Food Forestry Opportunities and Challenges in Small Towns: A Summary for Virginia Mayors

Virginia Tech, Department of Forest Resources and Environmental Conservation

**Please contact Sarah Coffey, secoffey@vt.edu or 860-449-3830, with any questions or comments.*

Food forestry intentionally integrates food-producing trees and shrubs in built environments to bolster community resilience (Clark and Nicholas 2013). Examples include public orchards, edible hedges, and community food forests (Figure 1; Figure 2). Food trees enhance important ecosystem services such as providing shade, reducing runoff by stabilizing soils, and increasing biodiversity while simultaneously providing access to nutrients that are absent from many Americans' diets (Lafontaine-Messier et al 2016; Clark and Nicholas 2013). In the last two decades, there has been an increase in food forestry projects primarily in large metropolitan areas in North America and Europe (Bukowski and Munsell 2018; Hübner et al 2018; Clark and Nicholas 2013), but little is known about its use in smaller towns.

Figure 1. A community food forest in Bloomington, Indiana. Photo credit: Catherine Bukowski.

Figure 2. Food forestry in Farmington, New Mexico. Photo credit: John Munsell.

Sixty-eight mayors of small municipalities (<25,000 residents) in Virginia, U.S., recently used a survey to weigh in on the use of food-producing woody perennials in public spaces. Their concerns were similar to those reported previously, such as maintenance and capacity, and potential impacts on citizen safety (Table 1). However, it was interesting that mayors saw the greatest potential not in terms of food production, but rather opportunities for education, recreation, social gathering, and community building. These factors are defined by the Millennium Ecosystem Assessment as cultural ecosystem services, and they have played an important role in the design and implementation of food forestry initiatives around the U.S. (e.g., Bukowski and Munsell 2018).

Table 1. Mayors' perspectives on barriers to planting food trees and shrubs in public spaces.

Barriers to Food Forestry in Public Spaces	Percent (Frequency)
Long-term Maintenance	78.8 (52)
Lack of Space	43.9 (29)
Hazards Related to Fallen Fruits/Nuts	39.4 (26)
Competing Land Use Interests	24.2 (16)
Food Safety Concerns	18.2 (12)
Changing the Aesthetic of the Town	13.6 (9)
Nothing	9.1 (6)
Reduced Visibility Hazards	7.6 (5)

Mayors were also asked what kinds of food production systems (including those without food-producing trees and shrubs) existed in their town and whether these were included in zoning codes. The most prevalent form of food production system according to mayors was community gardens (45%), and one-third reported having none (Table 2). Almost 80% wrote that food production systems were not included in the zoning codes for their municipalities. When they did, the most common was community gardens (14%). The intentional use of food trees and shrubs in public spaces essentially is absent, yet around three-quarters of mayors indicated that there were no legal constraints to their implementation. Perhaps this could be viewed as counter-intuitive where nothing is specifically prohibited; it is more likely that supportive policies may increase use by defining possibilities and outlining implementation (Fernandez, 2013; Orach & Schlüter, 2016). This idea also was supported by open-ended comments from mayors.

Table 2. Mayors' responses regarding food production systems that exist in their town, are included in zoning codes, and are impacted by legal constraints.

Existing Food Production Systems EGI in Public Space	Percent (Frequency)
Community Gardens	45.1 (23)
There are None	33.3 (17)
Public Orchards/Fruit and Nut Trees	19.6 (10)
Edible Plants in Rights-of-Way	5.9 (3)
Rooftop Gardens/Gardening Along Buildings	3.9 (2)
Community Food Forests	2.0 (1)
Food Production Systems included in the Zoning Codes	
None	77.8 (49)
Community Gardens	14.3 (9)
Fruit and Nut Trees	3.2 (2)
Edible Plants in Medians or Rights-of-Way	3.2 (2)
Rooftop Gardening/Gardening Along Buildings	1.6 (1)
Public Orchards	1.6 (1)
Community Food Forests	0.0 (0)
Food Production Systems Impacted by Legal Constraints	
None	72.7 (48)
Not sure	24.2 (16)
Public Orchards/Fruit and Nut Trees	1.5 (1)
Community Food Forests	1.5 (1)
Edible Plants in Medians or Rights-of-Way	1.5 (1)
Community Gardens	0.0 (0)
Rooftop Gardens/Gardening Along Buildings	0.0 (0)

Emphasizing cultural benefits may be an effective strategy for citizens and civic organizations seeking to implement food forestry projects, which can fold in other functions such as producing food and fiber along with other environmental benefits (e.g., protecting soils and waterways and providing habitat for pollinators and wildlife). Local governments also might consider collaborating with community organizations, schools, or places of worship to address long-term maintenance concerns, especially if the fiscal and human capital are stressed.

It was not terribly surprising to hear that most towns have not dedicated staff time, formally identified space for food forestry projects, or established complimentary legal frameworks that would make such action feasible. The use of zoning codes was up for debate among the mayors, with perspectives running the gamut of opinions. In some cases, residents

already had access to suitable private land and were attempting projects to varying degrees. Others believed that government support could stimulate important conversations and educational opportunities related to agriculture and nutrition. In the end, the mayors reported that most small towns are cash- and infrastructure-strapped, and the potential to advance food forestry in public space is likely to be limited regardless of the benefits. It is important to note, however, that spikes in implementation often follow crises such as global conflict and economic recession (Bukowski and Munsell 2018). Who knows how perspectives and possibilities will change due to the coronavirus pandemic.

Regardless of the current rates of implementation and potential hurdles, the ability for any given town differs, and the situation is better for some compared to others. Several small municipalities in Virginia are quite optimistic and capable, and presently have or are in the process of developing policies that support food forestry initiatives. They tended to benefit from a supportive cast of citizens and have ample open space where projects could take root. On the other hand, several towns struggle with these issues and are unlikely to move forward anytime soon. Either way, municipalities and residents would benefit from assessing the possible opportunities and challenges together, and there is evidence that many towns have food forestry advocates just as in larger cities. When they speak up, the issue gains traction in the public sphere, leading to creative thinking and action that can help overcome early challenges by optimizing the ecological, educational, and public health benefits that are collectively valued toward new and unforeseen opportunities.

Small towns are changing worldwide, and this has implications for managing green space in built environments (Forman 2019). Ecosystems likely will be strained in coming decades as human population growth continues, thus heightening the need to strengthen local resilience. If the 68 Virginia mayors are a window into the world, then policies promoting food forestry

systems in small towns are few and far between, but the potential exists if the right benefits are emphasized and the need transcends the scope and scale of any given project. In that regard, "local" may find greater space in a community's consciousness given our current circumstances, and food forestry could play an important role in the years to come.

References

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