



Healthy Cities - Healthy People



Urban Agriculture and its role in US Food Security: Insights from Washington DC

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CAUSES Mission

The College of Agriculture, Urban Sustainability and Environmental Sciences of the University of the District of Columbia offers research-based academic and community outreach programs that improve the quality of life and economic opportunity of people and communities in the District of Columbia, the nation and the world.



Our Aspirations for our Students

CAUSES graduates are exceptionally well-prepared to succeed in their chosen field of study and stand out by having distinctive attributes and competencies:

- Global citizens committed to local relevance.
- Adept at solving urban problems.
- Committed to health and wellness; food and water security.
- Skilled at navigating diverse social, cultural, built and natural environments
- Independent thinkers and collaborative team players.
- Adaptive lifelong learners.



Academic Programs

- Architecture
- Nutrition and Dietetics
- Health Education
- Nursing RN to BSN
- Environmental Sciences

Landgrant Programs

- Center for Urban Agriculture
- Center for Sustainable Development
Water Resources Research Institute
- Center for Nutrition, Diet and Health
Institute of Gerontology
- Center for 4-H & Youth Development
- Architectural Research Institute



Washington DC: the Tale of Two Cities

- Ward 8: median income \$32,000; 90% African-American;
- Ward 3: median income \$110,000; 5% African-American
- Ward 3 unemployment 3.5%; Ward 8 24%
- Eight DC census tracts are food deserts
- Of 520 food retailers in DC 88% offer no fresh produce
- Low income neighborhoods are home to 32% of the DC population, but 9% of its grocery stores.
- Nutrition related illness is pandemic in low income neighborhoods (diabetes, hypertension, obesity)

Why Urban Agriculture?

Food Security = access by all people at all times to enough nutritious food for an active, healthy life.

Food insecurity = reduced quality, variety, or desirability of diet.

13% of all DC households are food insecure

19% of DC households experience food hardship and did not have enough money in the past 12 months to buy enough food

37% of DC households with children were unable to afford enough food in the past 12 months.

Why Urban Agriculture?

Food Safety = access to food that is safe for consumption and high in nutrients

What determines nutrient density?

- Growing methods
- Harvest close to peak
- Short time storage
- Little time between farm and fork

CAUSES Urban Food Systems Model



Replicate

Source

Aquaponics:
fish and
produce

Muirkirk
Farm

Community
Partners

Vendors

Prepare

Business
Kitchen
Incubation
Space

Food Truck

Distribute

Food Truck

Farmers
Markets

Retail

Recycle

Compost
Facility at
Muirkirk

Anaerobic
Digestors

- Entrepreneurship
- Communications/Marketing
- Business Planning and Management
- Food Preparation
- Policies and Legal Processes

- Economic Analyses
- Environmental Impacts
- Maintenance and Management
- Technical Assistance
- Healthy Foods/minimize fishing from Anacostia

The Urban Food Hubs

Biointensive Production

Raised Bed Gardens

Hydroponics

Aquaponics

Green Roofs

Food Preparation

Food Safety

Nutrition Education

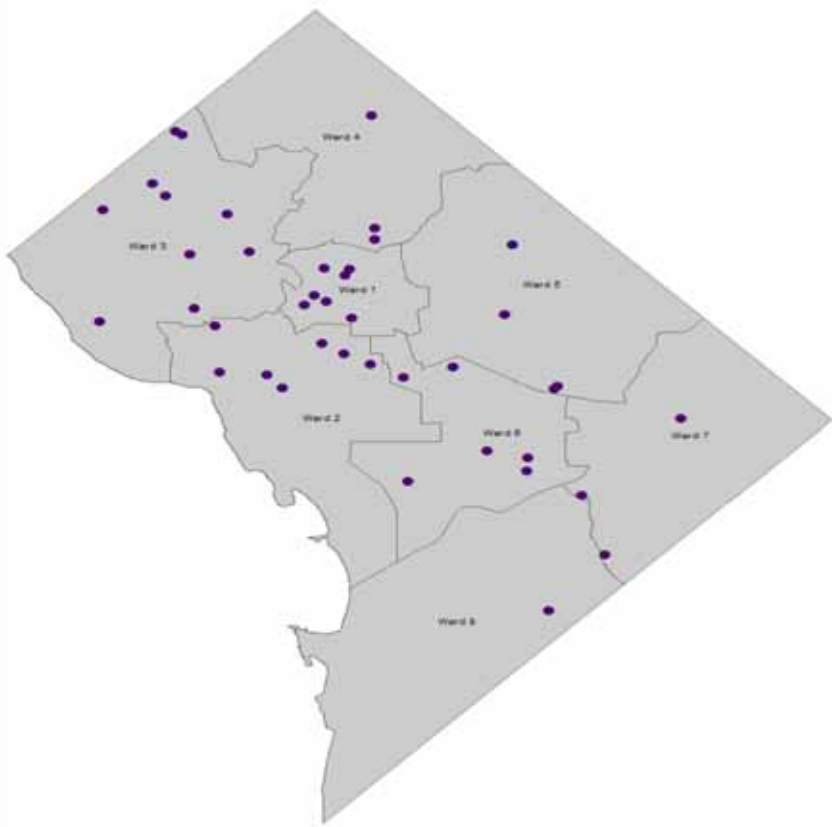
Cooking Classes

Food Distribution

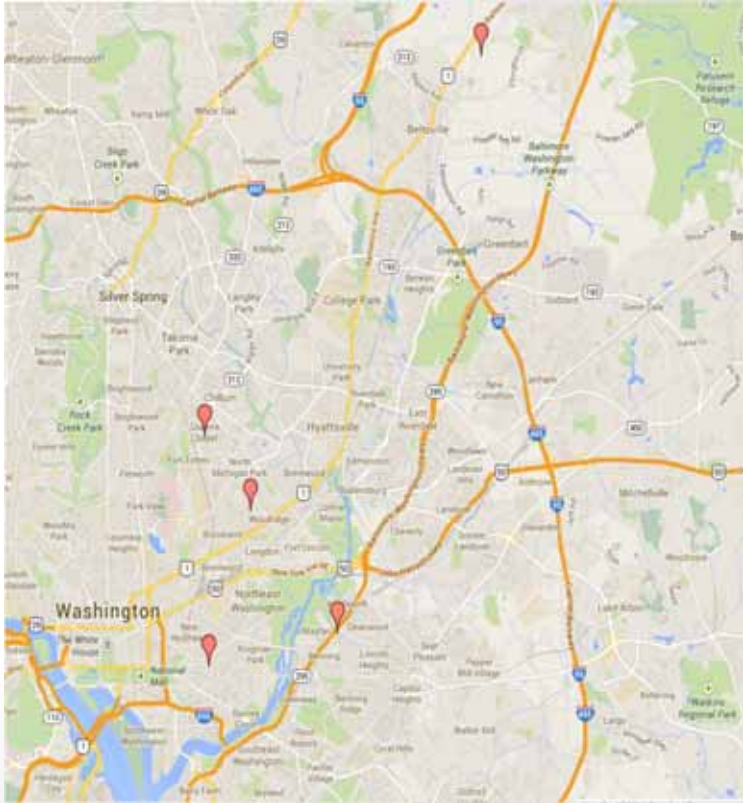
Farmers Markets



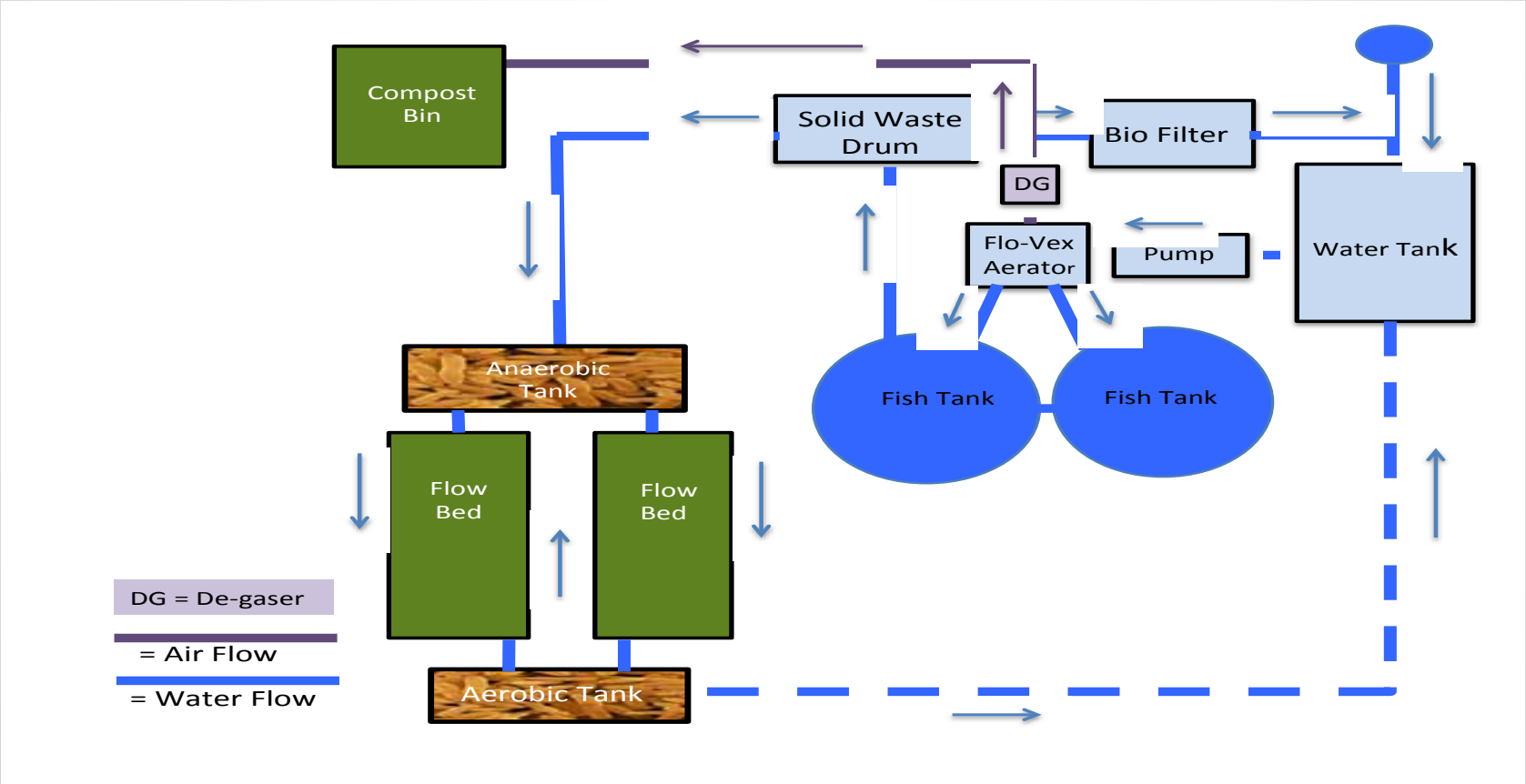
DC Grocery Stores by Ward



CAUSES Urban Food Hubs



Efficiency: Net Energy Positive Systems



The Role of Community Partners



The Role of the Research Farm

Training Center

Incubator

Market Stabilizer

Local Supplier
for Food Banks
& Food Deserts















MIXED HOT PEPPERS

(Sp. *Capsicum chinense*)



Scotch Bonnet is a type of *Pepper*, considered one of the hottest peppers in the world. Scotch Bonnet peppers are among the most interesting but of all peppers with a fleshy head which first starts out around 100,000 and can climb as high as 200,000 in carefully cultivated specimens. Scotch Bonnet peppers are grown in Jamaica, the Caribbean, and Guyana, but found primarily in Latin American cuisine.

GARDEN EGG

(Sp. *Solanum aethiopicum*)



Garden Egg is also known as African eggplant, mock tomato, ngogwe or Nyanya chungu. The leaves are eaten as a leaf vegetable and are more nutritious than the fruit. The fruit of the plant is eaten both raw and cooked. Garden egg is one of the most important vegetable crops grown in West Africa, especially in Ghana.

WATERLEAF

(Sp. *Talinum triangulare*)



Waterleaf is a leafy vegetable grown in West Africa, the West Indies, South and Southeast Asia, and the warm regions of North America and South America. Common names include caruru, Surinam purslane, Philippine spinach, Ceylon spinach, Florida spinach, potherb, fatflower, Lagos heligi, and sweetheart.





Conclusions:

- **Technology can facilitate capacity building**
- **Organizational capacity is essential**
- **Walking the fine line between teaching and learning**
- **MOUs must address economic, operational, and social matters**



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