

BOTTLENECKS AND SOLUTIONS FOR INTRODUCING AGROFORESTRY: A CASE STUDY FOR THE NETHERLANDS

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Introduction

At the moment, several policies and programs have the goal to maintain and enhance biodiversity in the Dutch rural landscape. This is for instance the case for the recent Common Agricultural Policy (CAP 2014-2020) (European Commission 2010), the new system for agri-environmental schemes (ANLb 2016) (van Dam 2015) and realization of the National Nature Network (NNN or EHS) (IPO 2015). Agroforestry -defined as "the practice of deliberately integrating woody vegetation (trees or shrubs) with crop and/or livestock production systems to benefit from the resulting ecological and economic interactions" (Den Herder et al. 2014; Mosquera-Losada et al. 2009)- has the potential to contribute to more biodiversity on farms (Jose 2009). Despite the above mentioned policy instruments, further development or introduction of agroforestry progresses slowly in The Netherlands. In this article we present several reasons why, from a farmers' point of view, planting trees in the Dutch rural landscape is unattractive at this moment. Furthermore, we suggest possible solutions that enable further development of agroforestry in the country.

Material and methods

During the designing and planning phase of agroforestry projects in The Netherlands, we encountered several problems regarding existing regulations and schemes. The bottlenecks were inventoried and are mentioned below. Secondly, as part of the Agforward project, farmers perspectives on agroforestry were inventoried. Dutch farmers already active with agroforestry (12) and farmers which have the ambition to plant trees (4) were interviewed. Additionally, other stakeholders were consulted, like rural developments organisations (3), organisations of the agricultural sector (2) nature organisations (2) and researchers (3). All persons were asked to come forward with possible solutions to overcome the bottlenecks for agroforestry. Additionally, literature was collected to cross-check the statements of the interviewed persons (displayed below).

Results

The main reason for farmers to find the planting of trees unattractive is the strict division in land use between 'nature' or 'forest' and 'agriculture'. Most trees species are categorized by CAP as 'nature' and not as a 'agricultural crop' (except for poplars, willows for SRC and fruit trees). When a farmer plants more than one single row of 20 trees or 1000 m² of trees, the trees are protected by the Dutch Forest Law (BIJ12 2015). The Dutch Forest Law prescribes that once landscape elements and trees are planted, they cannot be removed without a special permit and one is obliged to do replanting of the removed trees. Then there is the issue of allotment of the used land. When trees are planted there is a risk that the land use classification changes from 'agriculture' to 'nature'. Land classified as 'agriculture' has a 2.5 to 3 times higher economic value than land classified as 'nature' (CBS, PBL & Wageningen UR, 2006). In other words, planting trees may cause a devaluation of land value and reduced premiums per hectare farmers receive. Several cases have been reported recently, where farmers had to complain to the authorities because of a change of land use classification due to the presence of trees or hedgerows on farmland. If farmers realize woody vegetation in the framework of the NNN, they are offered grants to compensate the land devaluation or compensation land (ground-for-ground principle) (IPO 2015). Farmers give this often a second thought, as the compensation comes with the obligation that the allotment change from 'agriculture' to 'nature' is permanent. Management is strictly regulated, even the choice of tree species and tree varieties are prescribed. In other cases where cultural historic, protected trees or shrubs are already present on agricultural land, the land has a lower economic value, only because of the presence of woody vegetation (VNC 2016).

Since the first of January 2016 a new system for agri-environmental schemes has been introduced in The Netherlands. The maintenance of trees or hedgerows for the realization of high nature farmland is subsidized, only if the farm is located in a pinpointed area where the effectiveness of nature development for reaching Natura 2000 goals is estimated to be high (for instance near a nature reserve). This means that individual farmers, that are willing to introduce and maintain trees on rural land, fall by the wayside, because the land is not located in the right place. In some parts of the country local regulations can be a bottleneck for agroforestry. In some parts, planting trees is not permitted at all, because of specific cultural landscape values or because of ancient windmill rights. In these areas even the planting of coppices is prohibited. Then there is a technical problem with the yearly crop specification for farmers (RVO 2015). The system is not open to multifunctional land use. As farmers have to report planted crops on field level yearly, this will be a recurring problem when they use agroforestry practices. Last but not least, farmers are also reluctant to realize natural elements, because of the possible appearance of red-list species on their farm. Rare species are protected and permits for building, farm extension etc. is depending on the non-existing of red-list species. The creation of natural biotopes can therefore become a bottleneck for further development of the farm in a later stage.

Discussion

At the moment existing regulations cause a division between the two land use types 'agriculture' and 'nature', which makes it unattractive for farmers to integrate trees in the Dutch rural landscape. Probably, this tension exists in many European countries, but in The Netherlands –with relatively fertile soils, a high demand for land and a dense population- this tension is extremely present.

In general, grant schemes and regulations for trees and landscape elements are only designed for the protection of 'nature' and are not designed for farmers that want to integrate trees in the farming system and implement agroforestry systems on landscape, farm or field level. The differences in economic value of the land use types 'agriculture' and 'nature', make it even more unattractive for farmers to plant trees. In areas where cultural historical landscape elements on agricultural soils are still present, we see that trees or hedgerows are (partly) maintained on landscape scale only, if additional funding is available for instance from agri-environmental schemes.

To overcome these bottlenecks, we should focus on integration of the two land use types, instead of segregation. We state that there is a need for an integral vision that includes trees and landscape elements as being part of the agro-ecosystem. With this integral vision, policies and regulations can be developed that make it more attractive for farmers to use agroforestry practices. For the development of agroforestry, we therefore need a different classification system of land use, with more flexible elements. In the past we had the arrangement of 'temporary forests' (Jansen 2004). This gave farmers the opportunity to change the land use type for a certain period into nature. We cannot speak of real integration of trees within the farming system, but at least this temporary settlement included some flexibility. An extension of this arrangement, or a same kind of temporary settlement, may create the necessary room for experimenting with agroforestry in The Netherlands. Another beneficial development would be, if agroforestry would be classified and acknowledged as one of the greening measures for ecological focus areas for the CAP, like it is the case in Belgium (Vlaamse Overheid 2016). This, together with ambitious farmers that are willing to experiment, the gap between agriculture and trees can be filled and trees may in time be acknowledged as functional elements on field, farm and landscape level.

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