

Webinar 20 of May 2021: ENRD Thematic Group on European Green Deal in Rural Areas



Zaira Ambu
Project Manager
Department of Biomass and
Cultural Landscape Development

Hochschule Trier / Umwelt-Campus Birkenfeld
Institut für angewandtes Stoffstrommanagement (IfaS)

Internet: www.stoffstrom.org



Institut für angewandtes
Stoffstrommanagement



Umwelt-Campus
Birkenfeld

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Overview



Project

MUNTER –Development of a management system for farmers and municipalities for more environmental and nature protection through optimized energy crop cultivation

Funding Programme

eip-agri agriculture and innovation

Duration

01.09.2016 –31.03.2021

Place

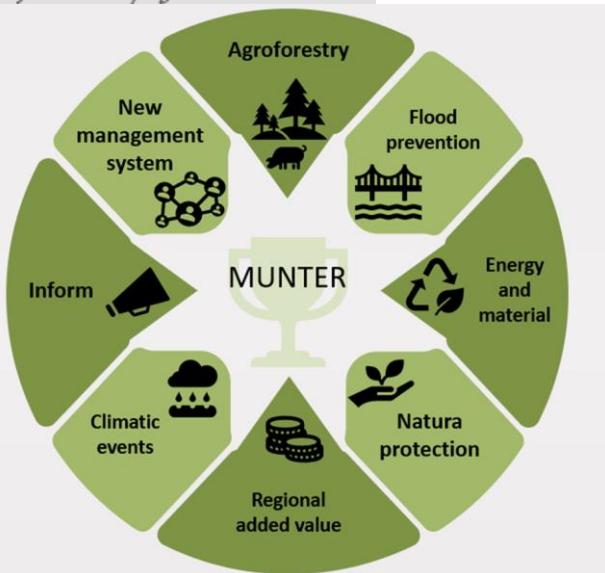
Rhineland-Palatinate

Leader

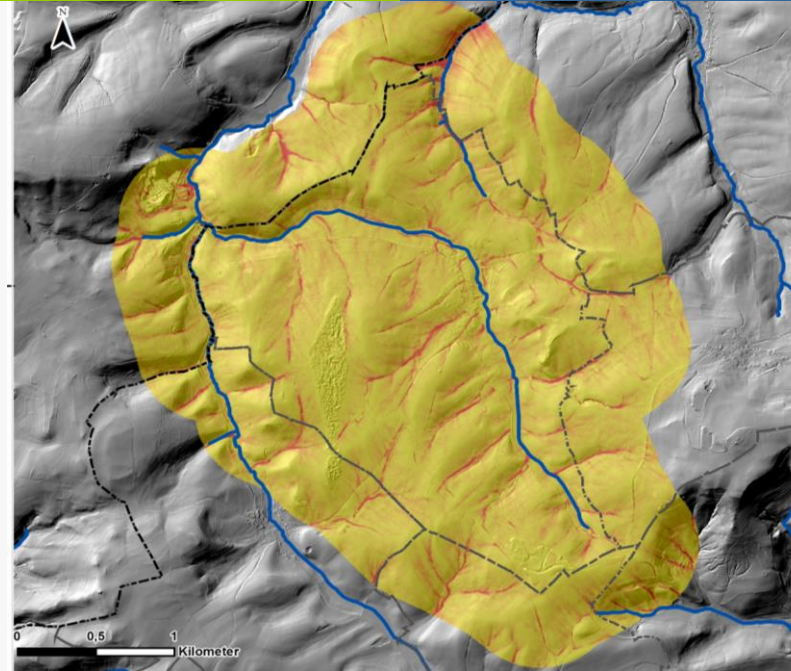
IfaS - Institut für angewandtes Stoffstrommanagement

Operational group

- 3 farmers
- Foundation Nature and Environment RLP (Stiftung Natur und Umwelt RLP - SNU)
- Institute for Agroecology (Institut für Agrarökologie - IfA) AgroScienceRLP GmbH



Environmental Issues: Extreme Climatic Events



Erosionsrinnen in der Gemarkung Bisterschied (VG Rockenhausen, RLP)

Legende
Oberflächenabfluss Value
 High : 67047,8
 Low : 25

— Gewässer
 - - - Grenze Verbandsgemeinde
 - - - Grenze Ortsgemeinde

Projekt: Null-Emissions-Gemeinden
Auftraggeber: Bundesministerium für Bildung und Forschung
Bearbeitung: Wangert (IfaS)
Datum: 09.04.2015
Geodaten: ALKIS-Daten, Erosionsmodellierung AgroScience

ROCKENHAUSEN

Die Sintflut

Binnen Minuten ergießen sich am Samstagnachmittag riesige Wassermassen aus einer Gewitterzelle über dem Moschalt. Überschwemmungen und Matschlawinen verwandeln viele Ortschaften in Notstandsgebiete. Einziges Glück: Es wird niemand verletzt. Ein erster Überblick.

Verbandsgemeinde Rockenhausen (2014)

Die Macht des Wassers in Rockenhausen: Drei Autos wurden übereinander geschoben.

Hochwasser in Braunsbach (2016)

Schleimbach als rollender Fluss in der Gemarkung

An Strohballen geklammert, mit Huhn im Arm

SCHWASSER ANKOMMEN: Die Familie Faugersberg aus Ransweiler - Stallungen wurden mit Tieren vergründelt und renoviertes Erdgeschoss zugrunde.

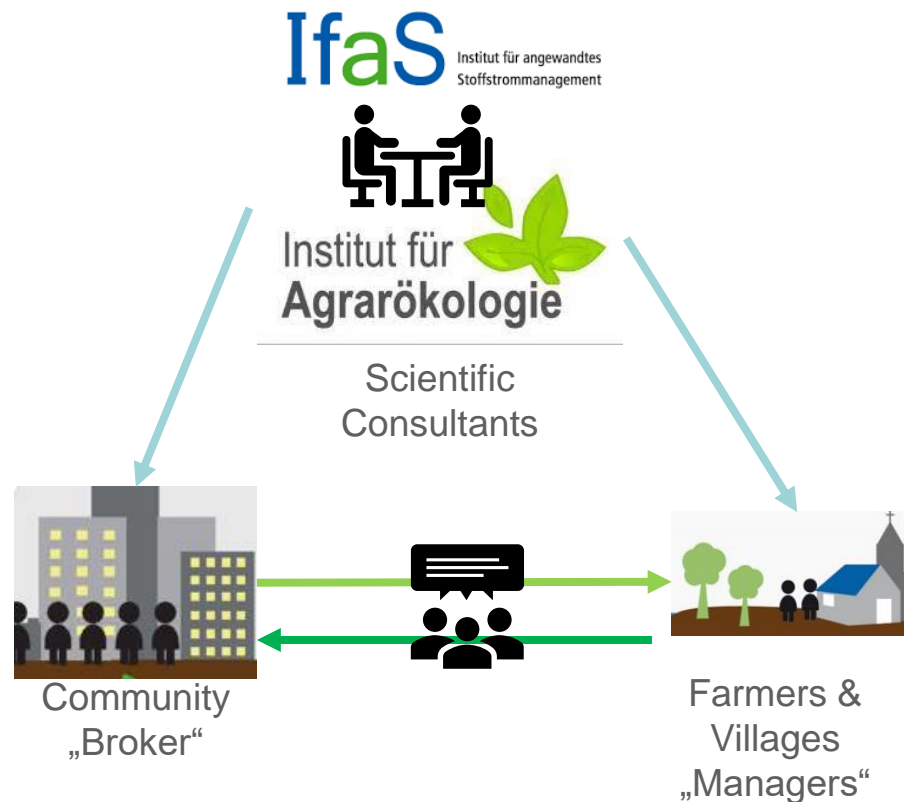
Hagelstürme im Erzgebirge (2016)

Tornado in Büttow (2015)



Local Communities Engagement

- Workshops: Intensive communication with local communities
- Stakeholder analysis, know-how and experience exchange



Multi-use system

Regional energy & added value

Landscape design

Biotope network

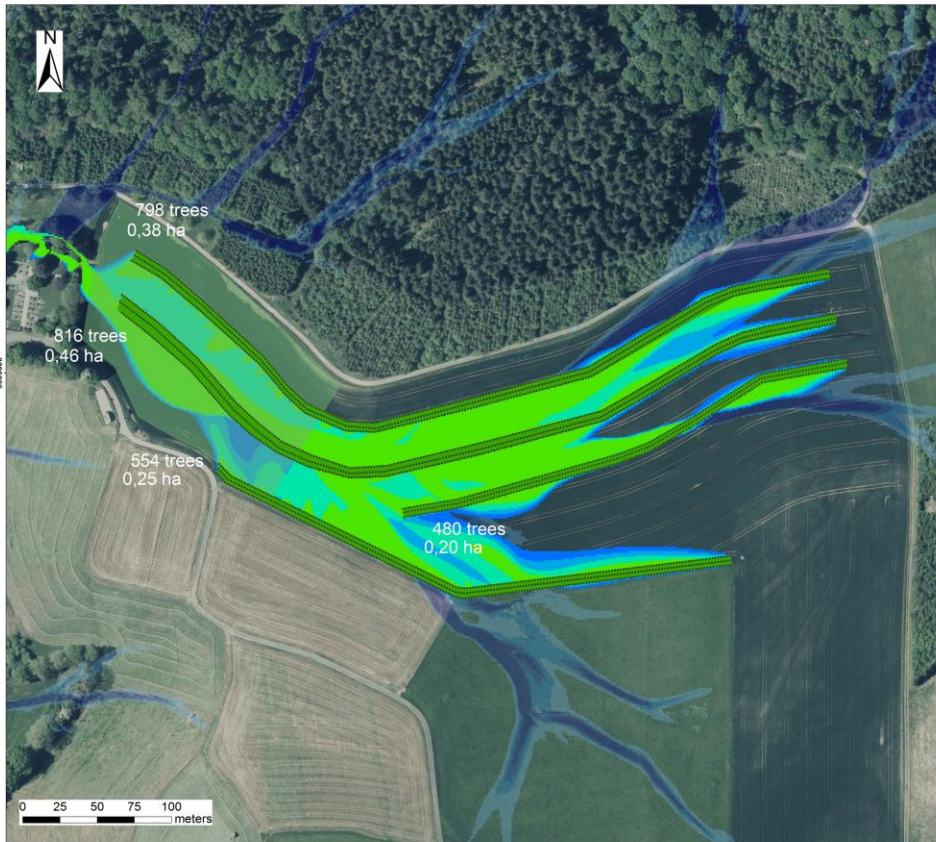
Erosion prevention

Water body protection

Reduced nutrient & pesticide run-off

Carbon sequestration

Nature and Biodiversity



Rockeskyll: Runoff Reduction

BioC143 Landwirtschafmeister
Rene Blum
Bergschänzer
54576 Hillesheim (Niederzettingen)

Legend

- Agroforestry trees
- Agroforestry grass strips
- Wild herb mixture
- Parcel boundaries

Runoff Reduction [%]

- 80-100%
- 60-80%
- 40-60%
- 20-40%
- 0-20%

Project:

MUNTER

EUROPEAN UNION
European Agricultural Fund for Rural Development
European investments for rural areas

This project is funded as part of the development program (ERDF) with assistance of the European Union and the Federal state of Rheinland-Pfalz, supported by the Ministry of Economic Affairs, Agriculture and Viticulture



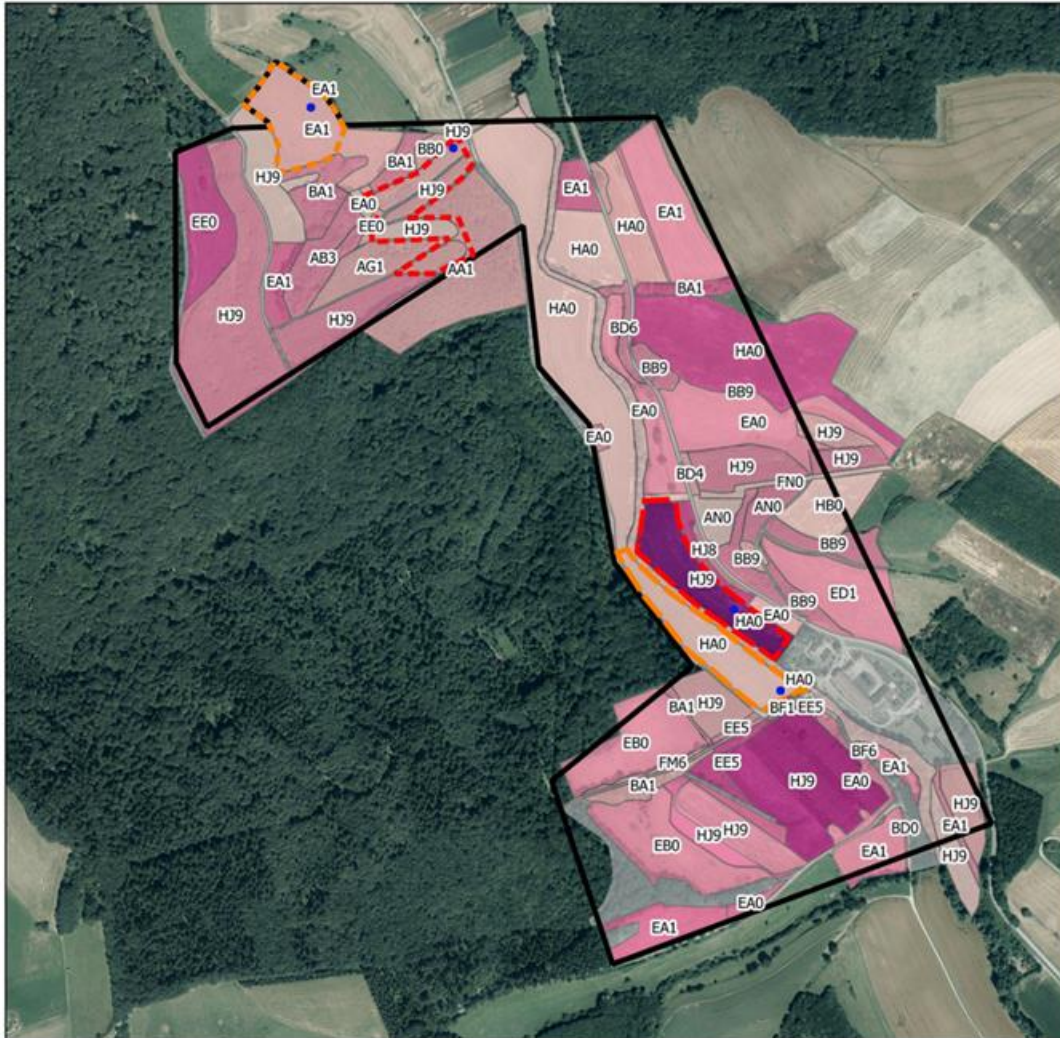
Map Editor:
A. Plogmacher (RLP AgroScience)

Creation Date:
27.12.2017

Geodata:
- Digital Orthophotos (LVerGeo RLP, 2014)
- Parcel boundaries (LVerGeo RLP, 2016)
- Field boundaries (FLORip)



Nature and Biodiversity



Examination rooms

- Investigation area
- Reference area 1
- Reference area 2
- Comparison area 1
- Comparison area 2
- Permanent squares

Number of species

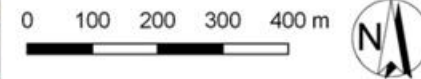
- 0 - 9
- 10 - 19
- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 - 69
- 80 - 88



Investigation area Ingweilerhof

Hochschule Trier, Umwelt-Campus Birkenfeld
IFAS

Bearbeitet: ass	Zeichnung: rsc	Maßstab: 1:8.000	Datum: 25.02.2019
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New Value Chains

■ **Bergfelderhof:** biogas plant and wood fired district heating system supplying a whole village with bioenergy (heat & power): cupplant & agroforestry strips producing substrates for energy supply

■ **Ingweilerhof:** Farmer runs a wood heating supplying his farm and a residential place for elders: integrating a retention space in the riparian buffer zone with the production of energy wood (short rotation coppice with poplar and alder)

■ **Bisterschied:** several villages in the region: development of agroforestry and energy supply concept “wood based bioenergy village”

Biomass – Production & Preparation

- wood from short rotation
- wood from nature conservation
- wood from landscape conservation
- firewood



raw wood material

Biomass yard

- preparation
- storage
- commissioning
- sale
- transport



combustible

Heat supply in a bioenergy village

- heating grid
- heating center
- solar thermal energy

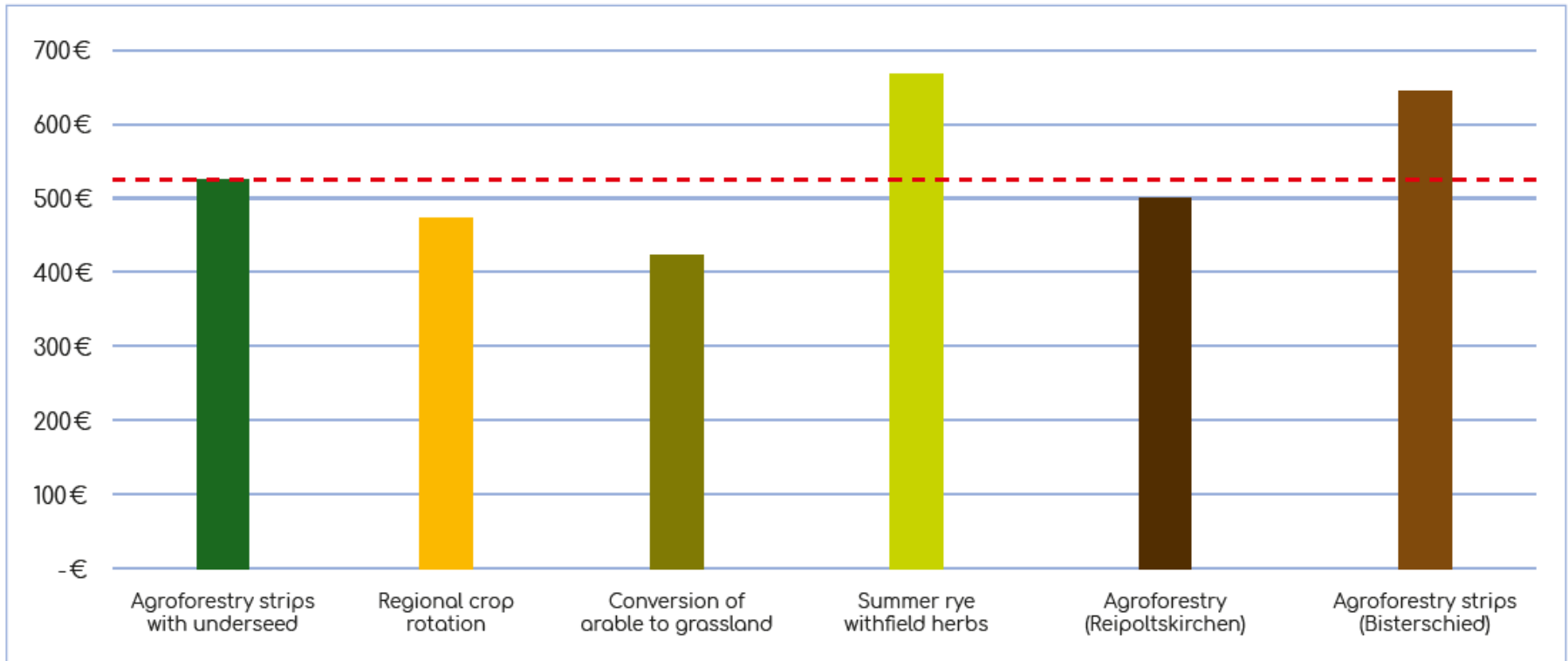


Regional investments for regional added value



Model for Promotion

- Municipality of Bisterschied offers farmers a model for promotion:
 - Municipality pays 17,739.65 €/ha of cultivation costs
 - Municipality pays 7,000.00 €/ha incentive component
 - Municipality receives wood with a current value of 18.653,26 €/ha
 - Farmer receives 7,000.00 €/ha incentive component



Economic comparison of agroforestry systems as erosion control strips compared to the usual regional crop rotation and further uses per year and hectare

Lessons and Recommendations

- Cooperation and exchanges of expertise were essential to add value to the process as there was a lack of communication between the stakeholders and of a vision for an integrated management approaches
- Transferability: the project is transferable wherever heavy rainfalls can have a catastrophic impact on communities
- Similar flood prevention concepts including income diversification opportunities from agroforestry and biomass production are supported also by Ministry of the Environment and by the Ministry of Agriculture of Rhineland-Palatinate



Thanks a lot!



Hochschule Trier / Umwelt Campus Birkenfeld
Institut für angewandtes Stoffstrommanagement - IfaS
Postfach 1380
55761 Birkenfeld

Fon: +049 (0) 6782 17 - 12 21
Fax: +049 (0) 6782 17 - 12 64
E-Mail: ifas@umwelt-campus.de

Internet: www.stoffstrom.org