

Utrecht, the Netherlands

Urban food forest

Rijnvliet, Edible Neighborhood



www.felixx.nl



Nature-Powered district
Rijnvliet is an innovative residential neighborhood in Utrecht (NL). It is part of the Leidsche Rijn expansion area that provides 1000 new ground-based dwellings. Felixx designed the public space in the area to integrate Nature-Based Solutions (NbS) and create a sustainable, resilient, and socially cohesive environment.
The project, conceived as an edible and educational landscape, features a 15-hectare food forest with over 1,000 fruit trees and 220 species of edible plants. This design improves soil quality, manages rainwater, and supports biodiversity. The multi-layered vegetation design mimics a natural forest, maximizing space and supporting a wide range of species. The plant diversity promotes pollination, enriches the soil, and creates a habitat for insects, birds, and small mammals, enhancing ecological and urban resilience. Environmental benefits include reduced CO₂ emissions, local microclimate regulation, and sustainable water management.

The natural drainage system reduces flood risks and improves water quality through the plants' ability to absorb and filter rainwater. There are 6 different types of parts of the tree that are edible:

1. Edible nuts and seeds
2. Edible fruits
3. Edible leaf
4. Edible flowers
5. Drinkable juice
6. Unripe fruits.



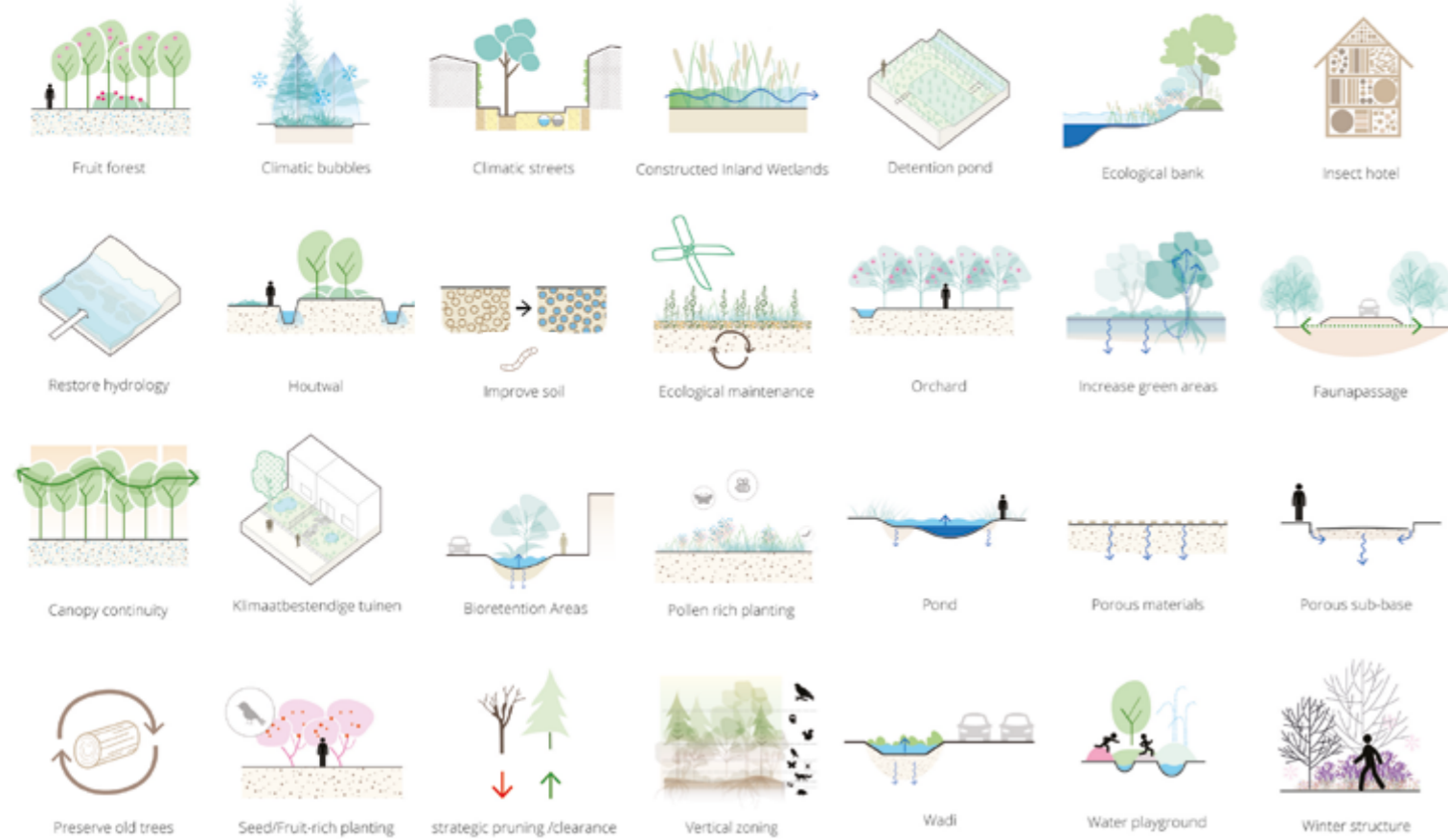
The tree plantation is made up of 7 layers. The layers work together and resemble the ecosystem of a forest. Insects and organisms are attracted to the different types of plants and trees. And they reinforce each other. These are the 7 layers:

1. The canopy, consisting of original and planted large trees.
2. Low trees, consisting of smaller trees or half-standards.
3. Shrub layer of fruit and berry bushes.

4. Herb layer of multiannual vegetables and herbs.
5. Soil covers, a layer of plants that spread horizontally.
6. Underground layer of plants that produce roots or tubers.
7. Climbers, a vertical layer of climbing plants.

The project offers a replicable example for other urban areas and sets the stage for a future where cities and nature thrive together in synergy.

NbS in depth



Social benefits

Community-Driven Sustainable Innovation
Rijnvliet stands out as a prime example of participatory design, rooted in a grassroots initiative by local residents who envisioned a more sustainable and community-oriented living space. Their proposal for an urban food forest was embraced and developed in collaboration with the municipality and design experts.

"We're going to start our vegetable garden soon. We'll mainly grow a lot of herbs, but also lettuce, cucumber, tomato and pepper. So, a bit of everything."

Linda, Local resident

"We have a little girl who loves seeing everything grow. She is amazed to see how small it all starts from a seed and that eventually something edible will grow on it."

Petra, Local resident



Environmental benefits



Thriving urban wildlife in a diverse green space

The diverse vegetation and the structured layers provide extensive habitats for various birds (Little Owl, Kestrel, Robin, Great Tit, Dunnock, Blue Tit, Swift, Pheasant, Kingfisher, Hereon), bats (Common Larkspur Bat), insects (Lemon Moth, Dragonfly, Bee), and other animals increasing the area's ecological value and contributing to urban wildlife conservation.



Integrated Ecosystem Services in Rijnvliet's Green-Blue Space

The food forest enhances the ecosystem services of the area, including water management, heat reduction and air purification. The abundant green and blue spaces are harmoniously blended with the built environment. The green-blue outdoor space in Rijnvliet covers a total of 15 hectares, with water features accounting for 30% of the area.



Credits:
2023 Felixx (Landscape Architects) de Zwarte Hond (Urban Planners)
Xavier San Giorgi - Æ Food Forestry Development (Food forest expert)

Other :
2023 Dame Sylvia Crowe International [winner]
2023 LOOP Design Awards [winner]
2023 WLA Honour Award [winner]
2021 Innovation in Politics Award [winner]



Selected case studies

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Felixx is proud to be an author of the NbS catalogue for the World Bank Group and GFDRR, with Rijnvliet being one of the many results of our extensive research and design efforts.