

Climate-smart farming on peat soils near Vlist

Underwater drainage to positively impact the environment, which benefits people and meadow bird populations.

EAFRD-funded projects

Location: Bergambacht, Netherlands

Programming period: 2014-2020

Priority: P4 - Ecosystems management

Focus Area: Biodiversity restoration, preservation & enhancement
Water management
Soil erosion & soil management

Measures: M04 - Investments in physical assets

Funding:	Total budget	1 517 566 (EUR)
	EAFRD	539 000 (EUR)
	National/Regional	569 000 (EUR)
	Private/own	210 000 (EUR)
	Other sources	199 566 (EUR)

Timeframe: 02/07/2020 - 30/11/2022

Project promoter: Vereniging Weidehof Krimpenerwaard

Email: marinus@collectiefkrimpenewaard.nl

Summary

The project supported the installation of underwater drainage in the delta peatland areas of the Netherlands. This type of drainage slows down the degeneration of peat soils used for agricultural purposes while simultaneously benefitting the environment by creating an optimal environment for meadow birds. During this project, measurements were taken to monitor the effect of the drainage on the diversity in vegetation and meadow birds. Farmers were actively involved in the project and its research. The organised study groups aimed to share knowledge to improve sustainable practices in relation to soil management.



© Klimaatlim boeren op veen

Project results

- In the winters of 2020, 2021 and 2022, underwater drainage was installed in 352 hectares of land and four fields were fitted with pumps.
- Relevant measurements relating to the effects of the new drainage on meadow birds and vegetation were carried out.
- Seven videos were made about the project to demonstrate its work, effect and use of underwater drainage. The dissemination of the videos attracted further attention to the project.

Key lessons and recommendations

- Having a subsidy scheme that asks for a small contribution from farmers generated participant involvement.
- To pre-finance the investments, loans were put in place. However, this was difficult to attain and costly for the project. Finding other ways to pre-finance bills would have benefitted the project's cost-effectiveness.





© KlimaatSlim boeren op veen

Context

The fertile soils of the delta areas in the Netherlands are used for the production of food and feed. Farmers based in the delta areas are also often involved in nature conservation work.

The peat areas are situated beneath the sea level and only become usable for farming purposes when they have been drained. During this process, the soil oxidises and produces harmful greenhouse gas emissions. In addition, due to degeneration and sinking soils, water levels have to be lowered every few years. This practice is controversial nowadays and under discussion, potentially stopping this type of farming in future.

As an alternative, farmers could use drains in the fields and allow water to stay under the surface. This approach will slow down the degradation of the soils while maintaining their agricultural usefulness. At the same time, the negative impact of peat soils on the environment and climate would be reduced. However, these types of drains are costly and limit the land's usability to some extent.

Weidehof Krimpernerwaard is an association that connects farmers and citizens interested in maintaining the agricultural landscape, nature and biodiversity. By cooperating with local governments, farmers organisations and the water board, the Weidehof association promoted the project idea of reducing the degradation of peat soils by soaking the peat and installing drains under the fields. By working jointly with the farmers, the scheme would also help reduce the negative impact of peat soils on our climate.

Objectives

The project aimed to sustain the use of peat land and the ways of farming on 352 hectares of agricultural land in the delta areas of the Netherlands. The key objective was to implement a scheme that would financially support farmers in their investment of installing drains under their fields. The intervention aimed to not only help modernise and sustain farms but also reduce land subsidence by 40-50%. In addition, the wetter fields would create optimal situations for meadow birds and their conservation.

In the scheme, farmers were encouraged to drain their soil and requested to make additional investments to help their farms be more sustainable. Farmers paid EUR 500 per hectare and received EUR 1 000 for the additional investments.

Activities

The preparations for this project started in 2017 (three years before EAFRD funding) when initial conversations and meetings with farmers were held to gain their interest and support. In the following years, a project plan was written and funding was sought.

Once the project was approved, the following modules were implemented:

- Installing underwater drainage. The preparation and installation of the drainage were undertaken in cooperation with 21 farmers. Together, appropriate fields were identified covering an area of 352 hectares. In total, 550 kilometres of drain were put into place.
- Sustaining agriculture and improving biodiversity. The project set up two study groups with 10 farmers each to improve farm management. In these groups, it was discussed how nutrient efficient farms work and how leakage of nutrients could be limited as much as possible in relation to underwater drainage.
- Creating wet fields for meadow birds. This activity involved installing pumps in some of the drained fields to manage water levels under the soil so optimal circumstances for meadow birds could be created. Depending on the bird population's requirements, fields can be made more or less wet to provide more food. Also, other forms of land use have become an option with the pumps now in place, providing better environments for meadow birds.
- Monitoring different types of data and generating relevant data sets. The effect of drainage on peat oxidation was monitored from the project's implementation onwards. A zero-measurement baseline was taken to track the project's effects on peat oxidation, plant vegetation and meadow birds. The results have been shared with financing partners and farmers.



Main results

The main results included the following:

- In the winters of 2020, 2021 and 2022, underwater drainage was installed in 352 hectares of land and four fields were fitted with pumps. All drains were installed during winter to avoid disruption to birds. All drains were equipped with GPS. Overall, 14 controls were undertaken by a separate organisation to ensure the drains were installed properly.
- Several meetings and a festive end meeting were held with the study groups.
- Relevant measurements relating to the effects of the new drainage on meadow birds and vegetation were carried out successfully.
- Seven videos were made about the project to demonstrate its work, effect and use of underwater drainage. The dissemination of the videos attracted further attention to the project.

Key lessons and recommendations

- Farmers in the project were committed to contributing towards environmental improvements. This was in spite of the fact that the project required additional work and increased their risk of working in the fields.
- Having a subsidy scheme that asks for a small contribution from farmers generated participant involvement.
- It was good that the project had a broader scope. This created a bigger impact on the shift towards more sustainable agriculture.
- The scheme only covered bills up to EUR 50 000. For larger amounts, it could take over half a year to get the subsidy paid. This limitation made the project nearly impossible to implement.
- To pre-finance the investments, loans were put in place. However, this was difficult to attain and costly for the project. In addition, interest needed to be paid on the loans. Finding other ways to pre-finance bills would have benefitted the project's cost-effectiveness.

Quote

"I think it is important that we are able to farm here in the next 40 years. Therefore, starting with draining is a very positive development and prevents problems later."

Local farmer

Additional information:

Project webpage:

<https://klimaatslimboerenopveen.nl/project-vlist/>

YouTube video about the project:

www.youtube.com/watch?v=Dd0l6AKr3PI



klimaatslim
boeren
op veen



Funded by
the European Union

