Greenpoint Next Frontier in Commercial-Scale Rooftop Farms

By Emily Geminder
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Viraj Puri believes the future of farming is not about tractors or rolling swaths of quilted fields or even soil. Co-founder of Gotham Greens, New York City’s first hydroponic commercial-scale rooftop farm, he envisions a three-dimensional agricultural landscape sprouting across the city’s rooftops.

Toward this green-tinged skyline, Gotham Greens hopes to build 100,000 square feet of hydroponic greenhouses throughout the five boroughs by 2030.

Brooklyn is the next horizon for these sky-high tomato dreams. The startup will transform the vacant rooftop of a Greenpoint manufacturing plant into a 20,000-square-foot greenhouse brimming with a litany of earthly bounty: salad greens, basil, squash, eggplant, to name a few. Gotham’s first greenhouse, on the rooftop of a church in Jamaica, Queens, is projected to produce 30 tons of fresh fruit, vegetables and herbs annually, starting next year.

“Hydroponics lends itself really well to the urban environment, specifically because we don’t have a lot of arable land,” Mr. Puri said. “It’s also very water and land efficient: it uses about 10 times less water than conventional agriculture and a lot less land.”

Hydroponic farming also offers substantially higher and more consistent crop yields—a crucial consideration for a rooftop farm competing with sprawling agribusiness acreage. No soil means no fertilizer or pesticide runoff,
which is imperative in accomplishing Gotham’s goal of a minimal environmental impact. Most of the irrigation for the Jamaica greenhouse will come from collected rainwater runoff, and solar panels will be installed on an adjacent roof to power the enterprise. To eliminate carbon emissions generated in transport, produce will make its way to markets via biodiesel van.

“I think urban agriculture, because of the constraints of a city, really lends itself to more sustainable agricultural practices,” Mr. Puri said.

AMIDST A NATIONAL SURGE in food and environmental consciousness, urban agriculture has arisen as a solution uniquely poised to address issues of public health, sustainability and local economies.

Over the past century, the U.S. has become an increasingly urban country—roughly 83 percent of Americans now live in cities. But in an age when American farming has become synonymous with large-scale agribusiness, corn subsidies and small-town provincialism, our methods of food production have yet to catch up with this seismic shift in demographics: New York City imports roughly $1 billion in vegetables every year to feed an ever expanding population.

Much of Gotham Greens’ produce will go to Whole Foods stores throughout the city, but a significant portion will remain in the neighborhoods that grow them. In Jamaica, an area of fresh produce scarcity, about 4.5 tons of Gotham’s annual yield will go to the local farmer’s market.

According to New York Sun Works, the organization that brought the educational Science Barge to city shores, hydroponic farms spread over New York’s 14,000 acres of unshaded rooftop could feed as many as 20 million people a year. New York City, in essence, could feed itself. Gotham Greens is just the beginning, but it’s already feeding a collective urge to understand where food comes from and how it gets there.

“Urban agriculture allows city dwellers to also produce local food,” Mr. Puri said. “People today are a little more interested about where their food comes from.”

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