

GERMANY

Green futures

Location

Birkenfeld

Programming period

2014 – 2020

Priority

P4 – Ecosystems
management

Measure

M16 - Cooperation

Funding (EUR)

Total budget 358 264.04
EAFRD 258 747.72
National/Regional 99 516.32

Project duration

2016 – 2021

Project promoter*

Institute for Applied
Material Flow Management
- IfaS

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Website

<https://munter.stoffstrom.org/>

MUNTER integrates objectives for water, soil and flood protection with broader objectives such as climate protection, biodiversity and animal welfare.

Summary

The EIP-AGRI Operational Group MUNTER developed a management template for farmers and communities to implement increased environmental protection along with nature conservation, crop production and livestock farming.



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The project also tested new formats for knowledge exchange among stakeholders and developed tools to support these participative processes.

Results

For the first time, farmers, municipalities, water managers, nature conservationists and authorities worked out new multi-use concepts and implemented them together.

Flood prevention concepts included income diversification opportunities from agroforestry and biomass production. These also result in reduced hydrocarbon fuel requirements, through use of materials as biofuels.

As a result of the cooperation between these partners, the Ministry of the Environment and the Ministry of Agriculture of Rhineland-Palatinate are encouraging similar flood risk reduction projects across the area.

Lessons & Recommendations

- ❑ A lack of communication between the stakeholders concerned meant integrated solutions were needed to accommodate the interests of farmers, local communities and government. Cooperation and exchanges of expertise were essential to add value to the process.
- ❑ Involving a broad range of stakeholders in the project led to greatly improved soil and water protection, as well as increased biodiversity and income diversification opportunities for farmers.
- ❑ The project is transferable wherever heavy rainfalls can have catastrophic impact on communities. Results from MUNTER are already being used and developed in other projects.

* The Project promoter/beneficiary is an EIP-AGRI Operational Group (<https://ec.europa.eu/eip/agriculture/en>)

Context

Focusing on a single goal can often lead to solutions and concepts, which hinder the achievement of other goals. This has led to agriculture and nature conservation not always working well together. In addition, intensively farmed fields lead to an increased risk of water erosion, especially on steep slopes. This in turn affects villages in valleys that are also heavily affected by floods.

The parties concerned had ended up with segregated management and decision-making that hindered the achievement of societal goals. Integrated solutions were required to accommodate the interests of multiple stakeholders (farmers, municipalities, water managers, nature conservationists and authorities), so cooperation and exchanges of expertise were essential.

Project stakeholders included communities, cities, and farmers. The Institute for Applied Material Flow Management (IfaS) recognised this problem. They set up a project to address the risks of flooding while also creating a more diverse landscape.

Objectives

The aim was to inform communities, farmers and policymakers on ways of integrating and combining flood prevention, nature protection and crop production. This included finding and implementing good examples, testing new ways of exchanging knowledge among stakeholders, and developing tools to support participative processes.

Activities

At four locations in Rhineland-Palatinate, farmers, local communities and IfaS planned and implemented new concepts for flood prevention. Firstly, local conditions affecting flood risk including water bodies, soil, precipitation and topography were analysed, and the water-runoff calculated and simulated. In addition, the economic potential for businesses was analysed.

On this basis, problems, opportunities and possibilities were identified in joint workshops held with stakeholders. Common goals of innovative land use and added value creation led to concepts developed also on the basis of flood simulations and profitability calculations. The concepts proposed were then implemented by the participants once official permits had been issued.



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One farmer, Mr Bauer, together with the Bisterschied (Westpfalz) community, looked to create a bioenergy village. Mr. Bauer planted strips of trees for short-term rotational wood on his grassland to reduce water erosion. When harvested, the wood will be used for a district heating system in the village.

The Wolfstein (Westpfalz) community and another farmer, Mr. Schönbeck, combined increased biodiversity in the local stream with a swale (a low depression) of low marshy land to retain water along with agricultural wood production. The wood will be used for heating in the local retirement home.

In Rockeskyll (Vulkaneifel), the farmer, Mr. Blum, and his community wanted to reduce potential damage from heavy rain. Mr. Blum planted a perennial flowering plant, instead of an annual maize crop. The roots, shoots and leaves significantly decrease the risk of erosion while the crop also provides fuel for his biogas plant.

Mr. Pfeffer, another farmer, is establishing a keyline system on grassland in combination with agroforestry to decisively mitigate flood risk for the community of Odernheim. In this way, Mr. Pfeffer preserves biodiverse marginal land and increases its economic viability through the additional production of nuts and fruit. As a follow-up project for basic research, the EvA project (Development of innovative agroforestry systems in agriculture for climate resilient and economically attractive grassland use) started in 2020 as a follow-up.

The results of these four projects as described were assessed and evaluated in terms of their impact on increased biodiversity by field biology experts.

'Multi-use concepts combine agriculture, water management and ecology with climate protection and adaptation to climate change' - Hans Pfeffer, farmer

Main Results

For the first time, farmers, municipalities, water managers, nature conservationists and authorities developed new multi-use concepts and implemented them together.

Flood prevention measures were realised based on agroforestry and biomass production. For the first time water management financial compensation could be implemented in a managed agricultural timber area in combination with water body renaturation.

The project has contributed to achieving objectives of the EU Water Framework Directive, including water quality enhancement, erosion control, water body restoration, water retention and temporary storage.

Given the successful results of the project and the dissemination of its positive impact, the Ministry of the Environment and the Ministry of Agriculture of Rhineland-Palatinate are encouraging similar flood risk reduction projects across the area, using RDP funding and measures.

Key lessons

A previous lack of communication between the parties concerned meant integrated solutions were needed at the policy-making level. Cooperation and exchanges of expertise were essential to adding value.

Involving communities, cities, farmers and IfaS as project partners helped support improved protection of soil and water, as well as increased biodiversity and a better habitat network.

The results are transferable to other communities severely impacted by heavy rainfall. Results from MUNTER are already being used and further developed in Horizon 2020 projects such as WERTvoll, EvA, AGROMIX and ZENAPA.

The project addressed several objectives of EU rural development policy. MUNTER implemented requirements of the EU Water Framework Directive, climate-neutral energy supply (climate protection) and simultaneous adaptation to climate change. At the same time, fair value creation in rural areas (Farm to Fork) and increased biodiversity are linked, resulting in a new rural bioeconomy (Green Deal).



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The output from agroforestry cultivation is now perceived as a multi-use crop in Germany, which increases added value in rural areas by providing energy and food. Local communities were activated to create diverse landscapes and more biodiversity.

A new cavitation technology in the biogas plant of farmer Blum breaks down hay that is difficult to ferment and can thus make good use of biomass from the nature conservation areas. Linking climate protection with water management in this project resulted in savings of some 53 - 70 MWh/ha (equivalent to 5 300 - 7 000 litres of heating oil) from the 32ha farm, avoiding 496 000 - 654 000 kg CO₂ per year.

For the first time, farmers, municipalities, water managers, nature conservationists and various authorities worked together on new multi-use concepts and implemented them together. Given the successful results of the project and the dissemination of its positive impact, the Ministry of the Environment and the Ministry of Agriculture of Rhineland-Palatinate are encouraging flood risk reduction in the catchment area.

'Pragmatic cooperation creates viable and feasible compromises for communities, citizens and farmers' - Axel Schönbeck, Farmer

'No one else can manage our cultural landscape as efficiently and cost-effectively as farmers and foresters' - Jörg Böhmer, IfaS

Additional sources of information

www.youtube.com/watch?v=60OK5_ZDp-w&vl=de
<https://www.stoffstrom.org>
<https://wertvoll.stoffstrom.org>
www.laendliche-biooekonomie.de
www.landnutzungsstrategie.de
<http://zenapa.eu/de>