



Homegarden (forest garden) systems and Food Forests: High Productivity on Small Areas

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Forest garden systems like this 25-year-old example from the Lower Rhine region demonstrate that vertical layering and species diversity can create highly productive and sustainable land use systems in a small area.

Homegardens (forest gardens or food forests) are a diverse and sustainable model of agroforestry. They mimic natural ecosystems by combining trees and shrubs with other useful, mostly perennial plants or small livestock. In Europe - especially in Germany, the Netherlands, and Ireland - they are becoming increasingly popular due to their high productivity and the wide range of benefits they offer on limited space defined as agrisilvopasture by the FAO.

Homegardens design and structure comprise a multi-layered system, typically with 5–7 layers, including (i) a canopy of tall fruit and nut trees; (ii) an understory of small trees and shrubs; (iii) an herbaceous layer preferably consisting of perennial vegetables; (iv) ground cover plants such as strawberries; (v) root crops; (vi) plant climbers such as vines and kiwis. Homegardens are characterised by very high diversity, typically with more than 10 species per hectare, which increases their resilience to pests, diseases, and extreme weather conditions. In some EU countries, homegardens are named forest gardens or food forests.

Homegardens or forest gardens usually enhance productivity and offer economic benefits such as (i) high yields (2–5 times more biomass than monocultures thanks to vertical layering); (ii) year-round harvests (over 300 edible species and many varieties suitable for Central Europe, enabling staggered ripening and harvest times); (iii) low maintenance linked to minimal tillage, weeding, fertilizing and irrigation after establishment and (iv) provision of diverse income sources such as fruits, nuts, herbs, as well as other products and services (e.g., workshops, agro-tourism).

Homegardens and forest gardens also provide ecological advantages linked to (i) biodiversity (greater species diversity than monocrop systems); (ii) soil health and climate resilience improvement (soil quality, water retention, and carbon sequestration) and (iii) enhanced natural pest control through mixed cropping and companion planting.

The implementation of these highly productive and biodiverse agroforestry practices in Germany is usually linked to urban and agriculture lands, being in the last case eligible under the CAP direct payments and Eco-Schemes. However, more support is needed.

Homegardens and forest gardens are a sustainable, high-yield land management model that supports food security and climate change adaptation. Their low resource requirements and growing demand make them a highly promising approach for cities, communities, community-supported agriculture, and farms with direct marketing.

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