



CASE STUDY

New York City | Rooftop Farming

Top of the Crops

High above New York City's densely populated skyline, lush farms full of fresh herbs, tomatoes and greens flourish on rooftops. **Toh Ee Ming** investigates the Big Apple's exciting urban farming boom in the sky and how it contributes to a more sustainable food system for the city.

The Challenge

While New York City has had a local guerrilla gardening movement since the 1970s, there had been no comprehensive city-wide plan for urban agriculture. Up till the late 2000s, only a disparate assortment of programmes existed.

In 2009 and 2010, Manhattan Borough President Scott M. Stringer produced two reports that put forth policy recommendations to make the city's food system more sustainable, inclusive and resilient. A key area highlighted by the reports was to prioritise urban food production in the city.

Among its many recommendations, Stringer's reports advocated that underutilised spaces like rooftops be

used to develop agricultural greenhouses in land-scarce New York. But they also highlighted significant regulatory obstacles in the way. Many of the city's private and communal roof gardens lacked proper permits. Logistical, legal and other barriers remained high. Poor coordination among different public agencies sparked tensions between gardeners and property developers.

The challenge was thus to overcome policy hurdles so that urban farming, including on rooftops, could blossom in New York City. Doing so would help improve health for citizens, create commercial opportunities, bring communities together and mitigate the city's climate impact.



Gardens and greenery were limited and grew haphazardly on New York City's rooftops up till the late 2000s.



Toh Ee Ming is a journalist who has reported for Today, Xinhua News Agency and Nepali Times.



01

The Solution

New York City is primed for successful urban agriculture. It has a well-developed transport and distribution network, and a lively, eco-conscious restaurant scene that supports locally grown produce.

The city's highly dense urban environment and expensive rent prices mean that spaces available and economically sustainable for farming are hard to come by—except on top of its many high-rise buildings. An estimated 14,000 acres of space on New York City's rooftops suitable for urban gardening and farming lie unused, with clusters of promising rooftops in Brooklyn, the Long Island City neighbourhoods of Queens and Mott Haven in the Bronx.

Stringer's reports recommended the systemic review of legislation and the identification

of unused spaces, particularly rooftops, in order to promote urban food production. This opened the path for greater ease of farming and gardening on top of the city's tower blocks.

In 2008, tax breaks were given to developers and building owners who installed green roofs from 2008. Later, the New York City Department of City Planning (DCP) launched a citywide initiative, called "Zone Green", which would revise zoning regulations, removing certain height, floor-area and use restrictions that once served as major barriers to constructing rooftop farms. Equipment necessary for rooftop farms' operations like solar panels and wastewater management equipment became permitted.

Such amendments became crucial in "creating more places for urban agriculture to take root in a dense, built-up

01 Regulation changes supported the growth of soil-based rooftop farming, such as those at Brooklyn Grange.

02 Gotham Greens' rooftop greenhouse, which utilises a hydroponic system, supplies fresh produce directly to the Whole Foods Market below.



02

environment", according to city planning commissioner Amanda M. Burden. This initiative later earned the national award for environmental planning.

Funding support for urban farmers was also improved. They were offered more financial support through loans provided by the government such as the Farm Service Agency under the US Department of Agriculture, or the Agriculture Loan Fund Program launched recently by the New York Job Development Authority. Aspiring farmers were given a chance to learn how to expand small-scale ventures, manage finances and market products, and to be mentored by experienced entrepreneurs, through initiatives such as the FARMroots' Beginning Farmer Program run by non-profit GrowNYC.

Dialogues between the authorities and farmers were held to keep relevant improvements ongoing. In 2016, the Brooklyn Borough President hosted a

“An estimated 14,000 acres of space on New York City's rooftops suitable for urban gardening and farming lie unused...”

roundtable with municipal agencies and the New York City Agriculture Collective (a group of businesses that grow food or produce technologies for urban agriculture) to discuss how to better support the growing sector.

More recently in December 2017, the New York City Council unanimously passed the city's first-ever urban agriculture policy bill. It called for a centralised digital database of agricultural organisations, businesses, and public land parcels suitable for farming to be established. Guidelines would also be provided to help would-be urban farmers navigate the complex system of starting an urban farm.

“Today, New York is the world’s leading city in urban farming.”

01



02

The Outcome

Today, New York is the world’s leading city in urban farming. A plethora of farms and gardens have taken over its rooftops, including housing complexes, convention centres, public schools and even a church in Hell’s Kitchen. Their activities range from hobby community gardens and roof-to-table restaurants to high-tech indoor vertical farms and commercial rooftop farms. In 2014, some 900 gardens and farms grew food in the city, up from 700 in 2012.

Rooftop farms like Brooklyn Grange, a rooftop farm founded in 2010, harvest over 22,000 kg of fresh produce annually, supplying local restaurants and farmers’ markets. Ben Flanner, President and Director of Agriculture at Brooklyn Grange, told CLC he expects production to grow to over 36,000 kg per year within the next two years.

Flanner credits the farm’s success to its “multi-faceted appeal” in addressing environmental, health and education

issues, and the municipal government’s support. Some of the farm’s green roof installations were partially funded by the city’s Green Infrastructure Stormwater Grant.

The increasing presence of successful commercial urban agriculture ventures has sparked a growing consciousness and appreciation about the origins of local food. This has even led to new business models for sustainability, such as tipping fees for collecting compostable waste.

The rise of urban farming in disadvantaged communities, in places like Harlem, have also helped provide affordable, nutritious and fresh food to neighbourhoods where such foods are harder to come by.

Nevertheless, hurdles remain, especially for new entrants. Prospective farmers continue to face bureaucratic hurdles, limited investor funding, and lack of understanding over zoning, permits and regulations. Appropriately trained urban farm workers are also in short supply. ○

01 Brooklyn Grange runs numerous citizen engagement activities, including free public tours of its farm, to raise awareness.

02 A rooftop garden in Hell’s Kitchen.