

MIAMI BEACH
RISING
ABOVE

Hydroponic Farming



The Future of Agriculture



- Urban agriculture – by definition includes indoor farming, rooftop/backyard gardens, community plots and edible landscapes
- Today much of the food is engineered and transported, sometimes up to 1,500 miles - goal is to cut those food miles drastically and offer healthy, nutritious, highest-quality food to local communities
- Addresses climate change + resiliency through smart technology

Feeding the Future

Megatrends affecting traditional farming:

- **Volatility (weather conditions)**
- **Resource scarcity**
- **Urbanization**
- **Inequities in access to healthy foods**

(Stanford Social Innovation Review)



Average food prices have gone up by 2.6% annually

Food production must increase by 70% before the year 2050 to meet global food needs

(Food and Agriculture Organization of the United Nations)

PROS VS CONS

Pros	Cons
Increased plant productivity (optimal survival, growth, and maturation)	Higher need of monitoring & expertise
Focus on in-demand crops	Risk of system failure, affected by power outages
Growing plants despite seasonality or region or space	Risk of mass plant mortality and waterborne diseases can spread quickly
Uses land and water more efficiently	Energy needed to operate the artificial system for indoor farming (lighting, heating/cooling, ventilation, air conditioning, nutrition, irrigation, software, and sensors for that particular growing environment)
Cost-effective in the long-run	Upfront equipment costs
Potential increased economic	Altering Building Codes & Zoning

Food Economy & the Future of Agro-Tech

- Increased interest in the private market for funding vertical farming and agricultural technology
- “Inside-Out” Community Revitalization: Offers opportunities for social enterprise and supplemental income for low-income families and Seniors.
- Case Study Canada: Added \$1.3 billion in GDP, 34,000 jobs between 2013-2015
- Case Study Lexington, Kentucky: Food Chain



Transforming Public Spaces



- Temporary, moveable equipment (Shipping containers)
- Transform vacant building and warehouse spaces
- Provides community gathering points to increase social cohesion and connection
- Adaptable to the urban environment
- Case Study: Camden, New Jersey