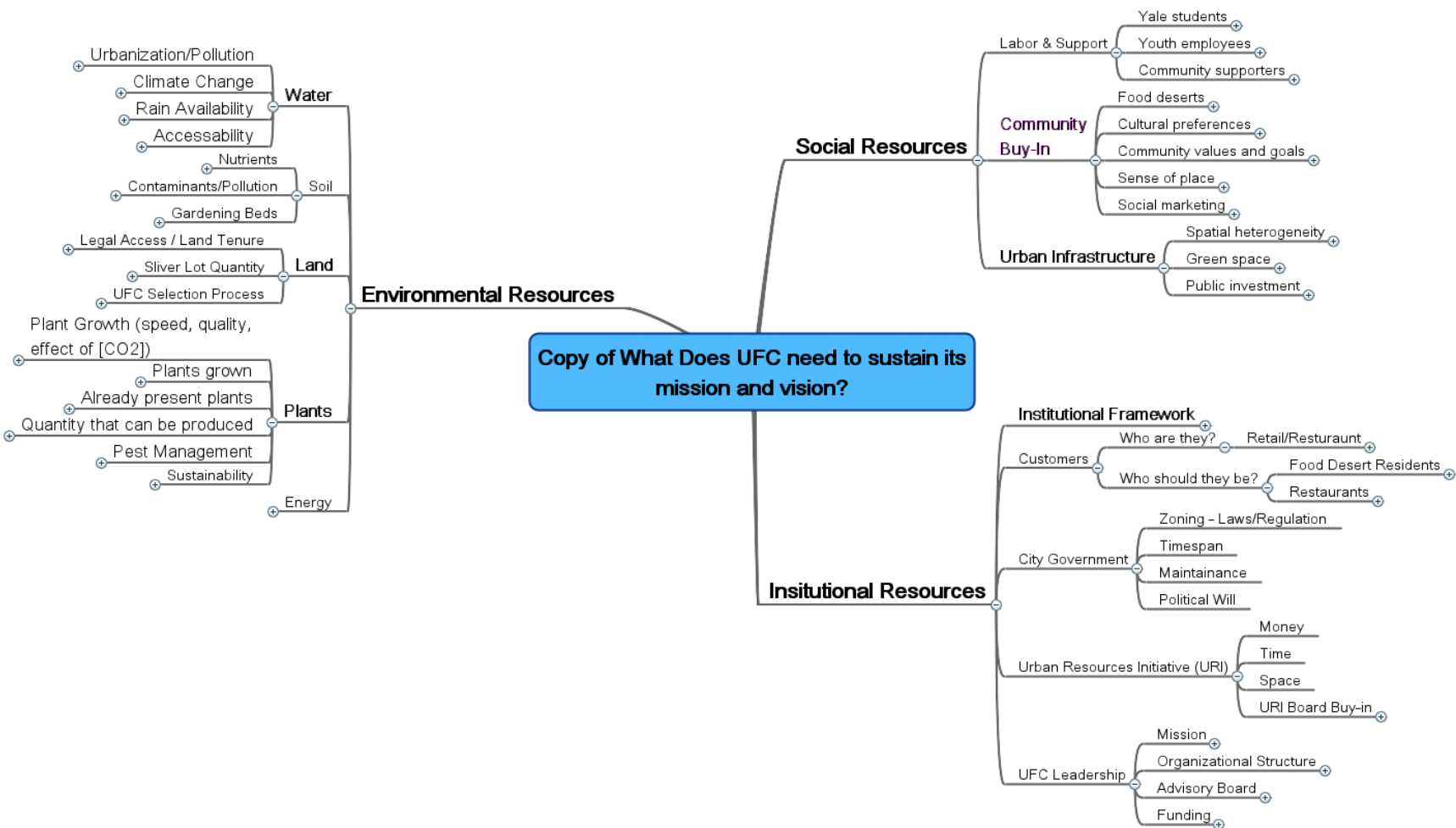
- The Founder: Justin Freiburg
- The Participants: UFC Project Team Members
- The Organization: UFC and the URI Board
- The Course: Linkages of Sustainability
- The Faculty: Linkages of Sustainability Professors' own areas of interest and expertise
- The Institution: F&ES Bins

Our Framework of Sustainability for the Urban Foodshed Collaborative

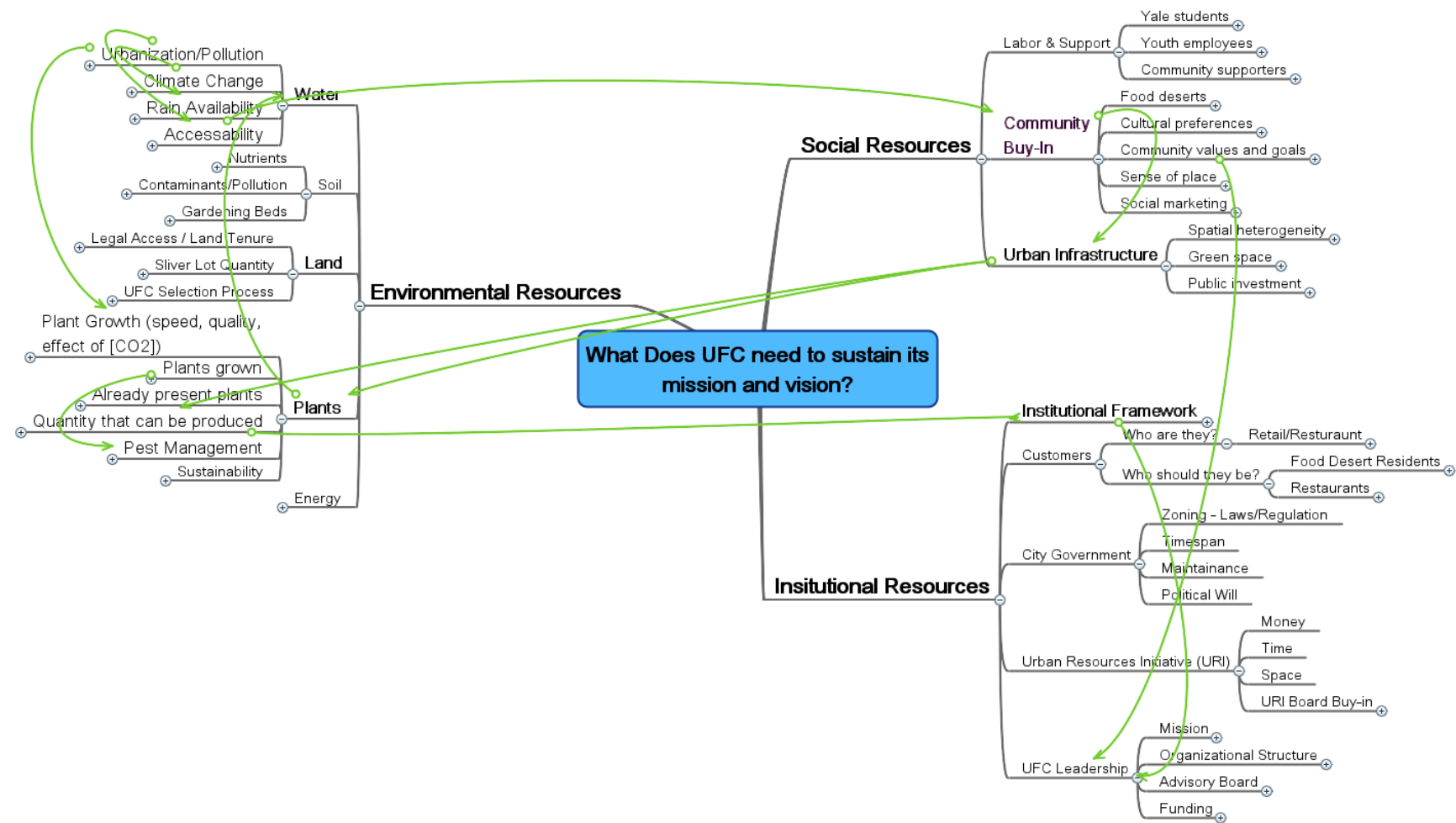
- ▣ A sustainable UFC has the ability to:
 - provide locally grown and regionally appropriate produce;
 - bolster community health and well-being;
 - persist as a successful organization.

- ▣ In this regard the UFC project will work towards a goal of sustainability by addressing the **environmental, social, and institutional challenges of urban agriculture** through inter- and transdisciplinary linkages.

Graphical Representation of the Urban Foodshed Collaborative System



Graphical Representation of the Urban Foodshed Collaborative System



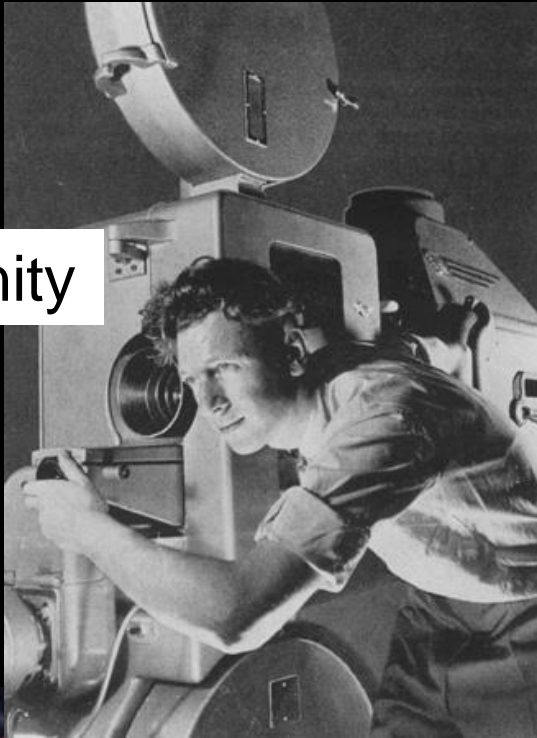
Community-based Social Marketing

A photograph showing the lower legs and feet of several people standing in a garden. They are surrounded by rows of young green plants in a raised bed. One person on the right is using red-handled scissors to trim a plant. The ground is dark soil with some mulch. A semi-transparent dark green rectangular box is overlaid in the center of the image, containing white text.

A strategy
for communicating
about community
assets and needs

Social

Community



UFC

Social

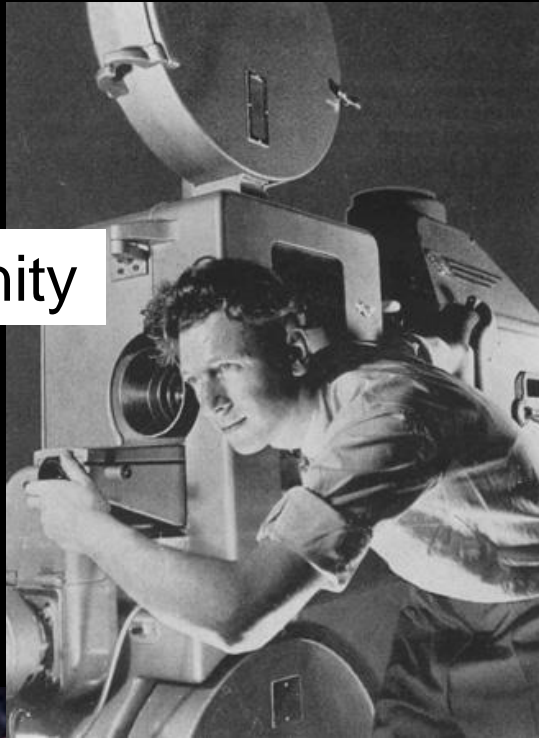
Ecological

Community

UFC



UFC



Community



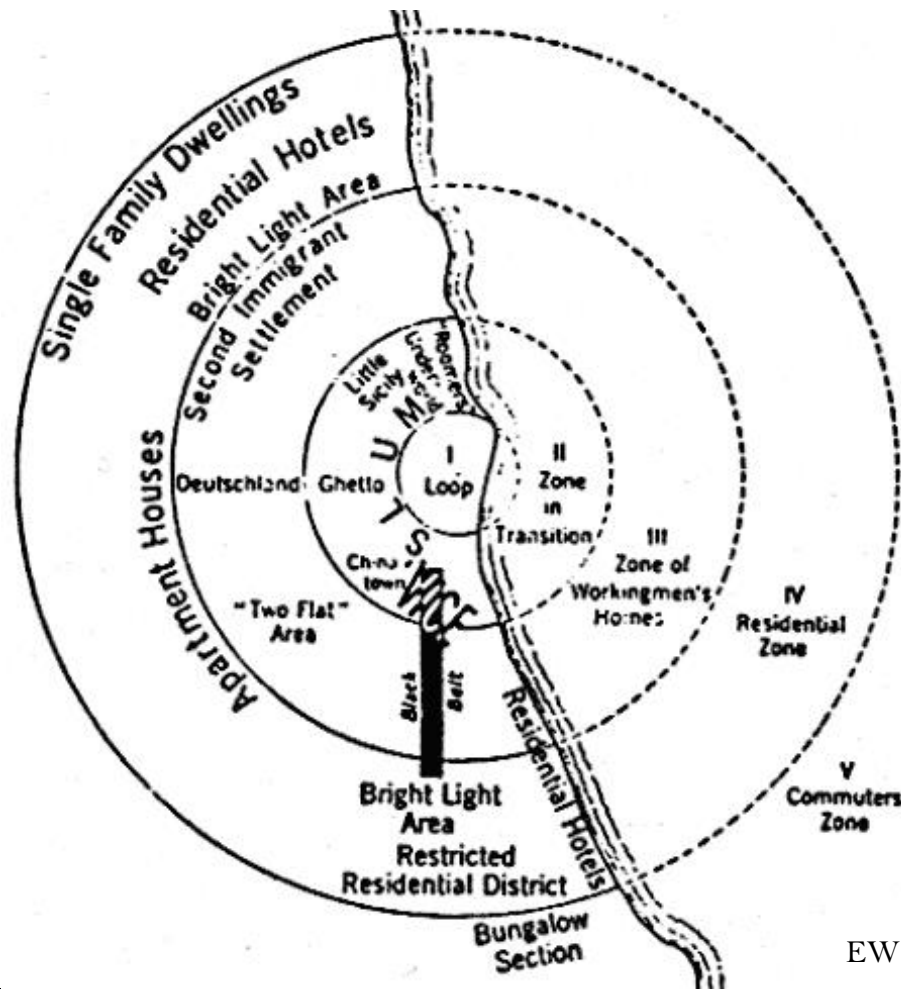
Ecological Aspect

Sustainable relationships between people and:

- product (food)
- means (gardening)
- medium (ecosystem)

Urban Ecology





EW Burgess (1925)

Sir Arthur Tansley, 1935:

“...ecology must be applied to conditions brought about by human activity. The ‘natural’ entities and the anthropogenic derivatives alike must be analyzed in terms of the most appropriate concepts we can find.”

Social, built, and natural systems are connected across scales

Spatial

- Microclimates (*plot*)
- Impermeable surfaces (*neighborhood/watershed*)
- Invasive species (*neighborhood/city*)

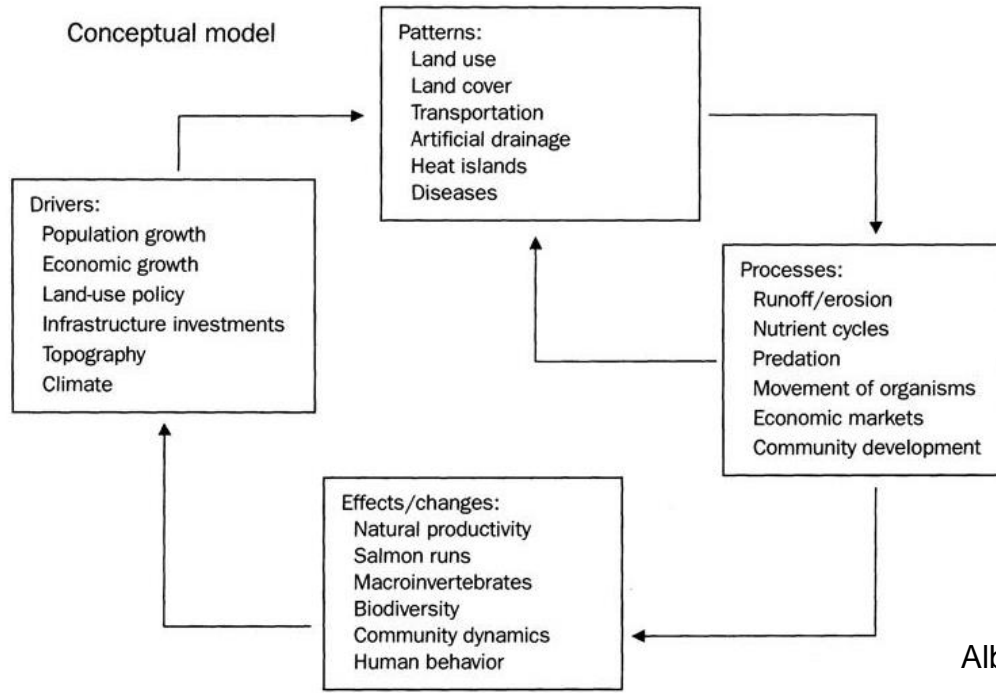
Temporal

- Urban heat island (*daily*)
- Precipitation patterns (*weekly*)
- Urban planning (*annual/decadal*)

A bird in the hand is worth



a dollar in the bank.



Alberti et al. 2003



Life on the Sliver Lots

- ▣ What is growing on the sliver lots already?
 - Japanese Knotweed, Mugwort, Privet, Dandelions, Norway Maple, Chickadees, Bees, (+ Raspberry Bush & Snake)
- ▣ UFC Crops
 - First Year: tomatoes, corn, squash, herbs, greens...
 - Focus on Leafy Greens, esp. Mustard Greens



Leveraging Ecosystem Services

- What ecosystem services can the sliver lots provide for the raised bed plantings?
- Pollination?
 - Useful Service? Community co-benefits?
- Pest Management: Push-Pull agriculture strategy
 - Putting plants that repel insect pests ('push') amongst the crop, and growing diversionary plants that attract insect pests ('pull') at the perimeter.
 - Pioneered in Africa, applicable to New Haven?

Sustainable Pest Management

- Diamondback Moth (*Plutella xylostella*)
 - Globally destructive pest on cruciferous plants. Notable pest for UFC crops.
 - First insect observed to with resistance to Bt.
- Push-pull Agriculture Strategy
 - Wintercress / Yellow Rocket (*Barbarea vulgaris*)
 - Moth prefers to lay eggs on *B. vulgaris*, yet the eggs do not hatch due to saponin in the leaves. This makes it an excellent potential “pull” or trap crop, if planted at the perimeter.



Water Resources



- ▣ Two potential options for UFC's water supply
- ▣ Available rainfall – avg. 4"/month
- ▣ Impacts of climate change

Water Resources



Impacts of Urbanization

- Air pollution
- Acid rain
- Heat Island Effect

Water Resources

Avoid potential impacts of urbanization and climate change by working with the community to acquire access to a local tap



Social Aspect

Sustainable relationships:

- between community and UFC
- among members of UFC
- within each member through UFC

Community-based Social Marketing

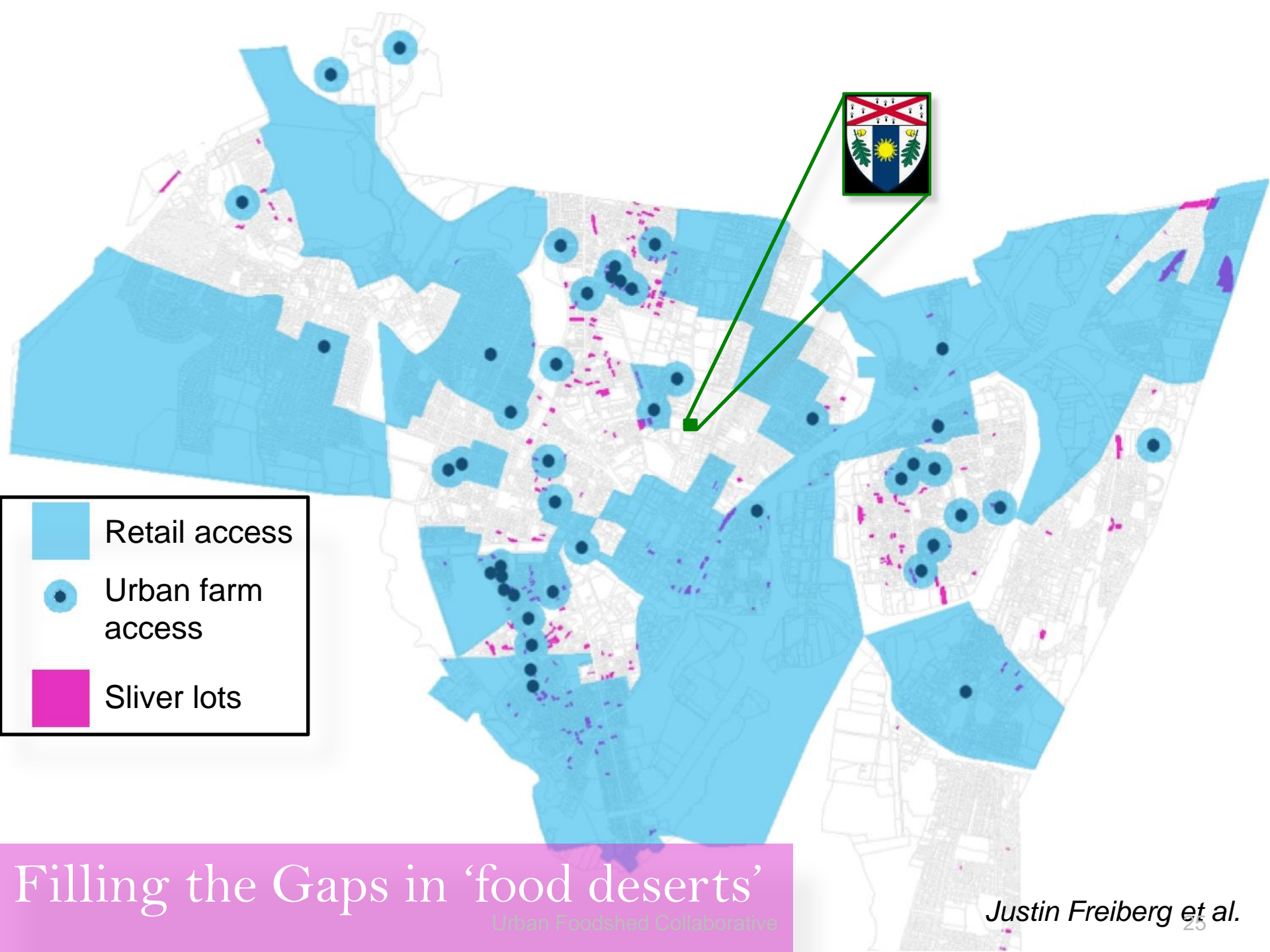


- ▣ Methodology for uncovering **barriers**, **benefits**, and **competition**

1. Literature review
2. Roundtables
3. Assessments

Social Sustainability

Bringing healthy food to communities



-  Retail access
-  Urban farm access
-  Sliver lots

Filling the Gaps in 'food deserts'

Urban Foodshed Collaborative

Justin Freiberg et al.

Barriers to healthy foods

"bringing good food to others"

Community *vs.* Organization

- different food narratives
- cultural preferences for food
- prioritization of food values





Growing Power



Greensgrow

An aerial, fisheye view of a community garden in an urban setting. The garden is divided into several raised beds with various plants, including tall green stalks and yellow flowers. In the background, there are multi-story brick apartment buildings. A blue semi-transparent text box is overlaid on the center of the image.

Whose goals, and whose values?

Scale of a Food

▣ USDA: 6 cups/week per adult

124,000 NH residents =
35 million cups of spinach/yr

Land required?

1780 acres...

6.8% of New Haven

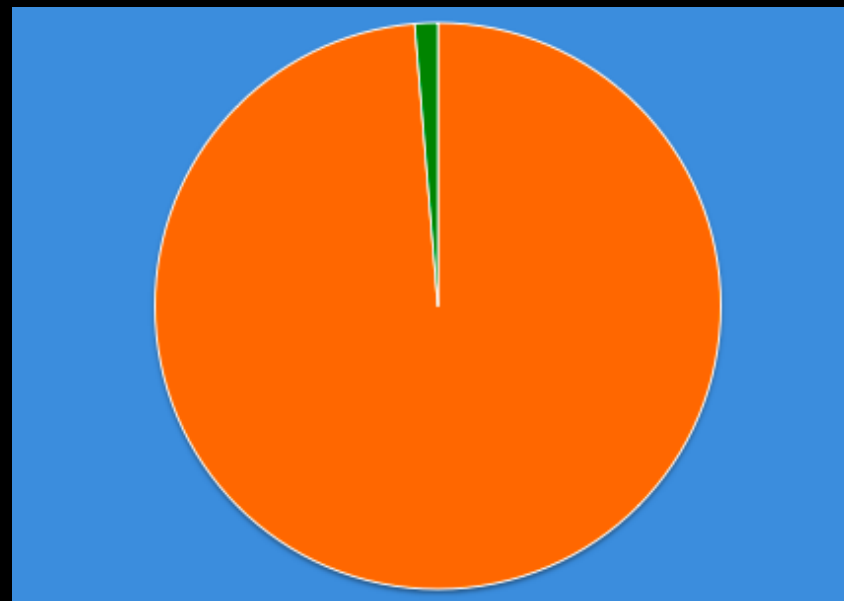


Scale of a Foodshed

Possible on a smaller scale?

550 Sliver Lots =
1641 New Haven Residents

4 Sliver Lots (current number) =
7 (lucky!) New Haven Residents



124,000 New Haven Residents
1641 New Haven Residents

Institutional Sustainability

- Institutional Sustainability is about designing an organization around pre-established mission and values, and not the other way around.
- Much as it positioned itself in the foodshed, the UFC is at a critical moment in terms of deciding where it fits in the not-for-profit, for profit, hybrid, and volunteer-based organizational landscape.



Institutional Framework



Can nature and
business coexist?



PROFIT MOTIVE HAS NO CONSCIENCE

"A new consciousness is developing which sees the earth as a single organism and recognizes that an organism at war with itself is doomed."

- Carl Sagan

TheZeitgeistMovement.com

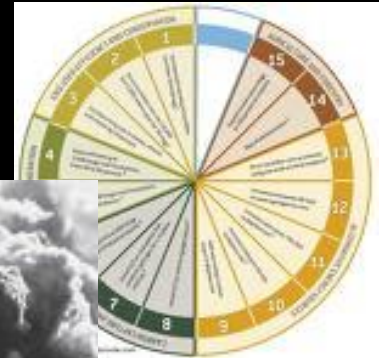
Organizational Structure

Organizational sustainability is informed by the institutional framework, and vice versa.



Trade-Offs

- ▣ Achieving sustainability is about identifying and mitigating a series of critical trade-offs:
 - Climate Change, or Air Pollution?
 - Bio-control of Pests, or Invasives?
 - Scale: Neighborhood, Local, State, or Global?



With Thanks to:

- ▣ **Justin Freiberg**, Founder, Urban Foodshed Collaborative
- ▣ **Gabriel Grant**, Our Teaching Fellow
- ▣ **The Poop Group**: Marissa Matsler, Mark Picton, Fauziah Rochman
- ▣ Professors **Thomas Graedel, Karen Hebert, Os Schmitz, Karen Seto**

"At first I didn't really like it, cleaning the lots...but then I started thinking...you know it really could help our community, and it could do some good for the neighborhood - from taking nothing, and making it into something.

I learned - so far - I learned a lot...and I'm gonna keep on learning. I'm going to try to use this for the future, maybe. When this program is over, I'm going to start cleaning up, gardening, recycling...taking the basil, and use them for the kitchen (or something)."

~Noel, 2009 UFC Student