OOSTWAARD – MULTISTRATA AGROFORESTRY SMALLHOLDING

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Abstract

Oostwaard has changed over the years from a monastery court to a traditional farm, to a diverse multistrata agroforestry system. In 2015 they planted 2.4 ha with over over 225 species with the aim of providing themselves, local markets and restaurants with a wide variety of produce, year-round. Additionally, they have sheep, cows, horses, bees and in the near future they plan to establish a market garden. The project is strongly integrated with the local community. This form of multistrata agro-forestry system is both a forest and a form of agriculture that until recently was an unknow typology for the local planners. By working with the local planners this became the first multistrata agroforestry project, to be legally acknowledged as a form of Agriculture in the Netherlands.

Keywords: Oostwaard; multistrata agroforestry; local land-use plan; local community

Introduction

Oostwaard was known from around 1200 AD to the Reformation as a monastery court of St. Stevens Abbey in Utrecht. Over the centuries it has been through many changes. Currently the 3th generation of the family Peek lives there, who first started there as farmers. However, due to the expansion of the city a new highway was constructed in the 1990s, cutting off a big part of their agricultural land. Consequently, they stopped their farming practice.

After years of limited use, in 2015 they started to plant a 2.4 ha multistrata agroforestry system, on part of the remaining 8 ha (Figure 1). This consists of over 225 species with the aim of providing themselves, local markets and restaurants with a wide variety of produce year-round. Additionally, they have horses, bees, sheep and cows and in the near future would like to establish a market garden on their farm.

Here we present success and stress factors in the transition into agroforestry.

Figure 1: Bottom picture after the planting the grass grew high and delineates the area of the multistrata agroforestry system. Top picture taken after the second season of growth.

Legislation and multifunctional land use

The transition from a farm to an estate with agricultural land resulted in changes to the way the local government and the province of Utrecht define the land use of the terrain. In order to become an estate, it is obliged by law to have 1/3th of the property as forest or an alternative ecosystem from which wildlife will benefit.

The multistrata agroforestry system is both a forest and a form of agriculture, which up until recently was an unknow typology for the local planners. Due to a change in the municipal land use plan, the opportunity arose to adopt this new typology of farming, which thus far is unknown in land use planning permits in the Netherlands. This makes Oostwaard the first agroforestry project in the Netherlands to be labeled in the local planning as a Food Forest, wherein Food Forest is described as a regenerative farming practice. This is unique since there is currently no official Agroforestry or Food Forestry policy in the Netherlands.

Market potential

Due to the scale and aims of the project, it would not have been commercially viable to grow one type of produce and sell it wholesale. The obvious choice therefore was to grow a diverse array of unique products (Figure 2). Thus, different clusters of plant species were chosen which favor similar ecological and climatic conditions. Where possible they are planted in polycultures to create favorable conditions for each other.

To meet the aim of growing unique crops which could be sold at local farmers markets or to restaurants. Because of this over 225 species have been planted, within which there is a diverse array of cultivars to explore taste and see which cultivars to grow in greater numbers at a later stage of the project.

Figure 2: Example harvest in the second year. Left picture *Pyrus pyrifolia* (Asian pear) and on the right *Prunus dulcis* (Almond).

Social engagement

In addition to the commercial aspect of the project, it also aims to revive local food and also develop knowledge about the produce and maintenance of multi strata agroforestry systems in The Netherlands. For instance, due to the relatively small scale of the system and high diversity it is impossible to have mechanical harvesting. Thus each crop each crop will be harvested by hand. As each crop has its own ripening period, harvesting method and maintenance learning these characteristics and optimizing them is an important aspect of the project.

Social engagement of local people is also very important. The local community has been highly involved in the project, in order to learn and to help out harvesting and maintaining the system. In a way they are ambassadors of the project for the years to come. The success of the project will largely depend on how it will be adopted and embed in the local area.

Therefore the planting of the project has been done together with over 150 volunteers of whom many return and help on volunteering days for maintenance and harvest. These volunteering days start off with an explanation and update on the project, a well-organized lunch and a nice drink at the end of a hard days of work (Figure 3).

Figure 3: Volunteers of the project.

Biodiversity

By changing a large portion of the former grass and maize field into a multistrata agroforestry system there is also a substantial change in habitat. In order to attract new wildlife several elements have been added to the system. For instance a pond was dug to enhance the water habitat, birdboxs for Great tits or Robins were added and also nestboxes for birds of prey such as the screech owl and kerster (Figure 4). The main idea is to increase the biodiversity and therefore create a more balanced ecosystem which will aid pest control.

Figure 4: Pond establishment.

Discussion

It is of great value that the local council has recognized and labeled the multistrata agroforestry system as a sustainable form of agriculture in their municipal land use plan (Figure 5). This is an example and could inspire other municipalities and projects to adopt the same typology in their land plans. However, since each municipality in the Netherlands has one or more unique land use plans it is not yet adopted nationwide. Therefore each unique land use plan would have to be changed in order to have the same typology recognized by other municipalities. Thus other types of policy changes are necessary in order to have Agroforestry recognized as a form of agriculture on nation wide basis and be of value to all farmers. Thus other making it easier for other farms or estates to develop this form of agriculture.

Social engagement is both important for the maintenance and success of the project but also part of a re-education process towards growing and buying our food more locally. Though the multistrata agroforestry system will grow an abundance of food, the harvesting and processing of it will be more labor intensive than mechanized agriculture. Therefore success will depend on how well the community develops around the project which can both support and benefit from it.

Due to the legislation of being an estate increasing the biodiversity in both flora and fauna are important aspects. In the coming years we should see how the increase of plant diversity will impact the local biodiversity of insects, animals and birds.

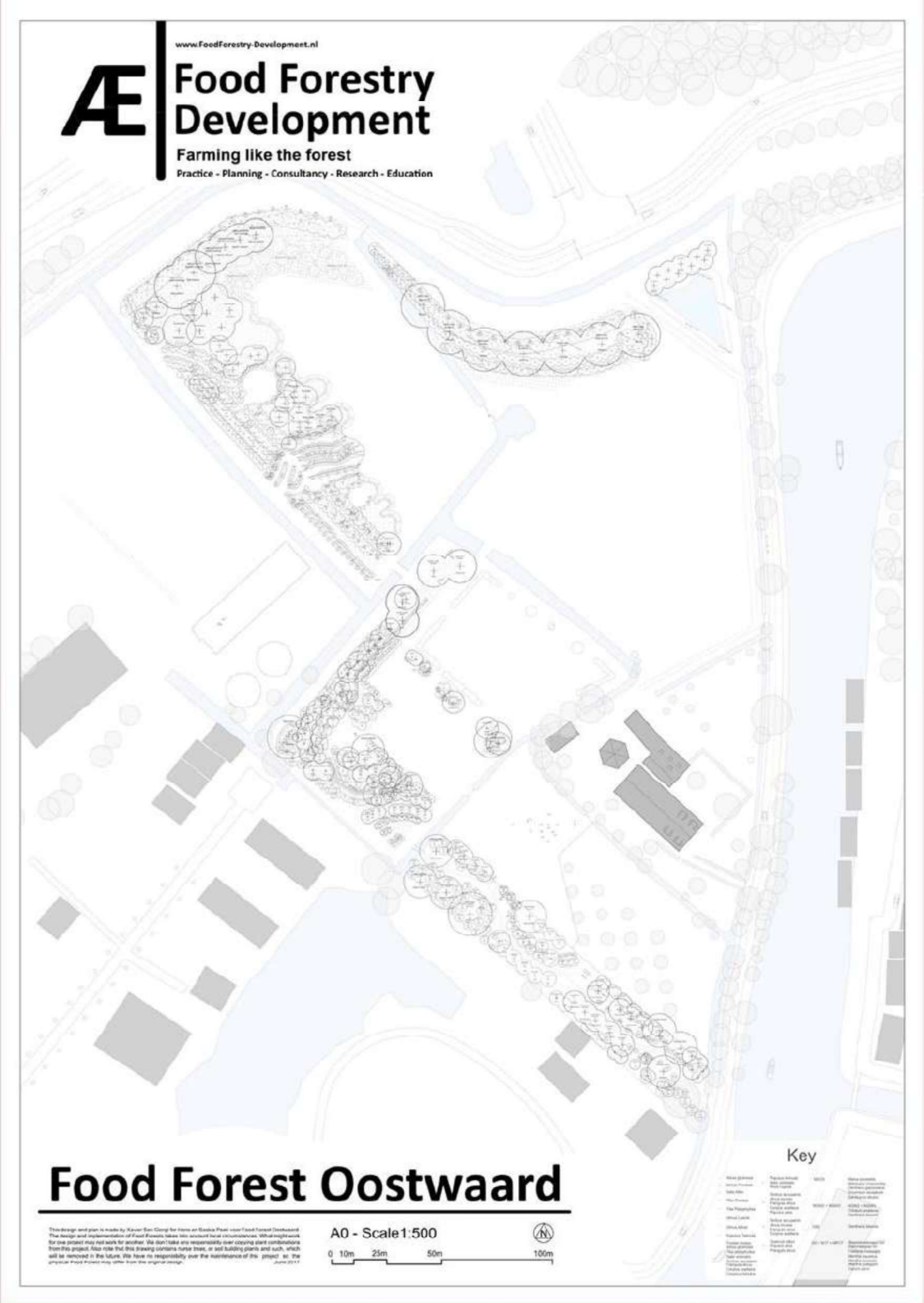

Figure 5: Design of the multistrata agroforestry system.