Agroforestry in pasture and crop systems: Juchowo Village project

Geographical scope: Juchowo, north-west Poland

Organisation name: Stanisław Karłowski Foundation (FSK Juchowo)

Number of participating farmer: centered around the Juchowo Village farming community and its affiliated networks

Total budget: MIXED project
Funding: Horizon 2020

A bit more about the Case Study

Juchowo Village Project is a unique agricultural initiative in Poland, integrating agroforestry within a biodynamic mixed farming system. Covering approximately 2,000 hectares, the farm balances crop and livestock production while enhancing biodiversity through agroforestry practices. The farm follows biodynamic principles, ensuring high levels of feed self-sufficiency (90-100%) and reducing external inputs

By addressing challenges like poor soil fertility and labor shortages, the project fosters resilience through education and innovation. Its focus on sustainable practices, landscape shaping, and training programs makes it a model for resilient farming systems in Poland

Cattle herd of Polish Red

Highlights

- Combines dairy cattle, crop production, and agroforestry on 1,900 hectares under biodynamic farming principles
- Introduced 10 km of tree lines for erosion control, water retention, and habitat creation
- Focuses on education, resilience, and cooperation to improve mixed farming adoption in Poland

Website and project information

https://projects.au.dk/mixed/networks-national-teams/poland/

https://projects.au.dk/mixed/

Key outcomes and insights

Innovative features

The Juchowo Village Project integrates agroforestry, biodynamic farming, and mixed systems with innovations like 10 km of tree lines for erosion control and a tree nursery to reduce costs. It also develops skills through "train the trainer" programs to promote collaboration and resilience in mixed farming

Environmental and socio-economic benefits

The project improves soil fertility, reduces erosion, and boosts biodiversity while shaping landscapes for rural tourism. It fosters self-sufficiency, strengthens community resilience, and provides a model for adopting sustainable mixed farming systems in Poland

Good practices & Lessons learned

Problem 1. Soil fertility and water management on sandy soils
The farm's soil is naturally poor and sandy, further degraded by past cultivation practices, making it challenging to sustain high-yield agriculture without artificial fertilizers

Solution 1. Implement agroforestry practices, such as planting 10 km of tree lines and hedges to protect the soil from water and wind erosion. These measures improve soil quality over time by enhancing organic matter and moisture retention

Problem 2.Lack of skilled labor for mixed farming systems
There is a shortage of workers trained in mixed farming, as most agricultural education focuses on specialized systems

Solution 2. Introduce "train the trainer" programs to educate staff on mixed farming practices. This includes specialized sessions on integrating arable farming, livestock, and agroforestry, ensuring sustainable operations while building local capacity

Problem 3. High costs of tree planting and maintenance
Establishing tree lines and hedges is costly due to purchasing seedlings, irrigation, and maintenance challenges, such as protection from pests and wild animals

Solution 3. Develop an on-site tree nursery to reduce costs and ensure access to well-adapted species. Provide training on proper tree selection and maintenance techniques to ensure long-term ecological and production benefits

Problem 4. Balancing efficiency and resilience in mixed farming
Managing multiple farming activities increases resilience but can reduce operational efficiency due to resource competition

Solution 4. Improved internal communication and scheduling helped optimize labor and resource use, while digital tools are being explored for better coordination

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