

Visualization as a tool to raise the debate on agroforestry in urban contexts

In many parts of the world, agroforestry is a known practice, for diverse motives, including the desire to win back degraded land. In the Netherlands with its focus of highly productive agricultural production, oriented on the global market, agroforestry is a rather unknown practice. Recently, however, the phenomenon receives a lot of attention, also due to the attention for so-called food forests, which can be considered a close-by practice. Reasons for such growing attention can be found in the debate on climate change, for example, and on city-region food systems.

As the Netherlands are highly urbanized, and landscape is considered a cultural product, the impact of agroforestry on landscape is of interest, be it negative or positive. We notice a widespread lack of insight what the spatial implications of agroforestry, especially large-scale developments, can be. Therefore, within our larger research program, together with students first attempts were done to visualize agroforestry developments two-dimensionally and three-dimensionally.

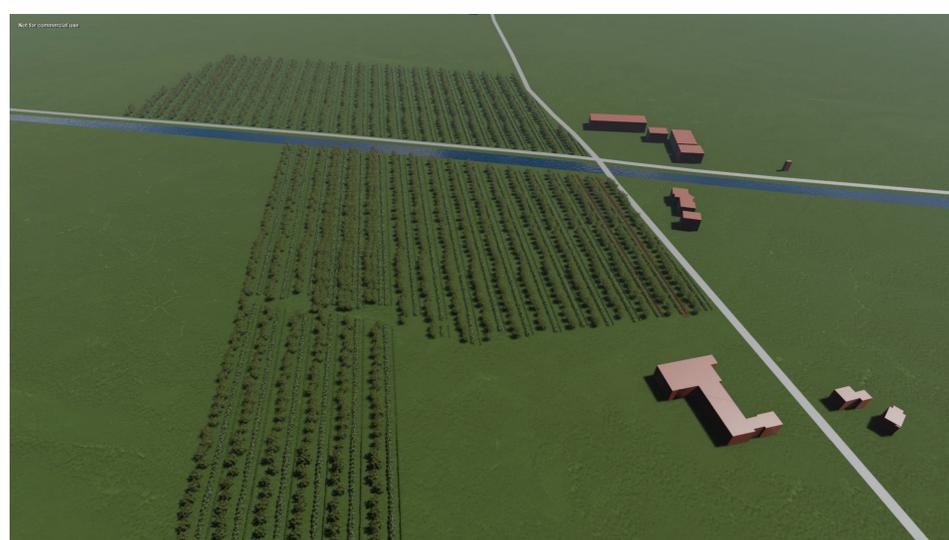
Three examples of what the spatial experience of agroforestry might be, studying different forms of agroforestry, and different starting points. The upper example suggests a silvopastoral system as developed in open meadows. The second example shows an alleycropping system as developed on open fields. The third a system of agricultural production within existing, thinned forests.

Obviously the visualizations disregard many of the particularities of the existing situation, and struggle to meet more precise representations of the agroforestry systems. This is also due to the educational situation: the participating students both have to master visualization software, and the topic of agroforestry.



Strategic study of possible locations of 1000ha agroforestry, and indications of plots to implement agroforestry in existing topography near the city of Nijmegen.

Our Van Hall Larenstein research group is interested in landscape, management, participation, ecology, health, food technology and circular economy, and is today is increasingly engaging in different aspects of agroforestry as an emerging agricultural practice. We do so within a program that aims to strengthen regional food systems. A 'city region food system', abbreviated as CRFS, as conceptualized by FAO and RUAF, describes this connection.



First exercise of modelling agroforestry in generalized existing topography, birds eye perspective. In currently open meadows a strong 'third dimension' is introduced with trees and shrubs.



Same exercise in different view direction, in a lower perspective in which the idea of alley cropping becomes more clearly visible

One of our Van Hall Larenstein research group project is rather speculative and regards the city of Nijmegen. It discusses what if 1000 hectares of agroforestry would be realized, with respect to the food system of the nearby city and the surrounding landscape. The introduction of agroforestry will change the landscape on a regional scale, also change the landscape identity and the way people relate to the landscape (Stobbelaar and Pedroli, 2011). This asks for study of the visual and esthetical impact on the area.

Not a predictable visualization but a starting point for debate and knowledge exchange contributing to the further development of agroforestry as such, and the implementation in local contexts.