

Micro-orchards for community connection and environmental justice

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Abstract

As our climate heats up, and extreme weather patterns become more routine, cities across America are becoming challenged by their aging infrastructure that was never designed to handle such extreme heat waves and severe flooding. Unfortunately, these extreme weather conditions have a disproportionate impact on people of color and people who live in disinvested communities.

The Giving Grove launched in 2013 with a vision to establish environmentally beneficial, sustainable orchards in urban neighborhoods that are vulnerable to environmental changes and health inequities. The idea was simple: work side-by-side with resident leaders and provide them with the disease-resistant trees, tools, and holistic methods they need to care for their own little orchards. The impact exceeded expectations, establishing a nationwide network of food-producing urban greenspaces that increase tree canopy, sequester carbon dioxide, improve and stabilize soil, and reduce stormwater runoff. Today there are more than 400 of these little orchards taking root in six cities, with four more cities joining the network this spring. Combined, the 429 current sites have the capacity to produce over 3.75 million servings of fresh food annually, available for free and within walking distance of residents. Neighborhood interest and involvement drives the creation and maintenance of all Giving Grove orchards. Community leaders champion and maintain the sites, encouraging lasting, generational change. Through this approach, neighbors have more opportunities to meet one another and build relationships, creating a stronger network of community connections. Often located in neighborhoods that suffer the consequences of urban heat zones and low tree canopy, orchards are beneficial to the environment in the surrounding area. With an average of 15 trees, each orchard can sequester approximately 29 tons of carbon over 25 years and absorb 500 gallons of water per storm, reducing urban flooding. Trees also help reduce urban air temperatures by 10 degrees on a hot summer day. With dozens (or hundreds) of neighborhood orchards across a city, the impact grows exponentially. Our team is passionate about the ways an orchard can benefit communities that invite us to work with them. Affiliates in nine cities, from coast to coast, are helping create a powerful network that develops best practices and deep knowledge going directly on (and into) the ground of participating communities, rooting resiliency and sustainability.

Keywords

climate change, food insecurity, urban, neighborhood orchards, community orchards

Micro-orchards for community connection and environmental justice

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As our climate heats up, and extreme weather patterns become more routine, cities across America are becoming challenged by their aging infrastructure which was never designed to handle such events. Unfortunately, these extreme weather conditions have a disproportionate impact on people of color and people who live in disinvested communities (Thomas and Hardy, 2018). One major public health issue related to climate change is heat; Extreme Heat Events are the deadliest weather event in the United States (Uejio et al., 2011). These issues not only affect the urban environment, but also can negatively impact mental health. New terms have emerged defining this phenomenon, such as ecoanxiety and ecological grief, which produce responses similar to traumatic stress, especially in vulnerable populations (Cianconi, 2020).

To compound matters of climate change on environments, ecoanxiety and the resulting stress, issues of food access are also impacting communities. Hunger continues to be a chronic issue in the U.S., and 34 million Americans are experiencing food insecurity, including 9 million children

(Feeding America, 2022). Food insecurity exacerbates health issues in adults, and early experiences of food insecurity can result in lifelong health consequences in children.

The Giving Grove, a national 501c3 organization, is exploring the multiple benefits of community micro-orchards to address these issues of environmental inequities, promote food access and sovereignty, and serve as a greenspace for community connection and stress relief. The Giving Grove was launched in Kansas City, Missouri in 2013 with a vision to establish environmentally beneficial, sustainable orchards in urban neighborhoods that are vulnerable to environmental changes and health inequities. By working side-by-side with resident leaders and providing them with disease-resistant trees, maintenance tools, holistic methods, site visits and workshops, they learn to care for their own little orchards. The Giving Grove strives to positively contribute to neighborhood vitality and healthy environments.

In 2017 The Giving Grove observed the success of the Kansas City program and began to work with organizations in other cities that wanted to invigorate or start urban orchard programs. Today The Giving Grove has developed partnerships with eleven unique organizations in cities across the United States. Combined, there are now 429 orchard sites that have the capacity to produce over 3.75 million servings of fresh food annually, available for free and within walking distance of residents. These community orchards on average are 14 trees, which can sequester approximately 29 t of carbon and absorb 908,498.8 L of storm water over the orchard's lifetime, all while stabilizing soil and removing pollutants from the air (i-Tree Planting, 2022).

Neighborhood interest and involvement drives the creation and maintenance of all Giving Grove orchards. Community leaders champion and maintain the sites, encouraging lasting, generational change. Through this approach, neighbors have more opportunities to meet one another and build relationships, creating a stronger network of community connections. Connectedness to nature, particularly through active participation, contributes to well-being and environmentally responsible behavior (Church, 2016). Orchard spaces help facilitate connectedness to nature and to others, which encourages a sense of purpose.

In addition to providing a space to foster connectedness, tree canopy plays a major role in cooling surrounding areas and benefiting the health of the surrounding people. Healthy tree canopy helps mitigate the urban heat island effect, benefitting surrounding communities through shading and evapotranspiration (Chen et al., 2020). While mature tree canopy has the greatest impact on heat mitigation, smaller trees, like fruit trees, particularly in smaller and denser settings, also play their part in reducing temperatures.

These orchards are in a variety of spaces, each one unique and locally cared for and owned. Most orchards, 24 percent, are located in schools, followed by 19 percent in neighborhoods, 18 percent in communities of faith, and 14 percent in community gardens. Orchards are also in municipalities and parks, health and medical facilities, transitional living residential units, and in senior housing complexes.

The Giving Grove team is passionate about the ways an orchard can benefit communities that want to partner to establish an orchard. Affiliates in eleven cities, from coast to coast, are helping create a powerful network that develops best practices and deep knowledge going directly on (and into) the ground of participating communities, rooting resiliency and sustainability.

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