

# Agroforestry in the Urban Environment: Health Benefits

Urban trees and greenspaces have been proven to be beneficial to our physical, psychological, and social wellbeing. Agroforestry practices can further enhance these benefits by connecting people to trees and shrubs through foraging and encouraging communities to join together to establish and utilize a shared food resource.

## Physical Health Benefits

Research has shown that the presence of trees and public greenspaces in urban communities positively impact the health of those living and working there. For example, exposure to trees can reduce stress levels through lowering stress-related hormones such as adrenaline and cortisol.<sup>1</sup> In turn, this helps to lower blood pressure and reduce fatigue. Trees also aid in strengthening our immune systems. Trees release chemicals, called phytoncides, that have antifungal and antibacterial properties.<sup>2</sup> Breathing in these chemicals encourages our bodies to create more natural killer cells which help us to fight off viruses. One of the major ways trees benefit our physical wellbeing is through reducing harmful air pollutants. Trees remove pollutants such as particulate matter, carbon dioxide, and ozone. Decreased air pollution has been linked to reduced mortality, lower incidence of respiratory issues and lung cancer, and reduced occurrences of asthma in children. Furthermore, higher neighborhood tree coverage has been linked to increased levels of physical activity such as recreational walking and cycling.



## Psychological & Social Benefits

Exposure to urban trees has been linked to improved mental well-being in humans. For example, trees and public greenspaces have been shown to decrease levels of depression, anxiety, anger, and confusion. One study, which focused on clinical populations with diagnosed mental health conditions, found that patients with major-depressive disorder who participated in forest-based therapy had reduced symptoms of depression.<sup>3</sup> Additionally, increased street tree canopy has been associated with lower-anti-depressant prescription rates.<sup>4</sup> Urban trees also enable us to focus better because observing nature gives our brains a cognitive break which renews one's ability to concentrate and be patient.<sup>5</sup> In connection with this, the presence of trees has been linked to reduced ADHD symptoms in children. Urban trees can increase socializing, bonding, and reduce crime.<sup>6</sup> Research indicates that the presence of trees may reduce various types of crime depending on factors like size, location, and health status.<sup>7</sup> Overall, urban trees boost peoples' mood and improve mental vitality.

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1. New York Department of Environmental Conservation, "New York State Forest Action Plan" (2020), 67–69. [https://www.dec.ny.gov/docs/lands\\_forests\\_pdf/nysfap.pdf](https://www.dec.ny.gov/docs/lands_forests_pdf/nysfap.pdf)

2. New York Department of Environmental Conservation.

3. Kathleen L. Wolf et al. "Urban Trees and Human Health: A Scoping Review," *International Journal of Environmental Research and Public Health*, 17 no. 12 (2020): 4371, [doi.org/10.3390/ijerph17124371](https://doi.org/10.3390/ijerph17124371)

4. Wolf.

5. New York Department of Environmental Conservation.

6. New York Department of Environmental Conservation.

7. Wolf.



## Did You Know?

- A 55 minute walk among trees or nature enhances cognitive performance
- Views of trees are associated with shorter recovery periods for hospital patients
- Black and Brown communities have on average disproportionately less tree canopy than white neighborhoods

### Healthier Communities

Unlike many urban community gardens, that often have limited membership, most urban food forests are established in urban landscapes that are open to the public, such as public parks, vacant lots, and stream corridors. To maximize their ecological benefits, food forests often incorporate native plants, and create a more naturalized setting, in which people are more likely to gather than harvest edible fruits. This allows city residents to immerse themselves in these urban natural oases, collecting from and learning about these edible species, like what our pre-agriculture ancestors used to do. The gathering process also is beneficial to one's health as discussed above, not to mention the diverse collection of fresh, healthy foods the gatherer can get are often times lacking in their modern diets. In addition, just like in the ancient gatherers' communities where people helped each other with collecting, and exchanging their produce, knowledge and recipes, food forests provide a place for community members to congregate and interact, and to work together toward a common goal. Furthermore, to establish such communal food forest spaces, a community needs to come together to make it happen. It strengthens community bonds and cohesion towards a more active, caring and healthy society.

### Additional Resources Available At:

- The Nature Conservancy
  - [https://www.nature.org/content/dam/tnc/nature/en/documents/Trees4Health\\_FIN\\_AL.pdf](https://www.nature.org/content/dam/tnc/nature/en/documents/Trees4Health_FIN_AL.pdf)
- American Psychiatric Association
  - <https://www.psychiatry.org/newsroom/apa-blogs/evidence-of-the-benefits-of-trees-in-urban-areas#:~:text=Studies%20have%20associated%20exposure%20to,and%20risk%20of%20psychological%20distress.>

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315-475-1170



658 W. Onondaga St., Syracuse,  
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