

CONSOLE

CONtract SOLutions for Effective and lasting delivery of agri-environmental-climate public goods by EU agriculture and forestry

Research and Innovation action: H2020 - GA 817949

Deliverable D2.1

Catalogue of descriptive factsheets of all European case studies

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3	CONSORZIO DELLA BONIFICA DELLA ROMAGNA OCCIDENTALE	IT
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6	EUROPEAN LANDOWNERS ORGANIZATION	BE
7	ASSOCIATION OF AGRI-ENVIRONMENTAL FARMERS	BG
8	INSTITUTE OF AGRICULTURAL ECONOMICS	BG
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23	SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO	PL
24	UNIVERSITY OF LEEDS	UK

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Review of contents

To ensure the quality and consistency of this deliverable, we implied an internal review and validation process. The deliverable was drafted by the work package leader (BOKU). The co-leader of task 2.1 and 2.2 (UNIBO), as well as all CONSOLE partners reviewed the draft D2.1 document. Also all partners got access to all factsheets. After the factsheets had been put together by the WP leader, contents of own factsheets were checked by the individual partners, as well as validated by experts/stakeholders representing the individual case studies. Finally, the draft version was submitted to the project coordinator, for final review and validation.

Acknowledgments

We thank all CONSOLE partners for carrying out task 2.2 and delivering the qualitative data necessary to compose the factsheets and therefore this deliverable. Moreover, we thank all partners for reviewing the deliverable and supporting us with comments and amendments. Last but not least we thank all external experts and stakeholders for providing time and information and supporting the data collection process.



1 Summary

This document represents deliverable D2.1 “Catalogue of descriptive factsheets of all European case studies” within workpackage WP2 “Diagnostic of existing experiences on agri-environmental-climate public goods (AECPGs)” of the EU Horizon 2020 project CONSOLE.

The document describes the objectives and process of data collection and provides a catalogue of 60 factsheets.

The factsheets illustrate 58 European (EU) case study examples of contract solutions for the improved provision of AECPGs. Also, the catalogue contains 2 examples beyond Europe, of which 1 comes from the USA and 1 from Guadeloupe (FR).

2 Introduction

2.1 Objective

The main objective of this document is to provide a catalogue of implemented contract solutions for the improved delivery of agri-environmental-climate public goods (AECPGs).

To achieve this objective, 4 steps have been taken:

- 1) A protocol for data collection was developed to guarantee a structured and uniform collection of qualitative data in the CONSOLE case studies. The protocol was published in form of milestone MS4 “protocol for data collection ready for use”, and represented a guideline on how to carry out task T2.2 “data collection, selection, and diagnosis of reasons for successes and failures of initiatives in Europe”. Also, the protocol served as guiding information for task 2.3 “Analysis of successful experiences outside Europe”.
- 2) Suitable case studies were selected, considering defined selection criteria.
- 3) Qualitative data was collected according to the protocol in each case study and a light SWOT-analysis was applied for each contract solution.
- 4) Qualitative data was delivered to the WP2 leader in the format of structured case study descriptions and data was converted into factsheets.

2.2 Tasks addressed

Deliverable 2.1 reflects activities carried out in task 2.1 and 2.2 of the project:

Task 2.1 Development of protocol for data collection (M1-M4)

Leader: BOKU; Co-Leader: UNIBO; Contributors: ALL partners

In task 2.1, the foundations for all following WP2 activities have been laid by developing the protocol for data collection on existing contract solution case studies inside and outside Europe. The protocol aimed at guaranteeing the elaboration of a structured and uniformly applied inventory, as well as a

structured analysis of the contract solution case studies. Therefore - in strong collaboration with WP1 Task T1.1 - Task T2.1 developed and implemented a diagnostics guideline, covering a specification of design features and assessment criteria identified in the initial conceptual framework developed in WP1. Task T2.1 was completed by MS4 "Protocol for data collection ready for use".

Task 2.2 Data collection, selection and diagnosis of reasons for successes and failures of initiatives in Europe (M4-M11)

Leader: BOKU; Co-Leader: UNIBO; Contributors: ALL partners

Task T2.2 dealt with data collection and the analysis of a broad number of selected, exemplary contract solution case studies in Europe. The task consisted of two activities, namely the collection of qualitative data on already existing European initiatives by all CONSOLE partners, and the qualitative examination and analysis of the reasons for success and/or failure of these solutions.

Data collection, as well as analysis, was divided into two levels of diagnosis intensity, which have been defined as "first-level analysis" and "second level analysis".

The aim of the first-level analysis was to gather a comprehensive overview of existing and highly potential, innovative contract solutions throughout Europe, to describe them and apply a diagnosis of reasons for success and/or failure. The outcome of the first-level analysis was an "inventory" of uniform and structured factsheets on existing contract solutions in form of the Deliverable 2.1 "Catalogue of descriptive factsheets of all European case studies" at hand.

The first-level analysis has been complemented by a second-level analysis with an in-depth assessment of which framework conditions and contract specifications are necessary to better fulfil environmental objectives and efficiently address and contribute to the different types of performance such as longevity, acceptance, effectiveness, etc. In-depth assessment was conducted for a reduced number of case studies (up to 26), being subject of another deliverable, namely D2.3. "Report on European in-depth case studies".

2.3 Outline

Deliverable D2.1 consists of two parts, namely the descriptive part and the catalogue of 60 factsheets.

In the *descriptive part*, we present the protocol for data collection (Chapter 3) and the most relevant criteria for the selection of case studies (Chapter 4). We further outline the implementation of data collection by applying the protocol for data collection (Chapter 5), and present an overview on the contents and structure of the presented EU factsheets (Chapter 6). Last but not least, we give an outlook on the further use of this deliverable for scientific analyses and

practice, namely follow-up CONSOLE activities involving stakeholders and practitioners (Chapter 7).

The *catalogue of factsheets* (Chapter 8) presents all 60 factsheets derived from the first-level analysis in alphabetical order of the partner countries.

3 Protocol for data collection

The protocol for data collection (MS4) outlined the practical implementation of the first- and second-level data collection. For Deliverable D2.1 at hand, only the protocol's specifications for the first-level data collection is relevant.

To implement first-level data collection, the protocol provided a questionnaire, the means for data collection, as well as the reporting infrastructure.

Questionnaire for first-level analysis:

The questionnaire for the first-level diagnosis consisted of two subparts.

The first subpart "description" included 33 questions, focussing on the description of the contract solution case studies (such as context situation, AECPG situation, contract features, contract implementation, payment mechanisms, etc.) (Eichhorn et al. 2019¹).

The second subpart "estimation of success" asked for a simplified SWOT-analysis, and in particular for a description of the reasons for success and failure of the contract solution case study.

The questionnaire for first-level analysis had to be answered for all CONSOLE case studies through an online lime survey prepared by BOKU. The CONSOLE case study factsheets are based on the answers collected to the first-level questionnaire (part A).

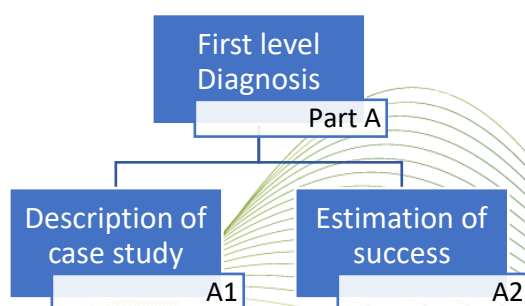


Figure 1: Structure of the questionnaire - Part A

Means of data collection:

The protocol also outlined the means for data collection: For the first-level analysis, the partners performing the data collection were rather free in the choice of means. Because the cases, but also the available data basis could be

¹ Eichhorn, T., Kantelhardt, J., Schaller, L. (2019) Guidelines for the basic description of contract solutions which aim at the delivery of agri-environmental-climate public goods by agriculture and forestry (CONSOLE Project (No. 817949): Brussels, 2020). Available at <https://console-project.eu/resources/>

very different, partners were free to collect data via literature review, expert consultation (individual interviews, small workshops) and/or the use of other local sources related to the contract solution/case study.

Reporting of results:

For the reporting of results, the questionnaire had been programmed in form of a lime survey², which has been filled out by the partners individually for each contract solution case study. In this way, data was directly transferred to the WP2 leader who transferred the gathered information into factsheets.

4 Selection of case studies

In principle, CONSOLE case studies are examples of existing³, innovative⁴ and effective⁵ contract solutions aimed at improving the provision of AECPGs. However, for the purposes of covering failures, CONSOLE case studies can also represent real life proposals of contract solutions that for some reasons have never arrived at the stage of generating impact, but that can provide relevant insights (e.g. measures that opened calls without participation, contract proposals with no uptake, measures proved impossible due to regulatory constraints at EU level, etc.)

Morover, a CONSOLE case study is a case of real implementation of a specific contract "type". In accordance with the CONSOLE deliverable D1.1. contract solutions suited to be a case study in CONSOLE are:

1. land tenure-based: tenure-related prescriptions, e.g. environmental clauses in tenure contracts
2. result-based/result-oriented (synonym: output-based/output oriented): contracts specifying a result (e.g. the delivery of a specific AECPG serves as reference parameter for payment)
3. collective implementation/cooperation: formalised cooperation among farmers/actors in view of delivering AECPGs
4. value chain-based: delivery of AECPGs in connection with private goods provision, e.g. contracts between value chain partners for the delivery of AECPGs connected to product specificities

Also contract solutions representing combinations or hybrids of these contract "types" are suited to be case studies in CONSOLE. Practice- or action-based contracts, today's dominating approach, have been excluded on purpose. Still there are some contract solution case studies that contain practice-based elements, for example where the payments are (partly) based on management prescriptions.

² LimeSurvey (formerly PHPSurveyor) is a free and open source on-line statistical survey web app, which enables users using a web interface to develop and publish on-line surveys, collect responses, create statistics, and export the resulting data to other applications. (www.limesurvey.org)

³ existing: implemented

⁴ innovative: new, promising, highly potential approaches, as well as 'old' approaches implemented in a new context, region, new place, etc.

⁵ effective: reaching the objectives

Besides representing real cases of contract types emphasised by CONSOLE, additional requirements have been considered:

The CONSOLE cases studies cover:

- different types of contract partnerships / contracting parties (public - private, private – private, civil society – private, public – private – civil society, ...);
- different AECPGs (biodiversity, soil conservation, agricultural landscapes, climate, ...);
- different conditions of land ownership;
- different types of agriculture (grassland, permanent crops, arable land, etc.);
- different types of forestry (continuous cover forestry, drained peatlands, etc.);
- different geographical locations;
- different types of interplay between different public goods (single, multiple, combined in landscape);
- different aspects of the interplay between private and public goods: jointness, independence, competition for resources.

5 Data collection

Data collection was carried out by 16 CONSOLE partners. For each country a number of four first-level case studies was envisaged. This number was reached in all countries, and some countries delivered even up to six cases.

In total, data for 58 first-level case studies was collected in 13 European countries. Moreover, data was collected for 2 case studies in non-European countries - still following the protocol for data collection. These 2 additional non-European cases have been included into the collection of factsheets because 1.) specific information was available so factsheets could be designed, 2.) the number of forest examples could be increased by including non-European examples, and 3.) those cases were specifically interesting cases for a potential implementation in Europe (EU).

Throughout the whole T2.2 data collection process, more than 70 experts and stakeholders were consulted.

6 Contents and structure of diagnostic case studies' factsheets

The factsheets prepared on basis of the data collection consist of 4 main clusters of information (case study description, contract information/data and facts, context features, Analysis of success), including 12 main content elements, which are detailed below:

Case study description:

- The case study in a nutshell
- Summary of the case study
- (Environmental) objectives and initial situation
- Problem description/statement

Contract information/Data and facts:

- Contract type(s)
- Public goods addressed (AECPGs and further)
- Data and facts on the contract solution (including e.g. participation, management requirements, controls/monitoring, conditions of participation, risks/ uncertainties, funding/payments)

Context information:

- Location
- landscape and climate
- farm structure/system

Assessment of success factors:

- Reasons for success and failure
- SWOT analysis, bullet points for strengths, weaknesses, opportunities and threats

6.1 Information at a glance

In order to enable a quick overview of the contents of the contract solution, the factsheets contain the following elements:

Heading

The name of the case study, often derived from national language, allows a clear identification of each case study.

Contract solution in a nutshell

Each factsheet starts with a very short paragraph, informing the reader on the main aspects of the case study and the contract solution presented.

Infoboxes

The factsheets contain infoboxes placed along the page margins. These infoboxes enable a fast understanding of the contract type(s) as well as the features it is based on, the public goods addressed, and some main information about payment mechanisms, contract conclusion, start, end and length of the program/initiative/project presented as case study. Depending on the individual case study, the infoboxes might include additional information.

The four main **contract types** emphasised in CONSOLE are displayed in the infobox on the first page using the symbols shown in Figure 2. It has to be highlighted, that single symbols are used for case studies clearly representing one contract type. Multiple symbols are used if the contract types show features belonging to more than one type (e.g. a result-based contract solution combined with a collective approach of implementation would display the symbol for result-based as well as collective). Also, the contract type symbols are used even if the contract solution described in the case study does not fully qualify for it – or is not (yet) implemented, but has – or will have – features strongly directed towards one contract type (e.g. a strongly result-oriented solution where farmers monitor biodiversity, but payments are still granted per area).

Result-based/ Result-oriented	Collective/ Cooperative	Value chain	Land tenure

Figure 2: CONSOLE symbols of contract types

Also, the fourteen **AECPGs** addressed in CONSOLE are displayed using symbols (see Figure 3). Normally, AECPGs displayed in the infoboxes are those directly addressed by the contract solution. However it is clear, that contracts solutions for the improvement of one specific AECPG can have impacts of the provision of another. Particularly when these effects are strong or obvious, also indirectly addressed AECPGs might be displayed in the infoboxes.

	Landscape and scenery		Rural viability and vitality
	Recreational access / Improvements to physical and mental health		Cultural heritage
	(Farmland) biodiversity		Quality and security of products
	Air quality		Farm animal health and welfare
	Soil quality (and health)		Water quality
	Climate regulation- carbon storage		Water quantity (e.g. water retention)
	Resilience to natural hazards		Climate regulation- greenhouse gas emissions

Figure 3: CONSOLE symbols of AECPGs

6.2 Description of contract solution case study

The factsheets aim at giving short but precise descriptions of the contract solution case study, as well as information on its design and effects. To this aim, the following content elements are covered:

Summary (of contract solution)

The summary includes the main case study features and describes aspects such as which public goods are addressed, which parties are involved, which payment mechanisms are applied, and which region/ares/agricultural system/forestry system is covered. As such, the summary provides the reader with an overview of the contract solution and hints to its innovative elements.

(Environmental) objectives

The factsheets display specific environmental objectives and the AECPG(s) targeted by the contract solution in a textbox usually placed in the middle of the first page. In most cases the objectives are presented as bullet points.

Problem description

The problem description outlines the basic conditions/problems/issues that led to the implementation of the contract solution, considering the state/history of the agricultural/forestry system as well as that of the environmental conditions. In doing so, the problem description indicates the driving forces behind the development and establishment of the contract solution.

6.3 Contract information/Data and facts

A major part of the factsheets is devoted to giving insights on how the contract solution actually works. Information is given on:

- Participation: Informs on who are the participants implementing the contracts solution (e.g. farms/foresters/contractees), what is the number of participants, what is the geographic expansion/area of implementation.
- Involved parties: Informs on the parties involved in the conclusion of the contract and the benefits they derive from the contract solution.
- Management requirements: Informs on the land use requirements along with the implementation of the contract solution, such as specific techniques or measures to achieve environmental objectives, etc.
- Controls/monitoring: Informs on the implementation of monitoring and controls.
- Contract conclusion: Informs on the way the contract is technically concluded, such as written agreements, verbal agreements, etc.
- Conditions of participation: Informs on specific conditions to be fulfilled to be able to enter the contract solution.
- Payment mechanism: Informs on the type of payment and/or payment mechanism (e.g. auctions, tradable emissions certifications, incentive payments, product prices, etc.).
- Funding/payments: Informs on the system of payments, origin of funding, payment modalities, etc.

- Risks/uncertainties for the participants: Informs about potential risks arising for the contractee when implementing the contract solutions (e.g. price risks, delivery quantity, investments, husbandry risks, risk of not reaching objectives).
- Duration of contract: Informs on duration of single contracts, as well as on the overall length the contract solution existed or is foreseen to exist.

6.4 Context information

The descriptive part of the factsheets ends with a description of the context and basic conditions, under which the contract solution is implemented. Main aspects addressed are natural conditions of a country/a region like landscape and climate, as well as the farm/forestry systems targeted by the contract solution:

- Landscape and climate: Informs on landscape and the climate of the region where the contract solution is implemented including a description of specific scenic and ecological characteristics (habitat, landscape elements).
- Farm/forestry system targeted: Informs on the farming system and/or type of farming/forestry, which is targeted by the contract solution. Descriptions may include information on agricultural/forestry practices such as management form, average farm/forest size, share of organic farms, intensity of farming/forestry (e.g. frequency of cutting), shares of landuse, ownership structure, full-time/part-time farmers/foresters).

6.5 Assessment of success factors

All factsheets end with a final page containing an assessment of the success (and failure) factors of the contract solution case study presented. The focus is put on the effectiveness of the contract solution in reaching the (environmental) objectives targeted. Thereby, the contract solutions can be classified as "successful", "failure" and "unclassifiable".

Definition "successful": In CONSOLE the term "success" is directly related to the term "effectiveness". A contract solution is successful, if the case is "environmentally effective", which means it reports improvement of the AECPG's (in the best case, long-term improvements). Moreover, if AECPG's improvements are not foreseeable yet (e.g. due to short running time of the program etc.), also successful implementation could be an indicator. Matzdorf et al. 2014 defines successful PES as follow: "A successful PES would achieve a clearly defined environmental objective effectively and efficiently".

Definition "failure": If the case reported a clear failure in environmental improvements or even deteriorations (based on Cox et al. 2010)

Definition "unclassifiable": The contract solution can neither be called as a success or as a failure. For example, situations where for one reason or another the participation is much lower than the potential, or for example situations where there are trade-offs between various public goods, or where the case is ongoing and results are not yet reported / available.

Moreover, the assessment includes an identification and description of the main reasons for either failure or success.

Finally, this section is concluded by an analysis of strengths, weaknesses, objectives and threats of the case study, displayed in an easy-to-read textbox format.

7 Outlook on further use of the factsheets for scientific analyses and for practice

7.1 Further scientific exploitation

Deliverable D2.1 provides the basis for elaborating one main element of the final version of the end-users-led contractual framework, namely “a catalogue showcasing existing successful experiences and good practices in AECPGs contracting based on the case studies developed in WP2 and presented in a usable form as examples for practitioners including hints for replication”

Moreover, deliverable 2.1 is a key input for all further analyses of WP2. First and foremost information and data collected in the factsheets will be analysed in order to derive lessons learned in task 2.5. The particular aims of further scientific exploitation are:

- Together with the results of the second-level analysis, the factsheets are the basis to analyse the case-studies as regards their main characteristics such as contract types, features, payment mechanisms, contract partnerships, participants and other involved parties, conditions of participation, management requirements, etc.
- Analysis of the relations between types of contract solutions/contract features/combinations of features and the AECPGs targeted to be improved.
- Identification of entry doors for the clustering of cases such as AECPGs addressed, land use system addressed, problem addressed, contract types, etc.
- Analysis and interpretation of the results of the assessment of success, the reasons of success and failure as well as the description of strengths, weaknesses, opportunities and threats.

The results of the scientific analyses from deliverable D2.1 will directly support WP3 in providing a basis for the development of the surveys of tasks T3.2 and T3.3.

7.2 Use of the factsheets for practitioners

Agricultural and forest management has a strong influence on the provision of agri-environmental-climate public goods (AECPG). Support provided under Europe's Common Agricultural Policy (CAP) for more environment-friendly approaches in agriculture (but also for forestry) is increasingly discussed, as current agri-environmental measures are often unsatisfactory in terms of longevity, effectiveness and efficiency, and the deterioration of ecosystem

services and public good provision in Europe is ongoing (Peer et al., 2019⁶). Reacting on strong societal pressures, under the premise of the legislative proposal for the next CAP programming period and the recently published European Green Deal, it is therefore foreseen to pursue the path towards the provision of public goods in rural areas far stronger. Improvements may come from a flexible mix of promising new contract types, such as results-based payments or collective approaches, as well as by novel value chain strategies and land tenure contracts with environmental clauses.

The catalogue of factsheet presented below sheds light on the “hidden” knowledge about such innovative contract solutions from local experience in the EU and beyond. The factsheets can therefore provide practitioners as well as programmers with an easy-to-read / uniformly structured overview of a broad range of promising and innovative contract solutions for the effective and lasting delivery of AECPG by agriculture and forestry. It can serve as inspiration and knowledge basis for the derivation of new ideas to develop and improve future contract solutions to foster the provision of AECPGs by agriculture and forestry in the European Union and beyond.

7.3 Dissemination

Operationally, Deliverable D2.1 and the fact sheet material will support task 1.2 and 1.3 towards the development of the operational framework to be developed in the CONSOLE project and tested with practitioners; the factsheets themselves will be included in the materials available through the framework. The collection of factsheets will further be distributed, among others, through the community of practice activated in WP5 and the dissemination and communication activities in WP6.

⁶ Pe'er, G., Zingrebe, Y., Moreira, F., Sirami, C., Schindler, S., Müller, R., ... Lakner, S. (2019). A greener 439 path for the EU Common Agricultural Policy. *Science*, 365(6452), 449-451. doi: 440 <https://doi.org/10.1126/science.aax3146>.

8 Factsheets in alphabetic order of the partner countries

Table 1: Overview on CONSOLE diagnostic case studies

Page	Country	ID	Title	Contract type*	Contact (scientific)	Email
1	AT	AT1	ALMO - alpine oxen meat from Austria	VC		
4	AT	AT2	Biodiversity monitoring	RB	BOKU:	
7	AT	AT3	Result-based Nature conservation Plan (RNP)	RB	Lena Schaller; Theresa Eichhorn	lena.schaller@boku.ac.at theresa.eichhorn@boku.ac.at
11	AT	AT4	The Humus Program of the Ökoregion Kaindorf	RB		
15	BE	BE1	Participation of private landowners to the ecological restoration of the Pond area Midden-Limburg through a close participation of private and public landowners and a triple E-approach in the 3watEr project.	CO/RB	ELO:	
19	BE	BE2	FLANDERS – Flemish Forest Group	CO	Flora Amery, Alice Budniok	flora.amery@elo.org; legal@elo.org;
22	BE	BE3	Wildlife Estates Label in Flanders	RB/CO	Landelijk Vlaanderen:	
26	BE	BE4	Flemish Nature Management Plan	RB+	Alec van Havre	alec.van.havre@landelijkvlaanderen.be
30	BG	BG1	"Conservation of grasslands and meadows of high natural value through support for local livelihoods"	OT		
33	BG	BG2	"Organic honey from Stara Planina mountain sites"	VC	IAE:	
36	BG	BG3	"The Wild Farm" organic farmers.	VC	Dimitre Nikolov;	dnik_sp@yahoo.com;
39	BG	BG4	"Conservation and restoration of grasslands in Strandzha and Sakra mountains for restoring local biodiversity and endangered bird species"	LT	Kristina Todorova	christalina22@gmail.com
42	DE	DE1	Viticulture on steep slopes creates diversity in the Moselle valley (Steillagenweinbau schafft Vielfalt – Das Moselprojekt)	RB +		
45	DE	DE2	Organic farming for biodiversity (Landwirtschaft für Artenvielfalt)	RB +		
48	DE	DE3	Collaboration for sustainability between institutional land owners and tenants farmers (Greifswalder Agrarinitiative)	LT	TI:	
51	DE	DE4	Agro-ecological transition pathways in arable farming	RB +	Tania Runge (all); Gerald Schwarz (DE4)	tania.runge@thuenen.degerald.schwarz@thuenen.de
54	DE	DE5	Water protection bread (Wasserschutzbrot)	VC		
57	DE	DE6	Forest conversion from coniferous to deciduous stands - an eco-account case	CO		
60	ES	ES1	Cooperative rice production in coastal wetlands in Southern Spain	VC		
64	ES	ES2	Organic wine in Rueda, Spain (Rueda)	VC	UPM: Ana Iglesias	ana.iglesias@upm.es
67	ES	ES3	Beneficial practices monitoring in Olive crops in the framework of the new eco-schemes	OT	EVENOR: Francisco Jose Blanco Velazquez;	fj.blanco@evenor-tech.com;
70	ES	ES4	Integrated production in olive groves	VC	ASAJA: José-Fernando Robles del Salto	josefernando.robles@asajasevilla.es
73	FI	FI1**	Forest Bank (a forest conservation program in Indiana and Virginia, US)	LT	LUKE:	
77	FI	FI2	Protected areas of private forests as tourism destination in Kuusamo	RB +	Mikko Kurttila; Katri Hamunen; Harri Hanninen; Jussi Leppänen; Olli Tarvainen; Esa-Jussi Viitala	mikko.kurttila@luke.fi; katri.hamunen@luke.fi; harri.hanninen@luke.fi; jussi.leppanen@luke.fi; oili.tarvainen@luke.fi; esa-jussi.viitala@luke.fi
81	FI	FI3	Carbon Market (Hiilipörssi) – a marketplace for the restoration of ditched peatlands	VC +		
85	FI	FI4	Pasture bank - a platform for pasture leasing	LT		
88	FI	FI5	Green jointly owned forest - TUOHI	LT+		
92	FI	FI6	Nature value bargaining (Luonnonarvokauppa)	RB		
95	FR	FR1	Eco-grazing - Grazing for ecological grasslands maintenance in the green areas of Brest Metropole	LT		
99	FR	FR2	Terres de Sources - Public food order in Brittany, France	RB +	INRA: Pierre Dupraz;	alice.issanchou@inrae.fr;
103	FR	FR3**	Esprit Parc National - Food and services in the national park of Guadeloupe	VC	Alice Issanchou	pierre.dupraz@inrae.fr
107	FR	FR4	ECO-METHANE – Rewarding dairy farmers for low GHG emissions in France	RB		
111	FR	FR5	HAMSTER – Collective AECM to restore habitats of the European Hamster in Alsace	CO/RB		
115	IRL	IRL1	BurrenLife Project	RB +		
119	IRL	IRL2	RBAPS - The Results-based Agri-Environment Payment Scheme (RBAPS) Pilot in Ireland	RB	UCC: Thia Hennessy;	thia.hennessy@ucc.ie;
123	IRL	IRL3	BRIDE - Biodiversity Regeneration in a Dairying Environment	RB +	Noreen Byrne; Olive McCarthy	N.Byrne@ucc.ie; o.mccarthy@ucc.ie
127	IRL	IRL4	Carbery Greener Dairy Farms™ CGDF	OT		
131	IT	IT1	Incentives for collective reservoirs	CO	UNIBO: Davide Viaggi;	matteo.zavalloni@unibo.it;
133	IT	IT3	Rewilding of detention basin in Massa Lombarda	LT	Meri Raggi, Matteo Zavalloni	davide.viaggi@unibo.it; meri.raggi@unibo.it
135	IT	IT4	"Carta del Mulino" – Barilla	VC		
137	IT	IT2	Cooperation in Natura 2000 area benefiting biodiversity (Measure 16.5)	CO	RER: Lucio Botarelli; Gianfranco de Geronimo	Lucio.Botarelli@Regione.Emilia-Romagna.it; Gianfranco.DeGeronimo@regione.emilia-romagna.it
139	IT	IT5	Farmers as Custodian of a Territory	RB	UNIFI: Fabio Bartolini;	fabio.bartolini@unipi.it;
143	IT	IT6	TERRITORIAL INTEGRATED PROJECTS - (PIT) /territorial agreement	CO	Daniele Vergamini; Matteo Olivieri; Maria Andreoli	daniele.vergamini@agr.unipi.it; matteo.olivieri@phd.unipi.it; maria.andreoli@unipi.it
147	LV	LV1	NUTRINFLOW	CO		
151	LV	LV2	DVIETE LIFE	OT		
155	LV	LV3	Bauska Nature Park	RB +	ZSA: Inga Berzina	inga@zemniekusaeima.lv
158	LV	LV4	Forest Management	OT		
162	NL	NL1	Kromme Rijn Collective management	CO		
166	NL	NL2	Green Deal Dutch Soy	VC	VU: Nynke Schulp	nynke.schulp@vu.nl
169	NL	NL3	Biodiversity monitor for dairy farming	RB +	WNF: Anne de Valença;	avalenca@wwf.nl;
174	NL	NL4	Biodiversity monitor for arable farming	RB +	Jacomijn Pluimers	jpluimers@wwf.nl
178	PL	PL1	Natural Grazing in Podkarpackie Region	CO/LT		
182	PL	PL2	Program "Sheep Plus" - Provincial Program of Economic Activation and Preservation of the Cultural Heritage of the Beskids and Kraków-Częstochowa Upland	CO/LT	SGGW:	
186	PL	PL3	Program "Flowering meadows" - contracts for protection of biodiversity and water resources by regular mowing of meadow	VC	Edward Majewski; Agata Malak-Rawlikowska	edward_majewski@sggw.edu.pl agata_malak_rawlikowska@sggw.edu.pl
189	PL	PL4	BioBabalscy - Organic Pasta Chain Preserving Old Varieties of Cereals	VC		
193	UK	UK1	Delivering multiple environmental benefits in the South Pennines	CO		
196	UK	UK2	Using natural flood management to achieve multiple environmental benefits in Wharfedale	CO	UoL:	
199	UK	UK3	Building natural flood management knowledge and capacity in Wensleydale	CO	Emmanouil Tyllianakis;	E.Tyllianakis@leeds.ac.uk;
202	UK	UK4	Natural Flood Management in the River Swale catchment in Yorkshire	CO	Poppy Leeder; Duncan Fyfe	P.Leeder@leeds.ac.uk; D.Fyfe@leeds.ac.uk
205	UK	UK5	Environmental improvement across a whole catchment: Esk Valley	CO		

* RB: Result based; CO: Collective implementation; VC: Value chain; LT: Land tenure ** Example outside Europe

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ALMO – alpine oxen meat from Austria

Under the ALMO brand, a meat processing company, a foundation for animal welfare, and 400 farmers, organised in an association and managing alpine pastures around the Austrian Teichalm and Sommeralm, work together to produce and market alpine oxen with higher animal welfare standards.



Summary

With the ALMO-initiative a value chain contract solution has been introduced to secure the economic viability of the farms in the “Almenland nature park”, and to preserve landscape and scenery of the Almenland region: In 1988, 45 oxen farmers joined forces to establish a brand and produce high quality alpine oxen meat with higher animal welfare standards. The initial number of 45 farmers increased to about 400 farmers in the last 30 years, organised in the association ALMO. At the beginning, oxen meat was marketed by small butcheries. 2001 a strong expansion took place as the meat processing company “Schirnhöfer” joined the ALMO-program. The animal protection association “VIER PFOTEN” developed additional animal welfare criteria to guarantee high animal health and welfare standards on the farms. Since 2014, farms can be certified based on these criteria. The farmers get fixed prices for the oxen, which are on average 23% higher than the market price. ALMO products are sold using diverse points of sales, including some large companies of the Austrian food chain. Additionally, the meat production company sells the meat products via an online store.

Objectives

1. Marketing of oxen meat from alpine pastures in Austria
2. Preservation of alpine/mountain pastures by grazing.
3. Secure economic viability of the farmers in the Almenland region.
4. Secure high animal health and welfare standards in oxen meat production.



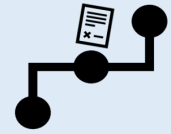
Data and Facts - Contract

Participation: Now, about 400 farmers take part in the ALMO-initiative, producing about 4000 alpine oxen per year (about 10 per farm). The area involved in the ALMO-program is the “Almenland nature park”, covering 253 km².

Involved parties:

- **Farmers:** The farmers are organized in an association (ALMO-Verein) founded 1988. The association consists of 500 members (mostly farmers).
- **Meat processor:** The living oxen are delivered to the meat processor Schirnhöfer, which organises the slaughtering of the oxen and the processing and selling of meat under the brand ALMO. A part of ALMO-meat is also sold directly to the gastronomy. Since 2016 the delivery of the gastronomy is conducted through the company “Kröswang”.
- **Animal welfare organization:** The animal welfare organization “VIER PFOTEN” exists since 2003. Since 2014, ALMO-farms can be certified according to the animal-protection-criteria developed by "VIER PFOTEN" together with the University of Natural Resources and Life Sciences Vienna.
- **Citizens:** The ALMO-brand is an economic factor for the whole region. It also influences the tourism sector; Because of ALMO, the region is a declared culinary region “Genussregion”. In the end the ALMO ox reaches the consumer in form of high quality meat.

VALUE CHAIN



farmer – slaughterhouse –
meat processing –
distributor - store –
consumer

PUBLIC GOODS



Farm animal health and
welfare



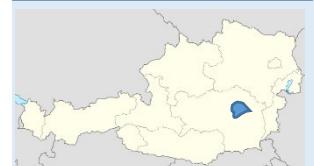
Landscape and scenery



Rural viability and vitality

LOCATION

AUSTRIA



The region "Steirisches Almenland" is located about 40 km northeast of the federal capital Graz in the district Weiz. It comprises the Teichalm-Sommeralm area. It is the largest contiguous alpine pasture area in Europe.

CONTRACT

ALMO involves a market sector oriented contract type between farmer and meat processor.

Contract conclusion:
Written agreement



Payment mechanism:
Payment for product – more money than for equal products – fixed price.



Funding/Payments:
Schirnhofen company pays farmers for the selling of living oxen. About 23% higher than market price.

Length of participation in scheme:

Some farms participate since 30 years, some farms are new in the program.



Start of the program:
1988

End:
still running

Alpine oxen?

- Castrated male cattle
- 26 months old
- 750 kg living weight
- Value of about €2.000
- Higher meat quality, because of feed and way of husbandry

Management requirements for farmers: The ALMO-program requires certain husbandry conditions. During the summer months (May – September) daily grazing of the oxen on an alp or pasture in the mountain area is obligatory. In total, the oxen must be grazing on Alpine pastures for at least 150 days per year.

During winter, tethering of oxen and fully slatted floors are prohibited, also more space than in conventional husbandry must be provided. Since December 2006, feedstocks have to be GMO-free. Feeding mainly includes grassland, pasture grass, grass silage, hay (min. 75% grass in the annual ration). Energy supplementation is possible especially in the final fattening (grain meal). The castration of the oxen is necessary, but a 3-fold pain elimination is required (sedation, local anaesthesia and post-operative pain treatment with NSAIDs). The same requirements need to be met for dehorning.

Controls/monitoring: The ALMO – farms get controlled and certified by agroVet GmbH.

Each farm is checked at least once a year. Costs of inspection are borne by the meat processor.

The following points are checked:

- alpine pasture and pasture management, stables, space
- animal health, treatment
- feeding, GMO-free
- assessment of animal welfare on the basis of animal-related parameters (Welfare Quality)



Problem description

Due to the rapidly increasing motorization in agriculture, the ox has long since been replaced as a draft animal. The domestic demand for ox meat was not significant, so the only way out was to export the Alpine oxen via trading companies with subsidies, in some cases as far as North Africa. In 1988 the idea of founding a brand was born. The ox farmers wanted to produce quality oxen on their alpine pastures for the Austrian market.

Context features

Landscape and climate: The “Almenland Nature Park” is the largest contiguous alpine pasture area in Europe, with 125 alpine meadows and pastures. The alpine meadows are located up to 1500 m above sea level and registered in the alpine pasture register. The area is characterized by flat slopes, lush alpine pastures and numerous spring streams. The special cultural landscape was formed by centuries of alpine pasture management, which largely prevented the overgrowth of bushes and forests. The 12 municipalities located in the area have formed the Leader region “Almenland”.

The macroclimate is mainly influenced by continental climate, especially in the south of the Eastern Alps. The winters are cold and the summer is moderately warm. Precipitation is high. Nevertheless, there are many microclimates and different soil conditions in the Almenland with various plant communities at different altitudes. These plants serve as the feeding basis for the oxen.

Farm structure: The cultural landscape and the sustainable, extensive farming provided a good basis for a long tradition in tourism. 17,7% of the population is working in the agriculture and forestry sector. 10 Percent of the oxen farms are organic. ALMO-farms on average keep 20 oxen, 9 to 10 are slaughtered every year. The average agricultural area is 17 hectares per farm, of which 15 hectares are grassland. All member farms are registered in the National Register of Mountain Farms. Many farmers work on a part-time basis.

SUCCESS OR FAILURE?

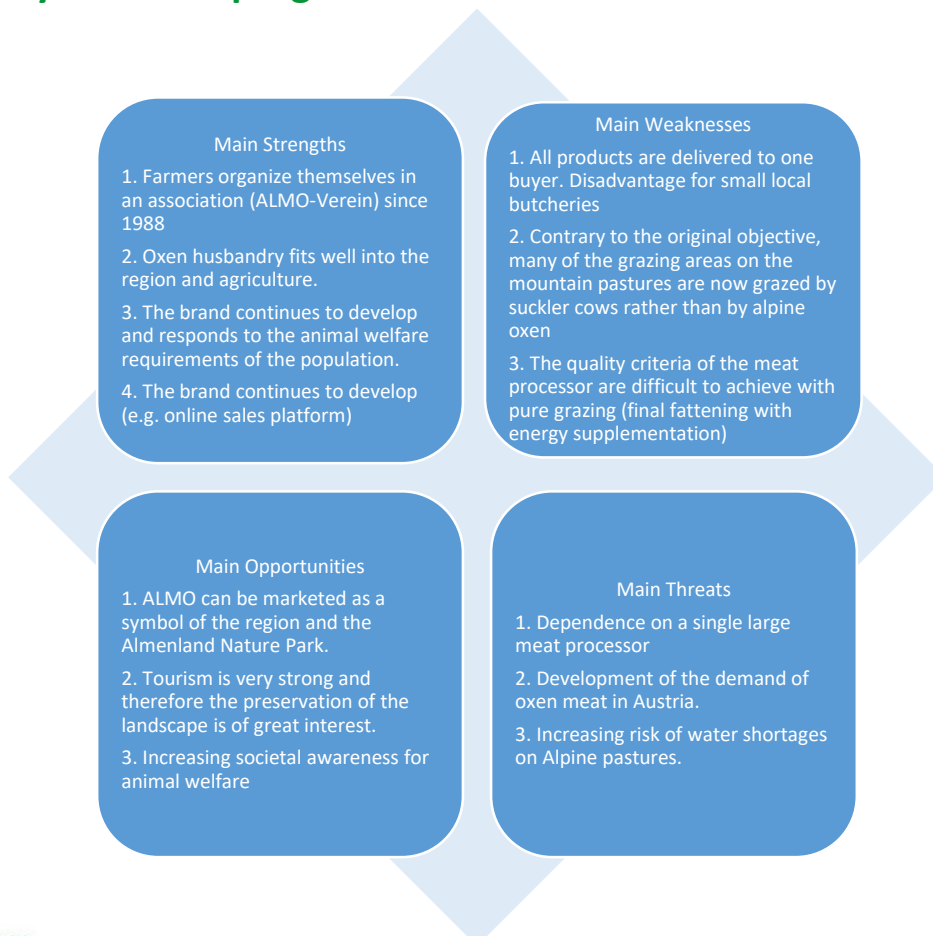


The ALMO-program presents a **successful** contract solution. The contract solution is judged successful, as the number of participants increased over the years. The ALMO-program started 1988 and is still running. The ALMO-ox is kind of an symbol for the region. The acceptance of farmers is high (some of them participate since 30 years). The animal health and welfare increased on the oxen farms.

Reasons for success:

- The ALMO-program provides an alternative for the farmers.
- The oxen farming in the region has a long tradition and the area is very suitable for this type of farming.
- The initiative for the ALMO-program was from the oxen farmers themselves and they organize themselves by means of an association (ALMO-Verein).

SWOT analysis ALMO-program



Biodiversity monitoring with farmers

Around 700 farms throughout Austria monitor rare plants and animals on their meadows and pastures in order to better understand the link between abundance of species and different farming practices.



Summary

About 700 farmers throughout Austria, as well as students from 14 agricultural and forestry schools are observing the diversity of plants and animals on their own meadows and pastures. The program "Farmers keep an eye on plants and animals!" is part of Austria's program for rural development since the period 2007-13 and also in 2014-20. The program stands for the annual monitoring and documentation of plants and animals, as well as for the willingness to care for and sustain the extensive grassland. The program is part of the education measures of the rural development program, with the aims to raise awareness, to build knowledge among farmers about biodiversity on their meadows as well as to inspire them for biodiversity monitoring. This helps to better understand the relationship between grassland management and the abundance of certain indicator species. Regulations are not part of the program but only monitoring activities. Monitoring observations and management measures are reported on an online reporting portal. Farmers are paid a compensation for their monitoring activities, if they take part in further measures of Austria's Agri-Environmental-Program ÖPUL, namely CODE WF (€39/ha with a maximum of 3ha) or biological farming (lump sum of €57).

Objectives

1. Biodiversity monitoring, conservation and protection of extensive grasslands by farmers, monitoring of 200 plant and 50 animal species throughout Austria
2. Awareness raising and knowledge about biodiversity among farmers via the observation and documentation of the development of plant and animal species and recognition of connections between management practices and abundance of certain species
3. Environmental consciousness raising among farmers
4. Citizen Science in order to gain knowledge about the effects of different land management practices



Problem description

Since 1995, a huge number of farms within the framework of Austrian Agri-Environmental Program (ÖPUL) have adhered to the agreed management requirements of the nature conservation measure (WF) in the use of their species-rich meadows. However, it is assumed that only if farmers really understand why they are implementing certain management measures a long term effect will be the result. For nature conservation measures to work sustainably, more is needed than incentive payments and contracts designed as simple as possible. The sole advice of ecologists is not enough to achieve long-term awareness. This is where the project sets in and tries to generate long-term understanding among farmers by counting and observing the abundance of animal and plant species themselves and setting them in relation to management.

RESULT-ORIENTED



The payment is not result-based but the contract solution can be defined as result-oriented.

PUBLIC GOODS



Farmland biodiversity

INDIRECT EFFECTS



Landscape and scenery

LOCATION

AUSTRIA



Participation is possible in whole Austria.

CONTRACT

It is a private-public contract between the farmers and the financing party under the framework of 2nd Pillar payments.

Funding comes from the government (with and without EU-funding).



Contract conclusion:
Written agreement

Payment mechanism:
Incentive payment



Funding/Payments:
Participating farmers receive expense allowance for monitoring. Farms participating in the ÖPUL nature conservation measure "Code WF" receive the so-called "monitoring surcharge" of € 39/ha. In total, participation is possible with a maximum of three field. For organic farms and other farms the fee is an annual flat rate of € 57 (gross)



Start of the program:
2007
End: ongoing

Data and Facts - Contract

Participation: About 700 farmers throughout Austria, as well as students from 14 agricultural and forestry schools participate in this project.

Involved parties:

Farmers. The observation is carried out independently by the farmers, usually once or twice a year, and for some animals (birds, reptiles) also continuously throughout the year. In the monitoring process, farmers experience their meadows in a completely new way. The focus is not on profitability of the management, but on special features that haven't been considered before and which can only be preserved by farming.

Regional project representatives. All over Austria farmers particularly committed to biodiversity monitoring are available to answer questions by other participants and introduce and advertise for the project in their region. The representatives organize guided tours on their own meadows or on other farms and they organize lessons in schools in their federal state.

Students. Currently 14 agricultural schools take part in biodiversity monitoring. The project team holds specially designed teaching units on the topic of "rough meadows" at these schools.

Ecologists. Ecologists train the farms at the beginning of participation in grassland biodiversity monitoring, they demonstrate to the farmers rare plant and animal species worthy of conservation on their farmland. They train the farmers to observe, count and document according to a certain monitoring design.

Project team. The implementation of the project includes a wide range of measures such as support for participating farmers, public relations work, the production of illustrative accompanying materials or the evaluation of in-depth observations of the farmers on animals and plants. To address these demands a project team consisting of different partners (project lead: Austrian Council for Agricultural Engineering and Rural Development, environmental consultancy, landscape planners, ecologists,) are responsible for the professional execution of the project.

Management requirements for farmers:

No obligatory management requirements

Conditions of participation: All farms cultivating meadows with rare animal and plant species can participate. In most cases, participation in the measures "Conservation and development of areas of high nature conservation value (Code WF)" or "Organic farming" within the framework of the Austrian Agri-environmental Programme (ÖPUL) takes place simultaneously.

Registration: If farmers want to participate, they must get in contact with the project team and register.

Enrollment: An ecologist visits the farm and demonstrates which special and valuable species can be found on the meadows.

Observe: The selected indicator species are observed and monitored annually.

Reporting: The observations are entered on the reporting platform.

Receive premium: Farmers receive an expense allowance for monitoring

Evaluation: The observations are used anonymously to evaluate the development of nutrient-poor grasslands and the ÖPUL nature conservation measures.

Context features

Landscape and climate: No specificities; Participation is possible throughout the whole country.

Farm structure: Mostly grassland farms with valuable nature conservation areas.



SUCCESS OR FAILURE?



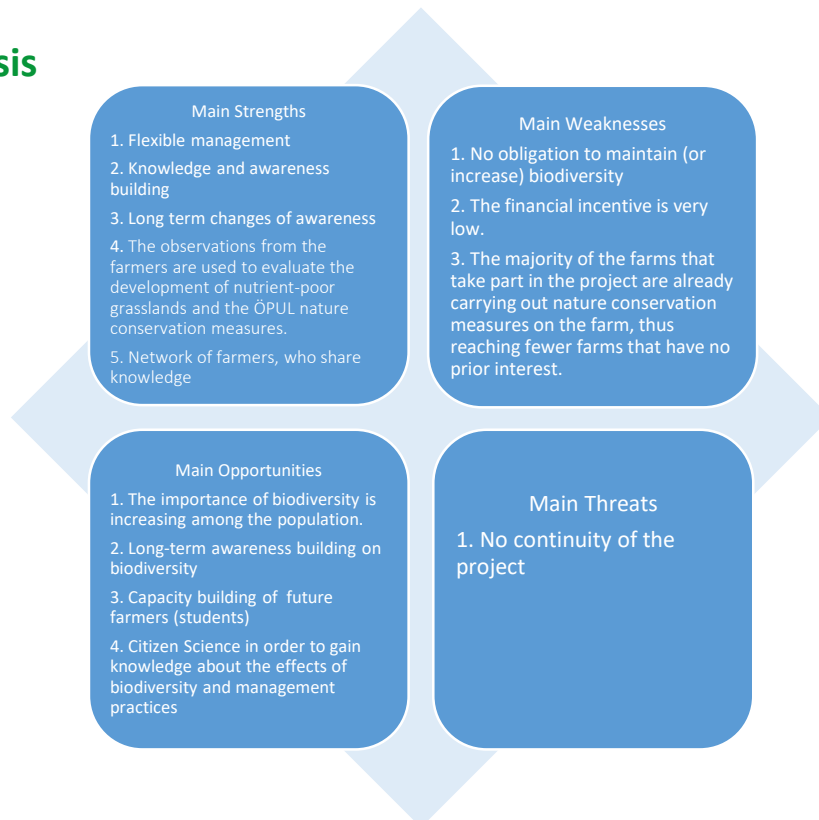
The Biodiversity monitoring presents a successful contract solution: The number of participants increased over the years. Right now around 700 farmers participate.

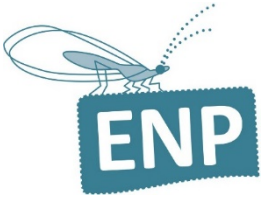
According to an evaluation of educational effects of the project carried out in 2018 (n=114 farmers), around 89 % of the participating farmers reported that they gained deeper understanding and appreciation for flora and fauna on their farmland. 94% of all participants quoted that they are more aware of the dynamics between agricultural management practice and biodiversity. More than 75% of all participants of the evaluation report that they are more motivated to continue extensive farming in order to protect biodiversity.

Reasons for success:

- Farmers learn about the biodiversity on their meadows and pastures and develop an own interest to care for it
- The monitoring and also the reporting on the platform is easy and can be carried out without much effort
- The program bears no risks for the farmers as no consequences occur if the target species is not observed.

SWOT analysis





Result-based Nature conservation Plan (RNP)

Result-based approach introduced and integrated into the Austrian Agri-Environmental Program (ÖPUL) to pursue nature conservation objectives (biodiversity).



Summary

In the period 2014-2020, under the Austrian Agri-Environmental-Program ÖPUL, a sub-measure “Result-based Nature Conservation Plan (RNP)” has been integrated into the measure “Nature conservation”. In contrast to conventional ÖPUL measures, the RNP defines environmental objectives to be reached as basis for 2nd Pillar payments, and not management measures. The approach allows farmers to make own decisions about management measures and implement them at their own discretion. The RNP represents a dual system of 1.) environmental area objectives, on the basis of which farmers primarily orientate their farming methods and 2.) control criteria, which are used primarily as a control instrument for the technical control service. Both types of environmental objectives are farm-individually developed by ecologists together with the farmers, and fixed in a farm-individual logbook, containing information on objectives, illustrations of species, maps of appearance, suggestions of management measures as well as a section for documentation of management measures and progress as regards the objectives. Besides the documentation by the farmer, control of RNP control criteria is carried out by specially trained staff of the national control body (AMA).

RESULT-BASED



The contract is distinctively result-oriented, the payment depends on the achievement of environmental objectives.

PUBLIC GOODS



(Farmland) biodiversity
Species and habitats

LOCATION

AUSTRIA



The farmers who are allowed to participate can come from all over Austria.



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Objectives of RNP

- Results-oriented implementation of the ÖPUL conservation measure;
- Definition of specific nature conservation area objectives (species and habitats) on the farm;
- Increase farmers' understanding of the needs and conservation of valuable species and habitat types;
- Enabling decision-making autonomy and room for manoeuvre in the implementation of management measures;
- Raising awareness of the objectives of the Habitats Directive, the Birds Directive and the Natura 2000 network, and knowledge expansion about the life requirements of the target species.

CONTRACT

The financing party is the government (with and without EU-funding, co-financed funds). The contract is concluded between the department of the province responsible for nature conservation (project confirmation).



Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments



Start of the program:
2015 (after pilot phase)
End: still ongoing

Length of participation in scheme:
Length of contract:
Normally 5 years;
depends on ÖPUL program period (e.g. 2014-2020)

Problem description

“Classical” contractual nature conservation is predominantly designed to be action-oriented. Concrete management measures are defined on valuable areas by authorities in coordination with the farmers. The farmers are often not well informed about the protection objectives on the area and the expected results. This means that farmers do not necessarily understand why certain measures are taken and no process of learning can settle. In 2014 the first concept of the result-based nature conservation plan was developed and piloted. Here, the focus lies on the nature conservation objectives on the contractual areas. These objectives are developed together with the farmers. Management measures to reach objectives are not prescribed and can be determined by the farmers themselves. Besides reaching the environmental objectives, in this way the RNP intends to increase farmers' flexibility, supports awareness building and the building of social capital.

Data and Facts - Contract

Participation: At the time of this report 143 farmers participate in the RNP program.

Involved parties:

Farmers. The RNP concept was piloted on 16 farms; after integration into ÖPUL an upper limit of 150 farms was set. In the next program period the upper limit might be up to 1500 farms.

Consulting agency

Implementation of the RNP was supported by an environmental consultancy agency identifying and engaging potential farms for the first implementation of the RNP (together with the Ministry of Agriculture, Regions and Tourism and the federal nature conservation departments), providing advice of ecological experts (flora and fauna), visiting farms and specifying nature conservation objectives on the fields, supervising the implementation of RNP during the program period

Federal nature conservation departments and Ministry

The Ministry of Agriculture, Regions and Tourism and the federal departments introduced the RNP into the nature conservation plan

National control authority (AgrarMarktAustria; AMA).

AMA is Austrians ÖPUL controlling unit, checking compliance with control criteria

Requirements for farmers: In the RNP a dual system of control criteria and area objectives was developed to guarantee a better risk distribution.

- **Control criteria:** The control criteria have to be reached to be eligible for payment. They also act as an early alarming system for undesirable developments in the fields. The control criteria are indicators, which show early nature conservation related mistakes. The connection to management measures is high. Control criteria and their indicators are sanctioned in the event of non-compliance.

- **Area objectives:** Besides the control criteria, on basis of the ecological initial situation individual objectives are defined for each field. The objectives are understandable and influenceable by the management measures of the farmers. Nevertheless, it cannot be excluded that in some years or under certain conditions the influence of the farmers regarding the achievement of the objectives can be low. Therefore, the fail of the area objectives does not lead to a sanction for the farmers.
- **Additional requirements:** For all nature conservation areas there are general conditions, irrespective of the area-specific stipulations in the project appraisal, even if they are no longer explicitly mentioned in the project appraisal for the respective area. These are, for example, no new drainage, no mechanical pitting and no terrain corrections, deposits and fillings and no spreading of sewage sludge and sewage sludge compost etc.

Controls/monitoring: The control of RNP farms is carried out by the national control body (AMA). It is done under the same conditions as for other measures of the Austrian Agri-Environmental Program (ÖPUL), but the inspectors have previously received additional training for the RNP. The control criteria are checked by the technical inspection service and, if necessary, sanctions are taken. There is a documentation obligation in this contractual measure. Farmers commit themselves to document management measures and observations regarding the objectives, this is done in the so-called RNP-logbook. Also documentation is checked during the inspection. Furthermore, the non obligatory area objectives are evaluated by ecologists. This is done on selected farms and there are no sanctions for non-compliance. The check of area objective is used as an additional support for the farmers.



© Josef Hinterleitner (Farm Schmiedberger)

Conditions of participation: The maximum number of participants in the program period 2015-2021 is 150 farms, in the next program period the maximum number might be up to 1500 farms. Only farmers which already participate in the measures "Environmentally friendly and biodiversity-enhancing management" or "Organic farming" or "Organic farming - partial farm" of the Austrian Agri-environmental scheme ÖPUL are allowed to participate in the RNP. The first farmers to participate were contacted and selected by the environmental agency together with the nature conservation departments of the Federal Provinces and the Federal Ministry. Farmers interested in deepening their knowledge on nature conservation were selected for participation.

Links to other contractual relationships: In addition to the RNP areas, it is not possible to apply for areas under the "Nature Conservation" (WF) or "Nature Conservation Valuable Maintenance Areas" (WPF) measures of the Austrian Agri-environmental scheme. (see conditions of participation).

Risks/uncertainties of participation: There is a risk that the control criteria will not be met, but the risk is reduced by the non-sanctioned area objectives.

Funding / Payments:

Eligible areas are grassland (excluding alpine pastures) and arable land. The amount of payment is individually determined for each area on the basis of the objectives and the cost for theoretically most potential management measures. Payments are recorded in the project confirmation. The upper payment limits are 700€/ha for arable land and 900€/ha for grassland. Fallow land on arable land is eligible for a maximum of 25 % of the total area of the farm. In combination with the measures "Environmentally friendly and biodiversity-enhancing farming" or "organic farming" only landscape elements are compensated in addition to the ENP premium.



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Context features

Landscape and climate: The project focuses on utilised agricultural nature conservation areas in Austria - mainly in Natura 2000 areas, biosphere reserves and other valuable landscapes or species listed in Annex IV of the Flora Fauna and Habitats (FFH) Directive. These valuable areas are distributed throughout whole Austria and therefore no specific area is in the contract solution involved.

Farm structure: Participation is possible throughout the whole country. Currently, 143 Austrian farms participate. The nine Federal States are represented to varying degrees: about 1/3 of the farms are located in Styria, about 20% each in Tyrol and Lower Austria. While the farms are not evenly distributed throughout Austria, but regional clusters exist. This is mainly due to the fact that farmers have been informed about RNP via word of mouth recommendations of individuals. Both part-time and full-time farms take part, and a wide variety of farm types and sizes are represented. Nevertheless, participation of grassland farms exceeds the number of arable farms in the RNP. About 85 % of RNP farms have previously participated in the "ÖPUL nature conservation measure (WF)" and have switched to the RNP. 44% of the participating farmers in the RNP have a very good and 53% have good ecological knowledge. The ecological knowledge was an important factor in the selection of the farms so that they were not overstrained with the RNP measure at the beginning.

SUCCESS OR FAILURE?

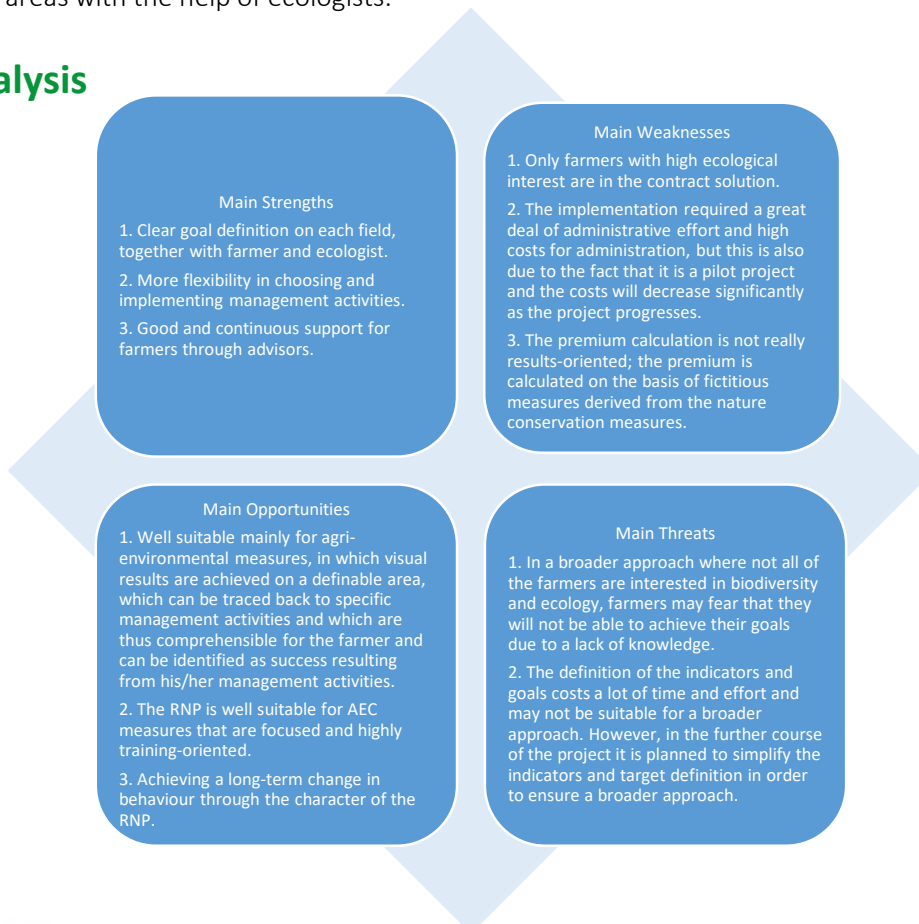


The RNP-program presents a successful result-oriented contract solution. The contract solution is judged successful, as the RNP allows pursuing nature conservation objectives for habitats and for endangered species at the same time. The educational aspect for the farms is very high and this leads to a long-term behavioral change. On the other hand, the number of farmers participating is quite low in the pilot project phase, but it will shall be expanded to around 1500 farmers in the next period.

Reasons for success:

- Farmers see and record the results of their management in the fields and can decide which management activities they choose; the flexibility rises and farmers better understand the connection between their acting and the influence on nature.
- Advisory and educational activities are an important part of this contract solution.
- A clear improvement of nature (biodiversity) through the targeted definition of objectives on the individual areas with the help of ecologists.

SWOT analysis



The Humus-Program of the Ökoregion Kaindorf

Result-based contract solution - farmers follow recommended measures to build up humus (=soil organic matter) in soil, sequester CO₂ and receive a fee per ton of stored CO₂. Companies finance humus build-up and soil carbon storage by buying CO₂ certificates.



Summary

The Humus-Program of the "Ökoregion Kaindorf" is a contract solution developed for voluntary trading of CO₂ certificates: Based on an initial soil sampling at the start of the contract (by a certified civil engineer and accredited national laboratory), farmers set own measures to increase the humus content in their soils. After a period of three to seven years (according to the farmers needs), humus content is determined again by a second soil sampling. An increase in humus content is converted into additional tons of CO₂ stored in soil. Farmers receive a success fee of 30€ per additional ton of CO₂ stored, which is financed by companies who voluntarily compensate their unavoidable CO₂ emissions. The amount of CO₂ purchased by the companies cannot be traded. After the payment, farmers must guarantee that the increased humus content remains in place for at least five years. This requirement is verified by a third soil sampling taken five years after the payment. Decreases in humus levels lead to partial or complete refunding of the success fee. Contracts and the carbon verification is organized and managed by the association "Verein Ökoregion Kaindorf" while emission trading is managed by an own Ltd.

Objectives

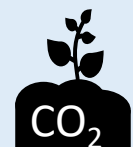
- Main objective: humus (soil organic matter) accumulation and soil carbon sequestration
- Higher soil fertility – soil organic matter supports life in the soil, which is the basis for vital crops and reduces the need for mineral fertilizers and pesticides
- More reliable harvests through resilient crops – living soil supports resistant plants in the face of global climate change
- Keeping the soil in place – humus-rich soils rich are more resistant against erosion by heavy rainfalls, flooding or wind
- Humus-rich soils store lots of water, which helps to maintain stable yields during droughts
- Keeping the groundwater clean – soils rich in humus can fix more nitrate and prevent groundwater pollution
- Climate change mitigation through CO₂ fixation – soil organic matter contains about 60% carbon, hence building up soil humus removes CO₂ from the atmosphere and helps to mitigate global overheating

RESULT-BASED



The payment depends on a defined result (stored CO₂ as humus per hectare, measured)

PUBLIC GOODS



Climate regulation-carbon storage



Soil quality (and health)

LOCATION

AUSTRIA



Participation in the contract solution is open to all farmers across Austria.



(A) Humus-farmers receive their success fees in a public ceremony each January.



(B)



(C)



The result-based contract is concluded between individual farmers and the association Ökoregion Kaindorf (The sales contract for emission trading is concluded between companies or private people and an own Ltd.).

Contract conclusion:

Written agreement



Payment mechanism:

non-tradable emission certifications



Funding/Payments:

- The humus farmer receives a success fee of currently **30 € per ton of CO₂** sequestered in humus (i.e. two thirds of the certificate price, for legal reasons the absolute price per ton is not guaranteed).
- Companies pay **45 € per ton of CO₂**. The difference of 15 € (before taxes) remains with the Ltd. for administration of the contract solution.
- As of 2020, the association paid **373.000 €** to participating farmers.

Participation:

- Number of farms: approx. 300 farmers (Jan 2020)
- Area of implementation: 3.600 ha (Jan 2020)

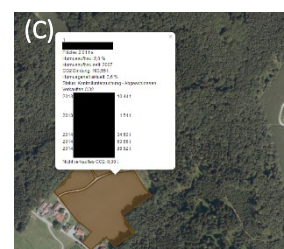
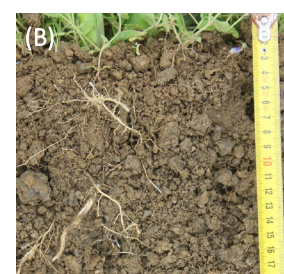
Involved parties:

- Ökoregion Kaindorf. The non-profit association is initiator and coordinator of the contract solution. It has implemented more than 300 sustainability-related projects since 2007, covering agriculture, mobility, energy, housing, circular economy, and waste management.
- Limited company: The Ltd. organizes the process of humus certificate trading.
- Farmers: The humus program started in 2007 with three farmers. As of 2020, 300 farmers are participating in the program. Farmers participation is now the restraining factor, as demand is higher than provision and certificates are constantly sold out.
- Companies and private persons: Humus certificates are bought by companies and private persons who aim to compensate their unavoidable CO₂ emissions.

Management requirements for farmers: The Humus-Program provides practical principles for humus accumulation in soil and suggests best-practices including use of cover crops, no-till practices, intercropping and compost application. However, there are no obligatory requirements such as mandatory management measures. This means that the farmers are free in their choice how the increase of humus content on their fields is achieved.



(A) GPS-located soil sampling. (B) Crumbly soil structure after 3 years of humus build-up. (C) Traceable CO₂ storage is visualized via online field maps.



Controls/monitoring: The participating farmer commits himself only to pay for the first soil sampling. He/she can leave the program at any time, except in case a success fee has been paid after the second sampling. Then, the third sampling becomes mandatory. Each field registered for the Program is thus subject to minimum one soil sampling, which is carried out a certified civil engineer. Soil samples are analysed for soil organic carbon, total nitrogen, pH_{CaCl2}, CAL-extractable phosphorus and potassium by the Department for Soil Health and Plant Nutrition, Austrian Agency for Health and Food Safety (AGES). In addition, samples are analysed according to the method of Albrecht/Kinsey for exchangeable cations, total sulphur, available and total phosphorus as well as a range of trace elements.

The first soil sampling determines baseline humus levels (25 GPS-located samples per field, mixed and analysed as a compound sample). A second sampling (success sampling) is conducted within three to seven years after the initial sampling in the same manner to quantify changes in humus content. From the increase in humus, the total amount of CO₂ sequestered is calculated. The farmer can then claim a success fee of 30 € per ton of CO₂ sequestered (i.e. two thirds of the certificate price, for legal reasons the absolute price per ton is not guaranteed). After receiving the fee, the humus farmer has to guarantee the level of build-up humus for five years. This is controlled by a third sampling (control sampling). In case an increase in humus above levels from the success sampling is measured, farmers can claim further success fees and the program is prolonged for another five years. Decreases in humus content can lead to partial or complete refunding of the success fee. All soil samples are paid for by the farmers.

CONTRACT



Length of contract:

Initially three to seven years; depending on the farmer's decision. If humus-build up is measured at the second sampling, the contract runs for additional five years when a third soil sampling takes place. Total length: eight to twelve years.

Length of participation in contract solution:

In general, participation is open end. If there is a further increase in humus measured at the third sampling, the farmer can voluntarily renew/extend the contract and apply for a further success fee for the additional increase of humus content.

Start of the program:

The Humus-Program started in 2007.

End of the program:

The program is still running.

Renewal / termination:

• **Renewal of the contract:** The option of renewal is foreseen and regulated in the contract solution, the contract can be renewed easily.

• **Termination:** Termination is always possible, except in case a success fee has been paid after the second sampling. Then, the third sampling becomes mandatory.

Conditions of participation: Farmers can take part with one or more fields, each between 1 and 5 ha in size. The farmers have to pay the initial soil sampling. Besides this, the farmers do not agree to any liabilities.

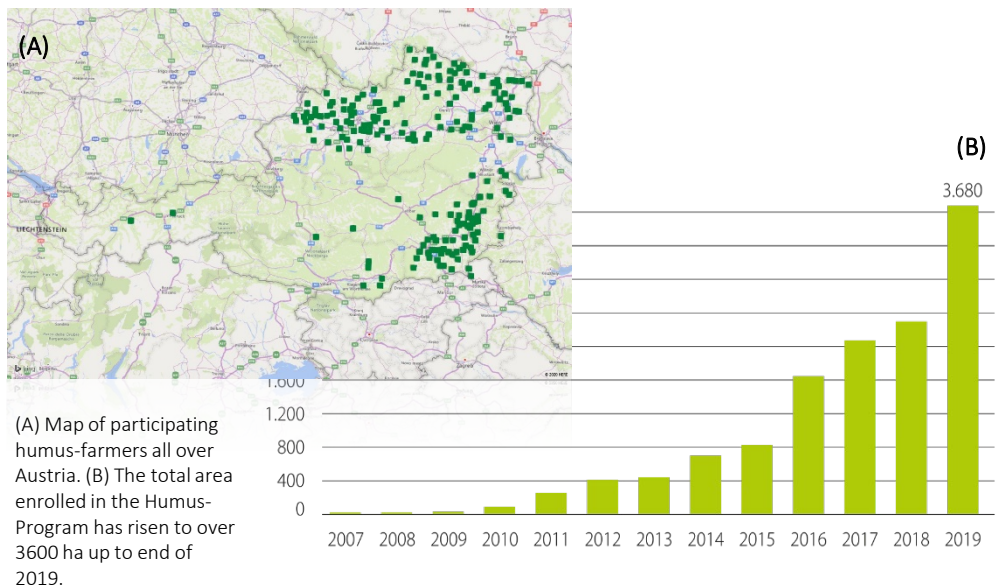
Risk/uncertainties of participants: The main risk for farmers is to not building up humus and therefore not receiving the success fee, even if there might have been investments and changes in management style. Another risk might arise from reduced demand in CO₂ certificates. However, this is not seen as a substantial obstacle as demand has by far exceeded supply for years. In any case, the farmer is guaranteed two thirds of the certificate price as a success fee.

Links to other contractual relationships: There is no direct link with other contractual solutions, and farmers are free to participate in other agro-ecological programs (e.g. GAP, ÖPUL, AMA, ...). The farmers are bound to the Humus-Program though, meaning they cannot take part in a similar, privately organized program of humus build-up and emission certificate trading.

Context features

Landscape and climate: The Humus-Program is not restricted to a special region in Austria, all farmers throughout Austria can participate.

Farm structure: In general, the Humus-Program is free for any agricultural management, however up to now most of the farmers are arable farmers. There is no specific business type taking part as regards intensity, size, age of farmers, etc.



Problem description

The initiator of the contract solution is the association "Ökoregion Kaindorf". The association, which consists of three municipalities, has set itself the goal of significantly reducing its CO₂ emissions to achieve net CO₂ neutrality as soon as possible. Human-induced climate change was the reason to act. By reducing the consumption of energy and raw materials and supplying them with renewable energy, as well as by humus formation, the way to CO₂ neutrality is sought. The most far-reaching project in the "Ökoregion" is the Humus-Program, in which around 300 farmers throughout Austria are now participating.

SUCCESS OR FAILURE?

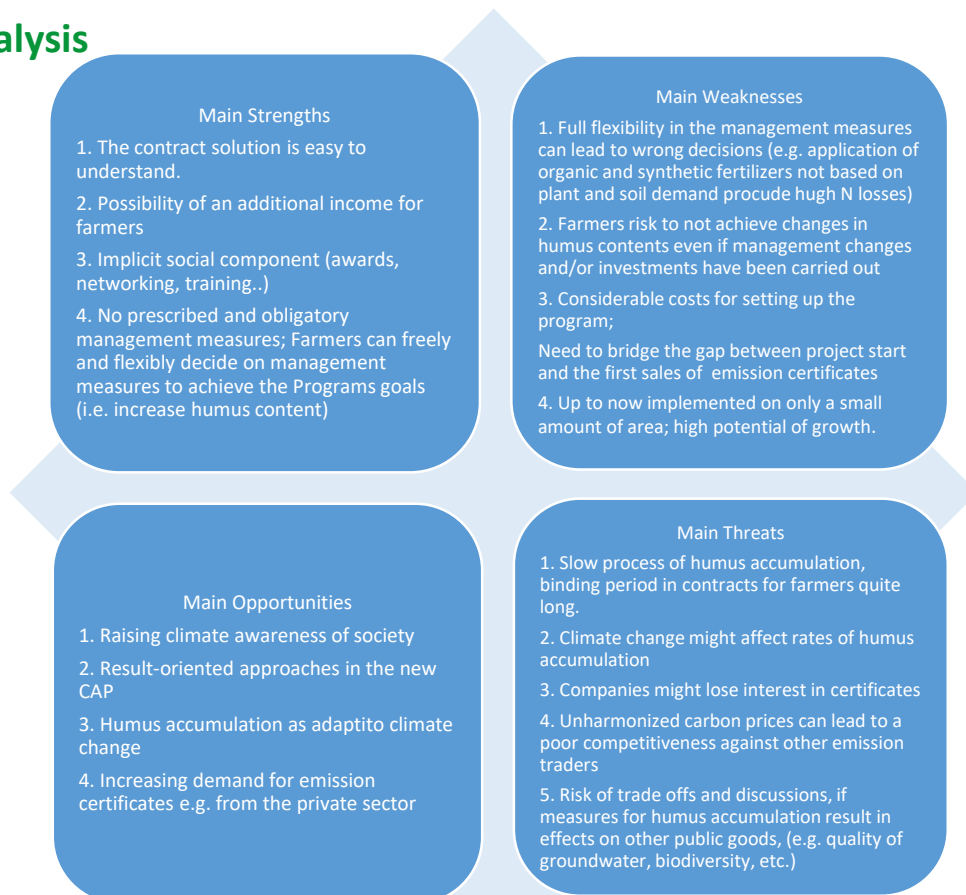


The Humus-Program of the “Ökoregion Kaindorf” represents a successful contract solution. The number of participants clearly increased since its initiation in 2007 and is still increasing. On the demand side, the demand for certificates at the moment exceeds the provision by the farmers. Except for the payment for the initial sampling, there are no obligations for the farmer in the program. Via the Humus-Program, farmers moreover get access to educational events and network meetings to exchange with other farmers on the subject of sustainable soil management. There is huge potential for climate-regulation via soil carbon storage. Measurements from over 100 agricultural fields in Austria show that humus accumulation and carbon sequestration removes CO₂ from the atmosphere in relevant quantities (on average 9 tons CO₂ per hectare and year). Through the result-based character of the payment, only the measured environmental success (CO₂ stored as humus) is paid.

Reasons for success:

- Farmers are free in their management decisions, the program only provides best-practice suggestions
- No liabilities for the farmer, except payment for the initial soil sampling
- Program is accompanied by educational measures and helps to network farmers into a humus community
- Payment for the farmers comes from the private sector. Demand for certificates has greatly exceeded provision by the farmers for the last years.
- In addition to CO₂ sequestration, humus formation has further benefits for the farmer (soil fertility, etc.)

SWOT analysis



Participation of private landowners to the ecological restoration of the Pond area Midden-Limburg through a close participation of private and public landowners and a triple E-approach in the 3watEr project.



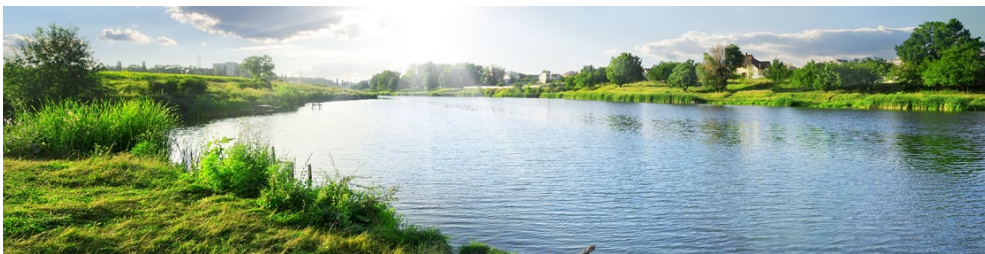
10 private landowners set up a specific association OVML vzw (Ontwikkeling Vijvergebied Midden-Limburg vzw) for participating together to a Life+ project (3watEr project) and ensuring collective implementation on the basis of voluntary agreements by private parties and an integrated management plan.

Summary

When confirmed as a participant and member to the OVML vzw association and the project, each private landowner has signed up to an agreement stipulating the following: that he agrees to the actions performed on his parcels, that he will do the necessary preparations so that works can effectively be performed (including studies, permissions, consultations, and tenders). In this regard, the landowner in question is always able to call on unlimited technical and administrative support from OVML vzw. Further, the landowners also contracted that they will respect the budget of the project, and that they will conserve and maintain the actions in the field for the coming 20 years.

Objectives

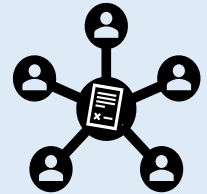
The Triple E Pond area M-L project aimed to conserve or restore the following species and habitats of Community importance in the Natura 2000 network site 'Vijvergebied Midden-Limburg' ('Pond area M-L'): bittern (*Botaurus stellaris*); tree frog (*Hyla arborea*); 'Oligotrophic waters...' (3120), 'Oligotrophic to mesotrophic standing waters...' (3130), 'Northern Atlantic wet heaths with *Erica tetralix*' (4010) and European dry heaths (4030). The project aimed to secure the ongoing participation of private landowners and other stakeholders in habitat management, to establish a sustainable basis for the conservation of species and habitats by enhancing synergies between Ecology, Education and the local Economy ("triple E-approach"), to enhance public awareness of Natura 2000 and to demonstrate best practices for involving private landowners as partners in the management of Natura 2000 sites. Private contracts for implementation of the LIFE project; integrated nature management plan for the implementation of the nature management goals.



Problem description

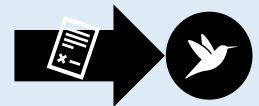
Private landowners were not structured to realize nature management projects, as this until 2014 was rather a monopoly of nature NGO's in Flanders. As in the Midden-Limburg area, private landownership was crucial to realizing specific nature management objectives, 10 local landowners took the initiative to start a Life+ project with other stakeholders. For doing so they created a private association (OVML vzw) assuming a common partnership in the Life+ project as associated beneficiary of the project. Private contracts were signed between OVML vzw and each of the 10 landowners for the further implementation of the LIFE project, also through an integrated nature management plan.

COLLECTIVE



OVML vzw structure and individual agreements plus integrated management plan for collective implementation.

RESULT-ORIENTED



Result-based monitoring of implementation of every action of the 3watEr project.

PUBLIC GOODS



Landscape and scenery



Recreational access / improvements to physical and mental health



(Farmland) biodiversity



Resilience to natural hazards



Rural viability and vitality



Cultural heritage

Data and Facts - Contract

Participation:

- Number of farms: 10 participant landowners
- Area of implementation: Vijvergebied Midden-Limburg

Involved parties: The contracting partners are the 10 landowners as being members of the private association OVML vzw for participating to the Life+ 3watEr project (2009 to 2013), as signatories to separate agreements for the financing and implementation of the project and partners to the integrated management plan for further follow-up after the realization of the Life+ 3watEr project.

Advantages of participation: Specific private sector oriented and motivating approach towards the participating landowners through the working and support of private association OVML vzw. administrative simplification. Benefit of being able to participate to a Life+ nature project, adapted to the private landowner sector philosophy and needs.

Management requirements : The landowners are held to the method and objectives of the Life+ 3watEr project, as approved in the project contractual documents.

Controls/monitoring: During the lifetime of the project, the monitoring and evaluation of the impact of the concrete conservation actions on the selected habitats and species was subcontracted to an independent body by means of public tender. This was done in two stages: from the first monitoring it was expected to get a clear overview of the conservation status of the habitats and species targeted at the start of the project. For the second monitoring the objective was to get a clear picture of the achieved results after the execution of the actions. The second monitoring referred to the expected results and contained the list of indicators, their values and the conservation status of habitats and species before and after the execution of project actions.

After the lifetime of the project, it was very important that all improvements made within the framework of the project would last for a longer term. A clear After-LIFE Conservation Plan consolidated all intentions and initiatives which must guarantee this. That included (1) a shared long term vision for the project area, signed by all associated beneficiaries, (2) a realistic action plan for fundraising, to support the recurring management actions, (3) signed contracts with the majority of the (larger) landowners to conserve the restorations for the long term, (4) to have proposals for additional projects and improvements and (5) to have a long term plan on communication and education inside (and outside) the area involving the different beneficiaries. The monitoring is effected once or twice a year, as indicated by the steering committee of the After-LIFE process, by way of expert visits on the grounds, for assessing the project realizations according to individual planning schemes for implementation.

Conditions of participation: No limitation on number of participants. Original number of participants are the landowners participating to the realization of the Life+ 3watEr project. One of the objectives of this project was the further association of additional landowners for achieving the overall goals of the project at their own cost. Requirements and standards are defined precisely and comprehensibly, as specified in the project description of Life+ 3watEr. Consequence of non-compliance: contractual responsibility under the Life+ nature project contractual framework.

Risk/uncertainties of participants: Implementation risk of the project objectives. If objectives are not reached or maintained, project monies can be reclaimed through OVML vzw.

Links to other contractual relationships: Links to the contractual framework of the Life+ 3watEr project.

Funding/payments: Money came from the approved Life+ project. OVML vzw acted as “associated beneficiary”, therefore received the funds and further dispatched these to the participant landowners according to the terms of the agreements signed.

Contract partnership: The formal contractual elements are Private-Private: signatories are private parties.

The object of the contract could be qualified as Public-Private-Civil society, as it concerns the realization and implementation of a Life+ nature project, which involves public funds used by private parties for the benefit of civil society aspects.

INDIRECT EFFECTS

- Climate regulation - carbon storage,
- Water quality
- Water quantity (e.g. water retention)

CONTRACT

Contract conclusion:
Written agreement



Payment mechanism:
Project payment mechanism



Financing party:
Government (with EU-funding and own funding)



Length of participation in scheme:
24 years

Start of the program:
2009

End: 2023 (Renewal possible)

LOCATION

BELGIUM



BE221 Limburg –
Arrondissement of
Hasselt



Context features

Landscape and climate: The Vijvergebied Midden-Limburg area is located in the North-East of Belgium, in the province of Limburg, and is especially important and most known for its unique number and variety of pond ecosystems, bird species and wet to dry heath gradients. For 6 of 9 Directive species the project area is essential for their maintenance in Flanders. For the remaining 3 species this project area is very important. These 9 species are indicators of habitats in which a greater number of threatened species in Belgium live. Especially ponds with a natural indigenous fish density, a good water quality and accompanying reed lands or marches are the most important habitats for these species. Other important habitats are wet and dry heaths, hygrophilous tall herb fringe communities and hayfields. Main land uses and ownership status of the area:

- Fish farming: 13% or 330 ha fish ponds, 75% in use of fish farmers, 25% nature reserve. - Forestry: 40 % or 1.033 ha;
- Farming: 20% or 515 ha;
- Other (urbanization, tourism, etc.): 27% or 692 ha.

Farm structure: Landowners' profile is traditional multifunctional countryside management, including forestry and local fish farming.

SUCCESS OR FAILURE?



The structure of participation of private landowners to the 3watEr project presents a successful contract solution, as it was very effective in these aspects:

1. The establishment of strong relations with and participation of a group of committed private landowners in the project area, who would participate as full partners in the project and perform works and management on their own grounds.
2. Generating strong and open relationships with the other partners could be sought effectively, leading to obtaining a Natura 2000 award.
3. To demonstrate to an (inter)national audience a best practice method on how to target, reach, and convince local private landowners to become full and reliable partners in the further development of Natura 2000 goals.
4. To further the sustainable conservation of target species and habitats, as well as the general wellbeing of the target area, through the development and implementation of the Triple-E approach that balances Economy, Ecology, and Education. The enhancement of awareness of Natura 2000 and local biodiversity at local, regional, national, and international levels.

Reasons for success:

1. OVML vzw structure is a private association, tailor made to the needs of private landowners;
2. Private contracts are with OVML vzw, a structure private landowners trust, which is important for long-term implementation of objectives;
3. Contracts provide for the maintaining of the project objectives, which implies a common approach towards monitoring and reporting.

SWOT analysis



FLANDERS – Flemish Forest Group

A Forest Group is a voluntary partnership between both public and private forest owners. Through this cooperation, an attempt is made to provide an answer to problems caused by the fragmentation of the forest. Forest Groups offer a comprehensive service that helps the many forest owners manage their forest parcels.



Summary

Due to the fragmented nature of forest ownership, groups of private forest owners and managers (Forest Groups) have been established. These forest owner associations oversee voluntary co-operation between the large number of private forest owners and sometimes public forest managers. Their objective is implementation of improved and more coherent forest management practices. The 11 active Forest Groups in Flanders cover the whole territory and have almost 13.000 members (about 13% of all forest owners). The interests of the owners contracting membership are vested in the coordinated management of their forest parcels and the professional expertise and service they receive from the Forest Group. This represents i.a. administrative support, coaching and technical support, organization of joint wood sales, voluntary participation to projects or the setting up of combined management plans.

Objectives

- Realization of afforestation and activation of forest compensation
- Development of profitable resilient forests
- Achievement of conservation objectives in Natura 2000 areas
- Management of fragmented forests
- Promotion of neighborhood and play forests
- Support of local production and processing of a climate-friendly raw material
- Support the livability of the local timber sector
- Ensuring support in Flanders for sustainable multifunctional forest management
- Appreciating private forest owners for their social commitment
- Support not only private forest management, but also public forest management



Problem description

Forest ownership in Flanders is very fragmented. Most forest owners often have very little knowledge of forest management and little trust in government handling as such. They do have faith in the Forest Groups. Within these Forest Groups, the aspects of trust and voluntary approach are predominant, giving the forest owner the necessary freedom of decision. They allow forest owners to incorporate the management of their forests in a larger project. Most owners are proud to be part of a process towards better forests. Many forest owners are also quite happy with the support they receive to manage the forests in a better way. In this sense, the Forest Groups act as promoters and facilitators of a global forest policy. Small forest owners, who have no obligation to produce a management plan, often have an 'ad hoc' management, using felling applications and permits. They are stimulated by the Forest Groups to participate in joint management plans.

COOPERATION



Flemish Forest Groups allow forest owners to incorporate the management of their forests in a larger project. Furthermore, the Forest Group provides assistance: the coordinator is a skilled forester who gives both coaching and technical support to the members and helps organizing joint wood sales and management plans. Members of the Forest Group are stimulated to participate in joint management plans.

PUBLIC GOODS



Landscape and scenery



Recreational access /
Improvements to physical
and mental health



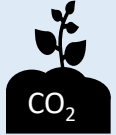
Biodiversity



Air quality



Soil quality (and health)



Climate regulation - carbon storage



Rural viability and vitality



Resilience to natural hazards



Cultural heritage

CONTRACT

Contract conclusion:

Membership of legal entity (association without lucrative purpose under Belgian law, *vereniging zonder winstoogmerk*)

Payment mechanism:

No specific mechanism, membership of the association suffices



Financing party:

Government (sometimes with EU-funding)



Length of participation in scheme:

Duration of the membership

Start and end of the program:

Membership of the Forest Group

Data and Facts - Contract

Contract feature combination:

The membership of the Forest Groups makes possible to participate to management plans or projects, of which terms are further specified in additional contractual documents.

Participation:

- Number of members: almost 13.000
- Area of implementation: Flemish Region of Belgium; each of the 11 actual Forest Groups have a specific working area. A forest owner/manager can become member of the Forest Group in which working area his forest parcels are situated.

Involved parties: The Flemish Forest Group is a private association of forest owners and managers. Their interests are vested in the management of their forest parcels and the expertise service they receive from the Forest Group.

Advantages of participation:

- The private association is one of forest owners and managers
- Forest owners and managers maintain control over property
- Free advice without engagement
- Respect for the objectives of owners and managers
- Neutral and independent approach
- Voluntary and easy membership
- Reduce the elements that remove motivation (administration (for free), costs (fees for collective sale of timber only 5-10-15%) , paternalism of state management).

Management requirements: Specific requirements for foresters depend on specific management plans or projects they contract to.

Controls/monitoring: A Forest Group coordinator and his team follow up on the specific projects or objectives agreed upon by the different forest owners, members of the Forest Group. The content of the projects or objectives to be monitored depends on what objectives or project has been agreed upon.

Conditions of participation: Conditions of participation are specified in the articles of association. Minimum of participants is the minimum number of members for legally constituting a private association.

Risk/uncertainties of participants: Risk of participants depend on the quality of advice and service delivered by the Forest Group team.

Links to other contractual relationships: Forest Groups aim at having members participating in projects and nature management plans. Such participation is then linked to membership.

Contract partnership: Government provides the funding of a private association if such association is recognized as a Forest Group; forest managers and owners contract the goals of the Forest Group through membership; civil society goals are served by the working of the Forest Group.

Funding/payments: The funding organization is the Flemish government acting through the Flemish provincial authorities, as well as diverse project funding the Forest Group can generate. Membership of the Forest Group is free and does not require a specific payment.

Context features

Landscapes and climate: Atlantic climate. In Flanders, forest covers only about 11% of the total area. Forests are often originating from plantations on former heathlands and wet grasslands: pine and poplar plantations make up almost half of the forest area, while only 1/3 of the forest area consists of broadleaved stands of indigenous species (oak (*Quercus* spp.), beech (*Fagus sylvatica* L.), mixed deciduous stands). Forests in Flanders are clearly part of an urbanized and industrialized region. In this context, forest goods and services are mainly related to socio-cultural and ecological services. This is comparable to regions like the Netherlands, parts of Denmark and southern UK.

Structure: More than half of the forest in Flanders is privately owned and ownership is spread over thousands of small properties. Average private properties are not larger than 1 ha. A majority of these private owners are not active forest managers.

LOCATION

Participation is for the whole of the Flemish Region (*Vlaams Gewest*, region of Belgium)

BELGIUM

Information/Contact: www.debosgroepen.be

SUCCESS OR FAILURE?

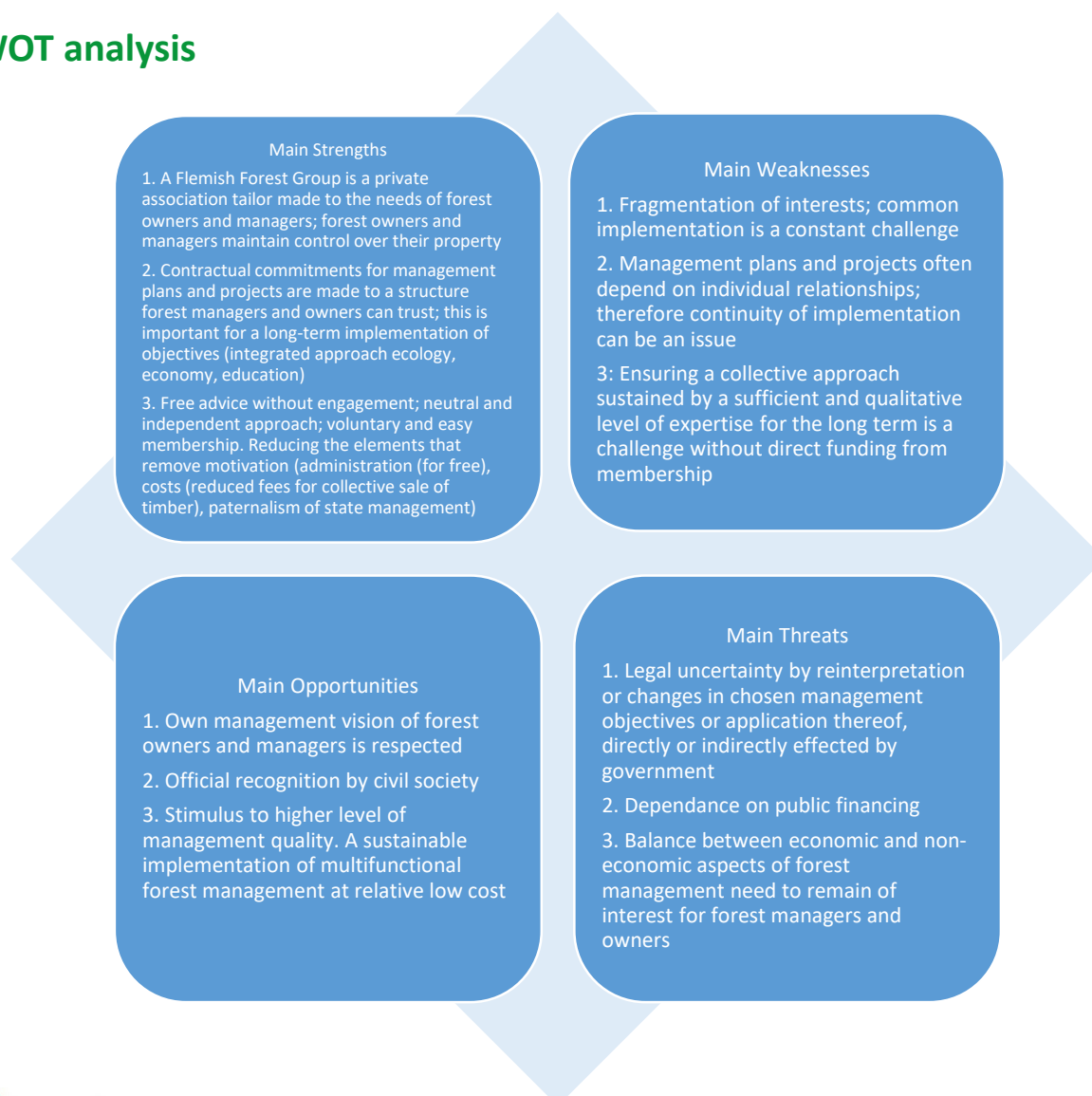


The Flemish Forest Group presents a successful contract solution. The Forest Groups have been delivering good results for more than 15 years. With more than 13.000 members who together have more than 35.000 hectares of forest under management, the respectful collective approach of the Forest Groups represents more than 1/3 of the private forest owners in Flanders. That number continues to rise year after year. More than 80% of this group manage a forest surface smaller than 5 ha and more than 60%, a surface smaller than 1 ha.

Reasons for success:

The Flemish Forest Group presents a successful contract solution. See Main Strengths under SWOT analysis.

SWOT analysis



Wildlife Estates Label in Flanders

The Wildlife Estates (WE) Label has been developed to acknowledge exemplary management of European territories. It targets (mostly private) landowners and managers of such territories and encourages them to join the WE initiative to acquire recognition for their commitment to sustainable wildlife and habitat management. This commitment is continuous and formalized in the WE Charter.



Summary

Estates and territories adhere on a voluntary basis. They commit to maintain and developing high standards of wildlife management, with emphasis on habitats. This involves all aspects of multifunctional estate management. They are assessed according to a scientific based method (www.wildlife-estates.eu), which has been adapted to national or regional specificities.

Aspects covered are:

1. Level of stillness/tranquility/surveillance
2. Existence of measures that help the sustainable balance between agriculture, silviculture, cinegenic management, pisciculture/fishing
3. Natural, semi-natural and intensive hunting or fishing grounds
4. Biodiversity surface
5. Food availability
6. Water availability
7. Presence of restoration measures and improvements to habitat holding capacity for wildlife Presence of prey species
8. Presence of valuable species of fauna
9. Treatment and destination of venison
10. Implication of local actors
11. Conservation of cultural and historic heritage
12. Communication program

In the Flemish Region of Belgium, more than 8500 hectares have been labeled. Monitoring is part of the assessment and the label is awarded on a 5 years basis. After this period, management goals and achievements need to be re-evaluated and WE Charter commitments renewed.

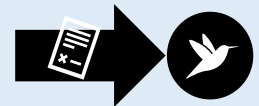


Objectives

Participation in the WE Label takes place on a voluntary basis by landowners and managers to work on sustainable management, conservation of biodiversity and development of fauna and flora, based on their own integrated vision of ecological, economic and social functions. Wildlife Estates regularly communicates about best practices and optimal management techniques that are developed and applied by members. It also informs the general public about the importance of estates in ecological, economic and social terms.

LABELLING MECHANISM

RESULT-BASED



Implementation based on voluntary agreements (charter-based) for continuous practice. The label is awarded on the basis of a scientific method and assessment.

COLLECTIVE



The label is awarded to individual estates, but the WE organization develops a wildlife management network for responsible wildlife management according to multifunctional practice.

PUBLIC GOODS



Landscape and scenery



Recreational access / Improvements to physical and mental health



Biodiversity



Resilience to natural hazards



Rural viability and vitality



Cultural heritage



Soil quality (and health)



Farm animal health and welfare

INDIRECT EFFECTS

- Air quality
- Climate regulation- carbon storage
- Climate regulation - greenhouse gas emissions
- Quality and security of products
- Water quality

LOCATION

BELGIUM



Whole countryside of Flanders, i.e. the Flemish Region of Belgium.

Data and Facts - Contract

Contract feature combination: Voluntary commitment to the WE Charter. The WE Charter refers to further commitments.

Participation:

- Number of farms/foresters/contractors: 27 estates have obtained the WE Label.
- Area of implementation: Estates or territories in the Flemish Region of Belgium.
- Other participants: The labels are awarded to the managers of estates or territories.

Involved parties: Wildlife Estates organization (national and European level) on the one hand and the individual estates and territories on the other, organized as a network at a country level. In casu, 27 labeled WE Estates for the Flemish Region of Belgium.

Advantages of participation:

1. To be recognized as a front-runner - Labelled estates are committed to, and accredited for, promoting the best management and conservation practices, and are recognized as managing their wildlife resources sustainably in full consideration for the natural environment.
2. To improve and develop - The WE Label provides a framework that facilitates development and implementation of new and innovative management techniques. WE enable its members to address and efficiently resolve conflicts in order to ensure an effective balance between voluntary actions, incentives, and regulation.
3. To engage - WE encourage communication between Wildlife Estate managers with the aim of sharing ideas and management strategies that help improve the standards substantially. The initiative seeks to reach a global agreement between managers of Wildlife Estates, to identify good practices, and promote innovative activities and techniques.
4. To be supported - The activities of land managers, hunters and fishermen are under pressure. By adhering to the WE Label Commitments, they will be taking the necessary precautions to anticipate themselves from European legislation regarding the management of their land, as far as rural activities such as hunting, shooting, and fishing are concerned. Moreover, WE aim to anticipate new requirements in order to always be in line with the Birds and the Habitats Directives, which make up the Natura 2000.
5. To be informed - Having acquired the WE Label, the member is invited to become a part of WE network. Each territory manager will then have access to relevant and up-to-date articles and documents and details of upcoming events through the WE Newsletter.

Management requirements for farmers: Voluntary commitment to the WE Charter. http://www.wildlife-estates.eu/tartalom/ten_commitments.pdf

Controls/monitoring: The WE Label is self-monitoring and on a voluntary basis. Established infringements on the WE Charter can lead to suspension or revocation of the WE Label. The renewal of the WE Label is on a 5-year basis. The complete scientific-based approval method with field visits is re-applied for renewal.

Conditions of participation: The WE Label has been developed to acknowledge exemplary management of European territories. It targets landowners and managers of such territories and encourages them to join the WE initiative to acquire recognition for their commitment to sustainable wildlife management.

All estates are welcome to apply. There are no restrictions in terms of hectares, location or activity. The only expectation is for applicant estates to have a uniform management on their territory.

Risk/uncertainties of participants: No Risk/uncertainties of participants. The Label involves a commitment on an objective best-efforts basis.

Links to other contractual relationships: No direct links to other contractual relationships.

Funding/Payments: Lump sum fee paid by the WE Label applicant, once the WE label has been awarded.

Contract partnership: WE Label organization (civil society) and estate landowner or territory manager (private).

Since its creation, the WE Label has been facilitating collaboration between private and public actors in order to illustrate that the work undertaken by land managers is very much in line with the central tenets of biodiversity conservation. This has involved the creation of National Delegations to engage with both private and public actors, such as NGOs, administrative bodies, universities, independent scientists, and even companies.

The WE Label is currently represented in 19 European countries, mostly through a decentralized network. The Wildlife Estates secretariat is situated in Brussels, Belgium, where it coordinates the activities of the National WE-Delegations.

CONTRACT

Contract conclusion:

Written agreement -
Signature of the WE
Charter



Payment mechanism:

Lump sum fee for label



Financing:

Market sector-oriented



Length of participation in scheme:

WE Label is awarded
for a 5-year term.
Renewal is possible
after 5 years. Re-
application process.

Start of the program:

The WE Label is
available in the Flemish
Region of Belgium since
the start of 2018.

End: The WE Label is
awarded for a 5-year
period.

Context features

Landscape and climate: Atlantic climate. In Flanders, forest covers only about 11% of the total area. Forests are often originating from plantations on former heathlands and wet grasslands: pine and poplar plantations make up almost half of the forest area, while only 1/3 of the forest area consists of broadleaved stands of indigenous species (oak (*Quercus spp.*), beech (*Fagus sylvatica L.*), mixed deciduous stands). Forests in Flanders are clearly part of an urbanized and industrialized region. In this context, forest goods and services are mainly related to socio-cultural and ecological services. This is comparable to regions like the Netherlands, parts of Denmark and southern UK.

Agriculture: Over the last ten years, the total arable area has remained relatively stable (-1.7%). 46% of the Flemish arable area, or 622.738 ha, is utilized for agriculture and horticulture. Meadows, pasturelands and fodder crops account for 56% of the total area. The arable surface is 36% owned, the rest is on lease.

The agriculture is characterized by a strong degree of specialization. Almost nine out of ten companies specialize in one of three subsectors. 54% of the companies have a specialization in cattle breeding, 21% in arable crops and 13% in horticulture.

Structure: Farm and forestry types which business model is respectful of the environment and biodiversity. This is an open category as far as the WE Label is concerned, but real practices need to be established for obtaining it. In Flanders, the practice of agri-environmental measures in farming and the application of the Criteria Integrated Nature Management for forestry activities are the main indicators for describing the types of farming and forestry targeted by the Label.

Problem description

Traditional multifunctional estates (*landgoederen*) and territories managed by hunting management associations (*wildbeheereenheden*) are major contributors to biodiversity in Flanders, although their action often is very private and not communicated at all.

This can only be achieved through the voluntary engagement of and intense cooperation between the many (mostly private) managers of the outlying areas such as farmers, estate managers, nature and forest managers, hunters, fishermen and others, all of whom are very important but often play an ignored role in preserving fauna and flora. They form the most important link in the realization of sustainable rural development.

Where good results for biodiversity on private estates are already being measured, this is very often due to a well-balanced balance between the ecological, economic and social functions of management. The WE Label uncovers the quality of caring stewardship for the benefit of nature conservation to the outside world. The land managers who endorse the principles of the WE Label do so on a voluntary basis, not because it is imposed by the government.

It is their healthy, conservative attitude that is bearing fruit for biodiversity. Where good practices are used that consider both economic and ecological aspects, landowners and managers produce biodiversity, in other words: the natural support on which unique habitats and species can thrive. The added value that is offered here is enormous, also social. The WE Label wants to make this known and raise the expertise that comes with it as standard, so that many land managers can benefit from this expertise and refer to it.



SUCCESS OR FAILURE?



The Wildlife Estates Label presents a successful contract solution. In Flanders, since February 2018, 27 estates have obtained the label, representing more than 8.500 ha.

Reasons for success:

See Main strengths under SWOT analysis.

SWOT analysis



Flemish nature management plan

Different owners and managers develop common and differentiated management goals for their respective territories for developing sustainable nature and forestry; integrated management, according to the Flemish Integrated Management Criteria (ecology, economy, social and heritage dimension aspects).



Objectives

The nature management plan describes the most important values of an area for its ecological, social and economic function and makes well-founded choices about the important objectives for this area. The plan must also clarify which measures are required for this, and how and where they are implemented. One also wants to know whether the area under management is actually evolving in the right direction and, where necessary, adjusting management is needed. A nature management plan has a term of 24 years, unless determined otherwise when approved. In addition, the nature management plan is an administrative document. It is a contract between the government and the manager in which certain fees stand against certain commitments. The nature management plan is also a way to test whether the planned goals and measures are in accordance with policy preconditions, such as N2000 management plans, species protection programs or protected landscapes. This requires that the goals and measures are formulated unambiguously and according to an agreed terminology.



Problem description

In the region of Flanders forests and nature legally are managed through one type of plan – the nature management plan. This plan replaces all previous management plans:

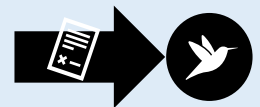
- basic forest management plan
- extended forest management plan
- management plan for forest reserves
- management plan for nature reserves
- management plan for verges
- management plan for parks

The nature management plan is a voluntary contract under administrative law between the Flemish government and the manager(s) of nature and forests.

Advantages of the nature management plan:

- single approval procedure for all types of nature (forest, heath, open green space, ...)
- transparent and organized
- linked to subsidies
- nature and forest management plan is valid for 24 years – evaluation every six years, no further administrative approvals needed
- public bodies, NGO's and private owners use the same system and get equal opportunities
- a nature management plan is a constructive tool for the long term planning of a plot of forest or nature

COLLECTIVE and RESULT-ORIENTED



Voluntary participation. Collective implementation and differentiated monitoring of results, benefits are handled and paid per nature management plan, but calculated according to the differentiated participating owners/managers.

Data and Facts - Contract



Landscape and scenery



Recreational access /
Improvements to physical
and mental health



Biodiversity



Resilience to natural hazards



Rural viability and vitality



Cultural heritage



Soil quality (and health)



Water quality



Water quantity (e.g. water
retention)

Participation: The number of participants, i.e. forest and nature managers and/or owners, is open.

Involved parties: Agency for nature and forest on the government side; nature and forest managers on the other side.

Management requirements: There are four categories of nature management plans, with different implications as far as commitments, subsidies and tax benefits are concerned.

With type one nature management plans, the manager ensures that the current nature value and quality and natural environment are maintained and that the duty of care is observed: in the event of interventions in nature, destruction or damage is prevented, limited or repaired as much as possible. Nature management plans under type one are not entitled to subsidies except those related to accessibility.

Nature management plans of type two have as objective enhanced nature quality (25% of the surface reserved for nature objectives). A partial exemption from inheritance tax and gift tax is linked to this type as well as various subsidies: subsidies for accessibility for visitors, for development of a nature management plan, nature management subsidies, ...

Nature management plans of type three have as objective the highest quality of nature (on the whole of the plan surface, with a possible 10% exemption) A partial exemption from inheritance tax and a total exemption of gift tax is linked to this type, as well as various subsidies: subsidies for accessibility for visitors, for development of a nature management plan, nature management subsidies, ...

Nature management plans of type four have the status of nature reserves and the objective of the highest quality of nature (easement created by law on the whole plan surface). They entitle to the same subsidies as type three and provide the benefit of total exemption of inheritance tax, gift tax, sale tax, property tax.

Nature management plans for sites of type two, three and four also need to meet the criteria for integrated nature management. They form a guideline and serve as a guarantee for sustainable management tailored to the nature or forest area.

The criteria for integrated nature management are grouped in 3 themes:

1. achieving an increased or the highest quality of nature;
2. taking into account the social role of the site;
3. dealing with the economic delivery of various goods and services in a sustainable manner.

These criteria must be met in a reasonable and technically responsible manner, without any of the criteria having to be met all the time on the whole site. Deviation is possible, provided motivation is given in the nature management plan, whereby it is demonstrated that the relevant criterion is not applicable or not relevant and to the extent that the deviation does not impede the realization of the management objectives.

The management objectives and measures in a nature management plan must also be checked against the following approved plans and programs:

- the European nature objectives in the context of Natura 2000 and the provisions of the Natura 2000 management plan
- the species protection programs
- the nature guidelines already established.

Controls/monitoring: Provisions are made in the nature management plan on the extent and ways in which the manager will need to reach the objectives and how this will be monitored and reported to the agency. The agency performs a management evaluation based on these data every 6 years, checking whether the management is on track to meet the management objectives. If necessary, the agency will propose deviating management measures in its evaluation report. If it turns out that the management objectives themselves are not feasible, the agency can ask the manager to submit a request to change the management plan.

INDIRECT EFFECTS

- Climate regulation- carbon storage
- Climate regulation - greenhouse gas emissions
- Air quality

CONTRACT

Contract conclusion:

Administrative contractual instrument, official nature management plan approval



Payment mechanism:

Subsidies and tax benefits



Financing party:

Government (without EU-funding)



Length of participation in scheme:

24 years (participation is transferable)

Start of the program:

The Flemish nature management plan has a duration of 24 years, depending on the official approval date.

Risk/uncertainties of participants: Risk of not reaching objectives (subsidies are linked to the evaluation of the objectives); risk of financing (if government subsidies are reduced); risk of change of regulation during the course of the nature management plan, which can imply legal uncertainty.

Links to other contractual relationships: The participant landowners/managers need to adapt their other contractual relationships applicable to the area or site concerned to conform to the nature management plan. Otherwise their responsibility for not meeting their commitments will be engaged.

Funding/payments: Government subsidies type of payment on an annual basis. Agency for nature and forest is paying agent. Amounts are fixed per nature objective and following their realization (cfr. monitoring), with inflation correction. Per nature management plan, one legal or natural person has been chosen by the participants to be the official intermediary towards the agency. Funds are channeled through that intermediary to the participants.

Contract partnership: Public-private - The nature management plan is a voluntary contract under administrative law between government and the manager of nature and forests.



Context features

Landscape and climate: Atlantic climate. In Flanders, forests cover only about 11% of the total area. Forests are often originating from plantations on former heathlands and wet grasslands: pine and poplar plantations make up almost half of the forest area, while only 1/3 of the forest area consists of broadleaved stands of indigenous species (oak (*Quercus* spp.), beech (*Fagus sylvatica* L.), mixed deciduous stands). Forests in Flanders are clearly part of an urbanized and industrialized region. In this context, forest goods and services are also related to socio-cultural and ecological services. This is comparable to regions like the Netherlands, parts of Denmark and southern UK.

Structure: All forest or nature managers can apply for this administrative contractual instrument, if legal conditions are met. The contractual solution is not directed to a specific profile of managers, but is intended to guarantee equal access to nature management status to all managers.

LOCATION

BELGIUM



Flemish Region of Belgium (five provinces, half of country).



SUCCESS OR FAILURE?

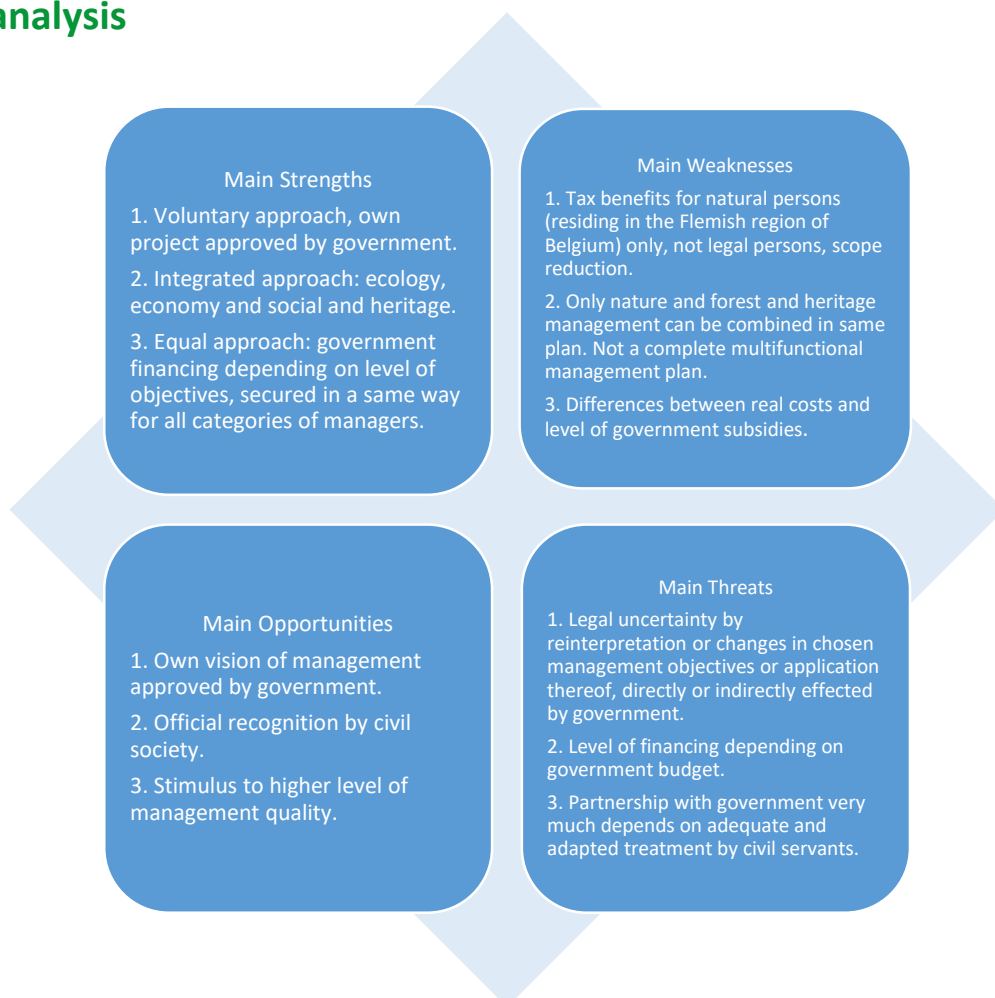


The Flemish nature management plan presents a successful contract solution. In Flanders, a third of the total area under effective nature management comprises forests owned by third parties (not owned or managed by government or NGO's) with an approved management plan. This category increased in area by 2,097 ha in 2018 (compared to a total increase of all categories of 4,748 ha in 2018). This is evidence that the model of integrated nature management plans introduced in 2014 and 2017 has the necessary appeal amidst private nature and forestry managers, for whom participation to such a plan is on a voluntary basis.

Reasons for success:

See Main Strengths under SWOT analysis.

SWOT analysis



Conservation of grasslands and meadows of high natural value through support for local livelihoods

The agri-environmental measures are maintaining pastures and meadows, by mowing in a timetable throughout the year and limited mowing, affecting endangered breeding birds, European ground squirrel and raptors (King Eagle and Long-legged buzzard).

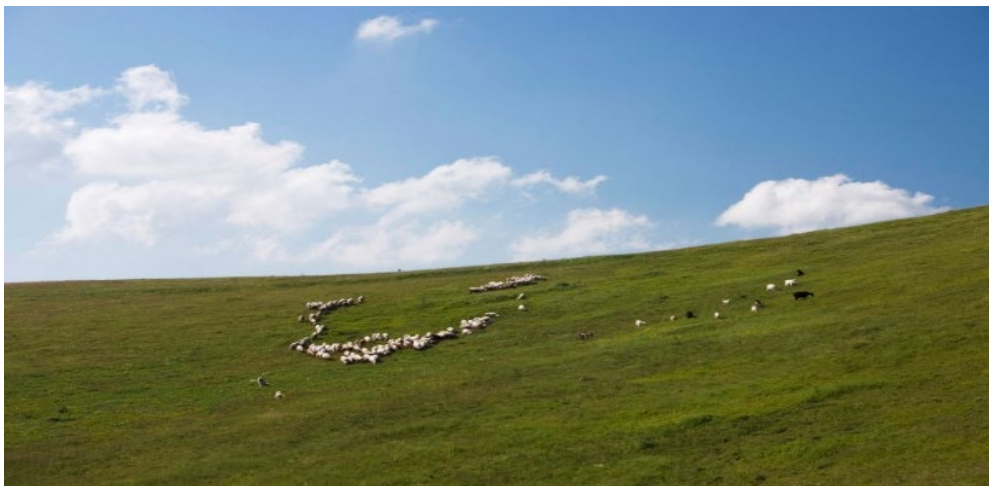


Summary

The project began in 2007 with the idea to cover one of the most important public goods - biodiversity. It included 54 farmers in the region, whose lands were in NATURA 2000 sites. The leading organization is the Bulgarian Society for Protection of Birds, which is an NGO. They financed the project through the mechanism of the Global Environmental Fund. The area covered is the Besaparsky Ridge, which is in South-central Bulgaria. The main activities which were initially funded by the project were for pasture maintenance (payments per ha) and for buying machinery (lawn mowers, tractors, balers). The goal is to maintain and conserve the pastures throughout the year by limited mowing and in a timetable that is directly connected with the breeding birds; and for maintaining the grass for the European ground squirrel. The monitoring includes quarterly checkups by the team for certifying that the farmers are covering the requirements. After the project ended in 2010 the farmers were able to keep the machinery bought under the projects and to continue using it. A side activity of the project was the organization of an annual festival called the "Red pepper" which main goal is to popularize the biodiversity and traditions in the region, to provide place for the local farmers to present their production, and to increase the knowledge of the locals on the importance of the endangered bird species in the region. The festival takes place every year for 10 years now.

Objectives

1. To protect the local biodiversity in the area: breeding birds, European ground squirrel and raptors.
2. To encourage the involvement of farmers into schemes for biodiversity conservation.



Problem description

The main driving force for this project was the need to assess which agri-environmental measures can be suitable in High-nature value pastures, so that farmers would be motivated to initiate their implementation. The need comes from the fact that there is a seriously high risk of destruction of the habitats of important breeding birds and European ground squirrel with direct effect also on predatory birds. The most serious problem leading to the loss of valuable habitats is the gradual conversion of pastures and meadows into vineyards.

LAND-BASED

It is land based, because choosing the land is based on its conservational importance (which farm should be included in the contract). Some of the land is owned, some is rented. However the implemented measures are practice-based.

PUBLIC GOODS



Farmland biodiversity



Landscape and scenery



Rural viability and vitality

Further public goods

Cultural heritage by organizing the festival «Red pepper» the main goal of which is to popularize the biodiversity and traditions in the region.

LOCATION

BULGARIA



The Besaparsky ridges - Plovdiv municipality in the Southcentral region of Bulgaria.

CONTRACT

The payments came from the Global Environmental Fund, but the contract was between the farmers and the NGO.

NGO-private

Contract conclusion:

Written agreement



Payment mechanism:

Incentive payments



Funding/Payments:

The farmers receive subsidies by the government under one of the agri-environmental measures.

Length of contract:

3 years



Start of the program:

2007

End: 2010

Advantages of participation

- Benefits - association: financial payments for managing the project. Fulfilling organizational mission and vision for biodiversity conservation.
- Benefits - farmers: financial payments, receiving equipment; increasing the popularity of the livelihood and typical local foods.

Data and Facts – Contract

Participation: In this case study 54 farmers are involved.

Involved parties: The contracting parties are the Bulgarian Society for Protection of Birds and the farmers. The role of the association is leading because it manages the project, coordinates it, performs the monitoring activities and it is the main source of popularization about the importance of the biodiversity conservation in the region.

Management requirements for farmers: The maintenance of the pastures includes several requirements: the farmers can't use mineral fertilizers and plant protection products; it is forbidden to plough the permanent grassland or to build new drainage systems. Farmers must perform manual mowing or with slow mowers, mow from the centre to the periphery or from one end of the mower meadow to the other at low speed. The cut grass is dried and harvested. Farmers maintaining permanent grassland through grazing must maintain the stocking density.

Controls/monitoring: The monitoring is done by biodiversity experts several times per year. The farmers must keep the requirements connected with the mowing timetable and the techniques for slow mowing.

Renewal/termination: After the project ended the farmers were eligible to apply for government subsidies for the same activities for 5 years.

Conditions of participation: The main requirement is the agricultural land to be part of NATURA 2000 sites. The monitoring of the requirements is done by the Bird association which also determines the payments for the efforts done by the farmers. The requirement is to take part in the project for 3 years. The consequence for non-compliance is termination of payments.

The system of payment: The financing at first was from the Global Environmental Fund via the Bulgarian Society for Protection of Birds as a contractor. The main requirement for the farmers was their lands to be within the NATURA 2000 sites and to engage for a period at least of 3 years to conserve pastures and the population of European ground squirrel and nesting birds. The payments were in two directions – payments for the efforts made per/ha and for buying machinery which is used for maintenance of the meadows. Currently the farmers receive subsidies by the government under one of the agri-environment measures.

Framework conditions

Landscape and climate:

Besaparsky ridges are a protected area - part of the Bulgarian and European ecological network Natura 2000, announced by an order of the Ministry of Environment and Waters from 2008 in order to protect and maintain in favourable

condition protected and endangered species of birds of prey and their habitats. There are 86 species of breeding birds found in Besaparsky Ridges, 20 of which are included in the Bulgarian Red Book (for endangered species).

Farm structure: The targeted type of farming is pastures with special requirements for their management. The practices include timetable for the mowing periods of the year. The predominant farm size is small, with organic farming still small percentage. Part of the land is owned by the farmers included in the case study and the rest is under contracts with other landowners.



SUCCESS OR FAILURE?

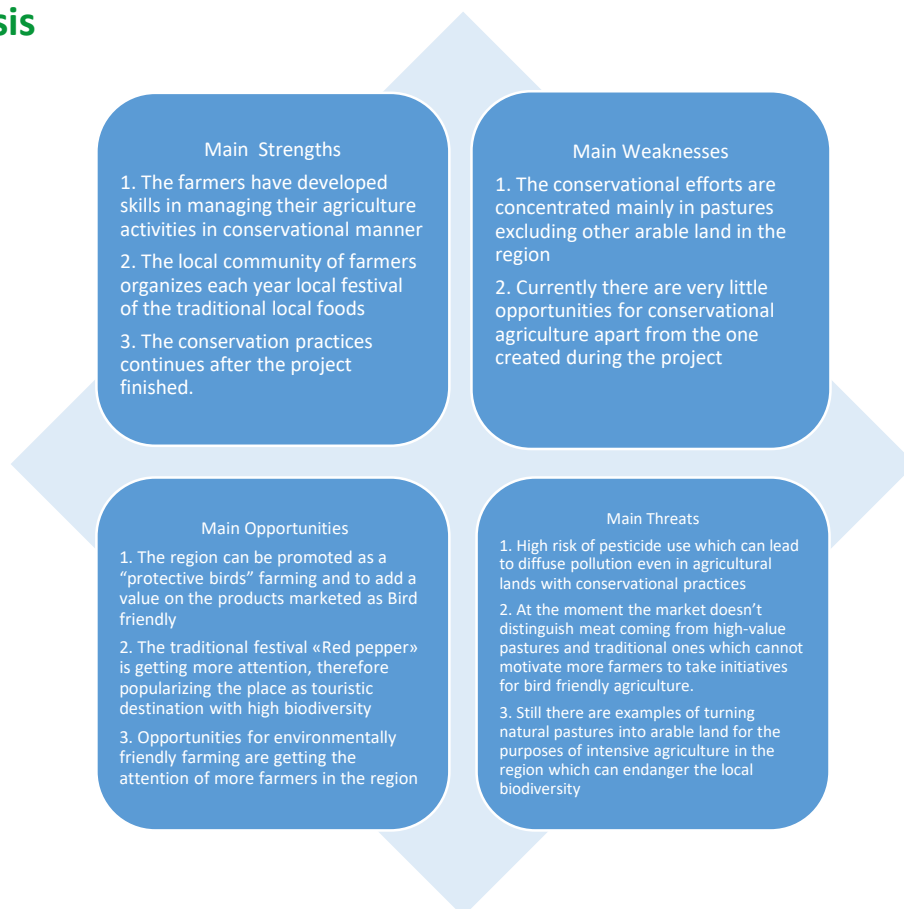


The case is defined as **successful** due the fact that within the time of the project 54 farmers took part and after the project finished they are eligible to enrol into government program for implementing the same conservational activities. Keeping in mind that there is a tendency of turning pastures into arable land, the farmers who took place in the project are a good example of maintaining the biodiversity in the region by implementing conservation practices. After the project was finished these farmers continued to implement the good practices until this moment and the monitoring shows that the population of the European ground squirrel increased and together with that the number of the endangered King Eagle and the Long-legged buzzard.

Reasons for success:

- The project succeeded in creating conservation practices by farmers, the implementation continued after the project was finished.
- Raising awareness and knowledge of the local community about the European ecological network Natura 2000, its benefits and the resulting opportunities for local development.
- Enhancing the skills of local farmers to use agri-environmental schemes for conservational agriculture.

SWOT analysis



Organic honey from Stara Planina mountain sites

Farmers producing organic honey in one of the natural reserves in Bulgaria have organized in a Organization of producers in 2013. This organization has a contract with one of the biggest producers, distributors and retailers of organic food in the country - Harmonica. The latter is a Bulgarian brand for organic products. In this contract Harmonica buys the processed honey from the organization of producers on premium prices and distributes it as a trade mark for organic honey with biodiversity features.



VALUE CHAIN



Farmer (beekeeper) – processor – distributor

PUBLIC GOODS



Farmland biodiversity



Quality and security of products



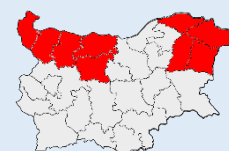
Farm animal health and welfare

INDIRECT EFFECTS

There are indirect effects on landscape and recreation activities.

LOCATION

BULGARIA



Northeast and Northwest part of the Stara Planina Mountain, covering the municipalities - Shoumen, Montana, Tyrgovishte, Vratsa.

Summary

The contract is ongoing since 2015 and includes on one hand collective contract between the farmers, and on the other - a contract with the distributor of the honey – “Harmonica” (it is also the name of the brand for natural, eco-friendly products). It also has the features of a value-chain contract, given that the honey and honey products go from the farmers to the processor (a small processing plant for organic honey) and distributor (“Harmonica”). The farmers within the organization are 30 at the moment and are situated in Southeastern and Northwest Bulgaria within the natural reserves of the Stara Planina Mountain. The honeybee products are distributed as high-quality, pesticide free and eco-friendly products with responsibility for the bees and the ecosystems. The contract terms doesn’t include specific amount of honey that should be delivered to Harmonica, but it is specified on a yearly basis. The payments are dependable on the type of honey and are between 6.50-11 euro per kilogram of processed honey.

Objectives

1. Conservation of biodiversity by producing honey in environmentally safe way in mountain sites
2. Popularization of Bulgarian honey and honey products with high quality and ecofriendly practices
3. Collective initiative for encouraging Bulgarian farmers to stay in business



Credits: Dragomir Nikolov, The Economist magazine

Problem description

The Bulgarian honey is mainly targeted for export for other countries. The honey however is classified as one with very high qualities, but unfortunately the mass consumption (due to lower prices) is of foreign imported honey and honey products. Also, in the last several years the share of poisoned bees due to agricultural activities is rising, putting some pressure on their population and therefore on the ecosystem functioning. The goal of this collective action was to encourage the consumption of premium natural honey which has positive impact on the local biodiversity, security and quality of products, keeping beehives far from industrialized areas and those with high pesticide risks.

CONTRACT

Private – private contract

Contract conclusion:

Written agreement



Payment mechanism:

Product price



Funding/Payments:

Each individual farmer sells his production to the Organization of producers of farmer. The payment from the distributor (Harmonica) is between 6.50-11 euro per kg of honey.

Length of participation in scheme:

Open end



Start of the program:

2015

End: ongoing

PRODUCT

- Organic honey from mountain areas
- No medicines or antibiotics are used for the treatment and prevention of bees.
- Only honey produced from the beehive is used to feed the bees.
- All the ingredients used for the production of the honey are natural without synthetic additives.

Data and Facts - Contract

Participation: 30 beekeepers participate in the contract solution.

Involved parties: The contracting parties are the Organization of the producers founded in 2013, the processor and the distributing company. The Organization consists at the moment of 30 farmers whose beehives are situated in the Stara Planina Mountain sites. Harmonica is a processing and distributing organization for eco-friendly products and the company is also involved in many environmental initiatives which main goal is to popularize and encourage environmental behavior both of producers and consumers.

The benefits for the organization of farmers – they have the opportunity to sell their production on premium prices for the Bulgarian market which is a way for them to secure part of their production. The price provided from the distributor is higher compared to the price for other producers of organic honey in the country.

The benefits for Harmonica – they can distribute honey products for the Bulgarian market within their brand for eco-friendly products as part of their mission to popularize quality organic products which have positive environmental impact.

Management requirements for farmers: The farmers should cover the main requirement for situating their beehives in natural reserves surrounded by natural forests and at least 3 kilometers away from contaminating sources. Synthetic drugs and sweeteners are not used when working with bee families. Both biological and homeopathic remedies are used to combat the diseases.

Controls/monitoring: The monitoring is done by independent certification organization for organic farming.

Conditions of participation: The main requirement is the beehives to be situated in natural reserves far away from contaminating sources (e.g. industrial enterprises, railway highways, congested roads) and agricultural lands which use pesticide and other harmful products. The monitoring is performed by independent certifying organization for organic farming (in this case organic beekeeping). The consequence for non-compliance is termination of the contract.

Risk/uncertainties of participants: The main risk that can be addressed to this contract is the risk of bee diseases and death of the bee family.

Links to other contractual relationships. The specific of the contract is mostly concerned with covering the requirements for organic practices. The farmers are applying for organic subsidies under the Rural Development Program for meeting organic standards

Framework conditions

Landscape and climate: The climatic conditions are with temperate-continental climate given that the beehives are situated mostly in Stara Planina sites. Forest ecosystems cover a large part of the territory (70,000 ha) and provide a variety of ecosystem services. This part of the mountain is known for its unique richness of flora and fauna and rich biodiversity, consisting of deciduous forests: oak, beech, maple, hawthorn, tar, linden, and also a variety of wild herbs which are the main food for the bee families.



Credits for photo: Tsvetelina Belutova

Farm structure: The farming system is organic production and the sector is beekeeping. The total number of beehives in the organization is around 4000, as the share of organic farms is 100%.

SUCCESS OR FAILURE?

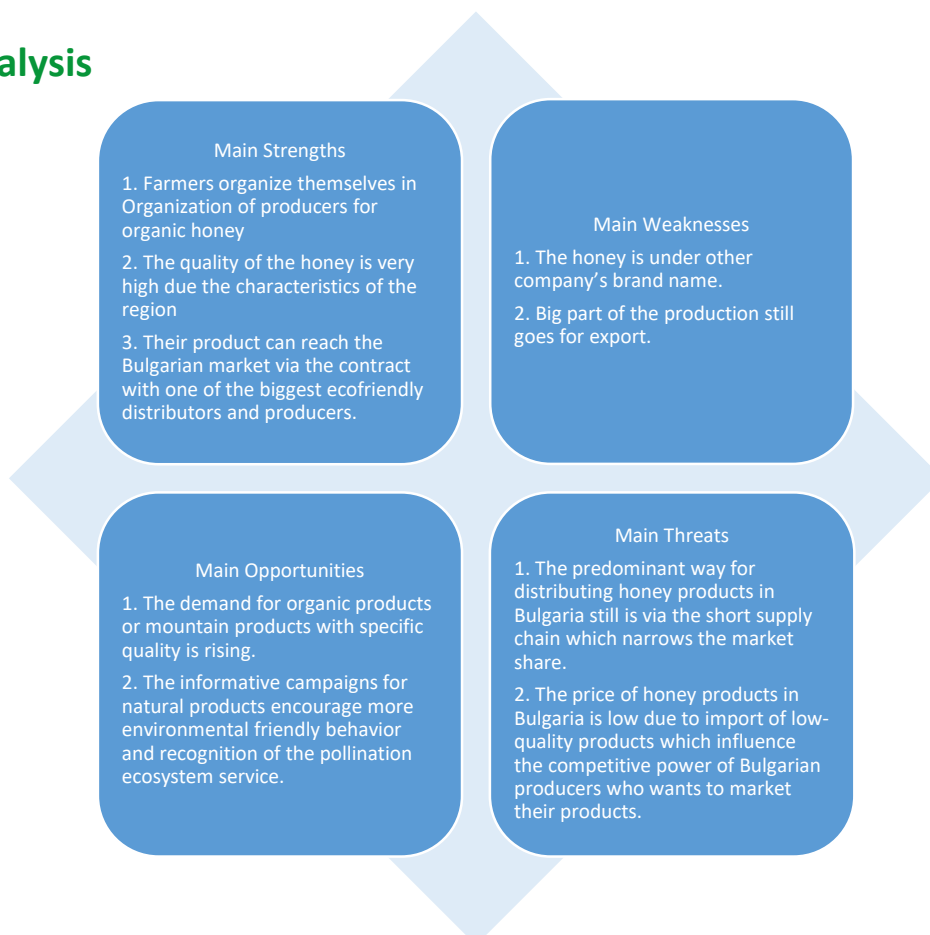


This is the first farmer organization in Bulgaria for organic beekeeping which by negotiating and contracting with a distributor are placing their production on the Bulgarian market. In the long run they foresee to invest in their own collective processing plant and to distribute the honey products with their own environmental brand – organic honey from natural reserves.

Reasons for success:

1. A Bulgarian product with high quality from natural reserve can reach the Bulgarian market and consumers, whose demand for Bulgarian ecofriendly foods is rising in recent years.
2. This is the first collective effort among organic beekeepers in Bulgaria.
3. The practice for organic beekeeping secures animal welfare, as well as safety and quality of foods.

SWOT analysis



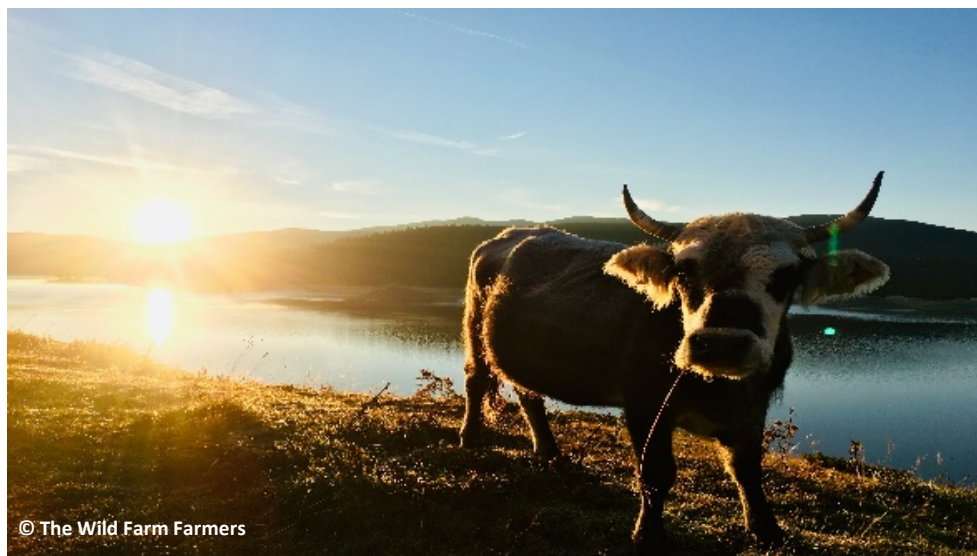
“The Wild Farm” organic farmers

A collective initiative of four farmers applies animal welfare standards, organic standards, agri-environmental measures for the production of beef. They cover the whole value chain from raising the animals, to the processing of the meat and marketing of the products in a small store in Sofia. They have a contract with a distributor for organic/natural foods processed in ecofriendly manner.



Summary

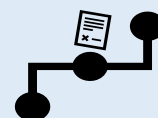
The contract solution includes a value-chain contract between the Wild Farm and a distributor – Bio Balev supermarkets. The farmers also have a contract with the government - the Ministry of agriculture and forests - for support on organically raised cattle. The farm is situated in the South Central region in Rhodope Mountains. The product is organically certified beef which is raised the whole year on natural meadows with high biodiversity features. The hay during the months with low food supplies comes from alpic mountain hay meadows, which are maintained in conservational manner by the farmers. Apart from having an important soil protection and water regulation role they are a valuable source of feed for the cattle. A number of higher plants with conservation status can be encountered on those meadows.



Problem description

The demand for Bulgarian meat with high quality increased during the last decade, as well as the need for organically clean products. The Wild farm concentrated its effort in producing meat and other supplementary products in a environmental-friendly way so that the demand for natural Bulgarian products can be met. At the moment those farms which are engaged in organic husbandry in Bulgaria mainly export their animals due to the lack of certified slaughterhouses for organic meat. The Wild Farm opened their own slaughterhouse at the end of 2018 which was the first one certified for organic meat in Bulgaria. Part of the animals in the farm includes local rare breeds which contribute to the conservation of local biodiversity. The farm is also situated in a high-nature value site with ornithological significant Egyptian vulture which is a globally endangered species. Therefore one of the mission of the farmers is to implement as many as possible conservation measures (including pesticide free agriculture, maintenance of their pastures consistent with the nesting regime of local bird species, etc.) in order to support the local biodiversity. The initiative was led by the Wild Farm.

VALUE CHAIN



Organic farmers – meat processing - distributor

PUBLIC GOODS



(Farmland) biodiversity,
*Biodiversity of rare breeds
and ornithology species*



Quality and security of
products



Farm animal health and
welfare

INDIRECT EFFECTS



Rural viability and vitality

Data and Facts – Contract

LOCATION

BULGARIA



Haskovo municipality in the Southcentral region of Bulgaria.

CONTRACT

A market sector-oriented contract type between farmers and distributor.

Contract conclusion:
Written agreement



Payment mechanism:
Collective payment without premium price levels



Funding/Payments:
From distributor to Wild Farm (collectively)



Start of the program:
2018

End: ongoing

Length of participation in contract solution:
2018 – open end

PRODUCT

The product is organic beef.

Participation: 4 farmers participate in this contract solution

Involved parties: The contracting parties are the Wild Farm founded in 1994 and the distributing company Bio Balev. The latter is a distributor of natural, high-quality products, with no artificial additives, sweeteners, colorants or preservatives, that have higher nutritional values. The company is a leading distributor of a large range of organic, vegan, vegetarian, healthy foods certified according to European and international standards for organic quality.

The benefits for the Wild Farm: To sell the production on the Bulgarian market. As an indirect effect of selling their products is the popularization of the Wild Farm as a destination for ecotourism. The Wild Farm has recently opened a guest house with many environmental activities for the guests.

The benefits for distributor: as a distributor they meet the raising demand of the Bulgarian market for products which are natural/organic and of local origin.

Management requirements for farmers: The farmers should cover the requirements for organic production husbandry.

Controls/monitoring: The monitoring is done by independent certification organization.

Conditions of participation: The main requirement is the beef to be organically certified.

The system of payments: The payment is for the Wild Farm (collectively) by the distributor. There are no premium price levels

Links to other contractual solutions: The farmers are applying for organic subsidies under the Rural Development Program for meeting organic standards

Objectives

1. Conservation of local biodiversity of rare breeds and ornithological species
2. Practicing animal welfare principles and whole year free grazing of the cattle (half of the year in high mountain pastures)
3. Popularization of Bulgarian organic beef meat



Framework conditions

Landscape and climate: The agricultural lands are located mainly on the high parts of the valley. The rich biodiversity includes turtles, falcon, wild cat, wolf, wild boar and more. 174 species of birds have been found on the territory, 40 of which are included in the Red Book of Bulgaria of endangered species and 78 are of European conservation interest. The globally endangered Egyptian Vulture (*Neophron percnopterus*) and over 30% of the Griffon Vultures (*Gyps fulvus*) in Bulgaria nest here. Therefore the region is appropriate for conservational agricultural practices that will have high impact on the local biodiversity.

Farm structure: The targeted system is organic husbandry. The farm size is around 100 ha and the cattle is around 1200 oxen, cows and buffalos. The ownership structure is mostly rent land and farmers are on a full base contracts. The predominant part of the farm is organic.

SUCCESS OR FAILURE?

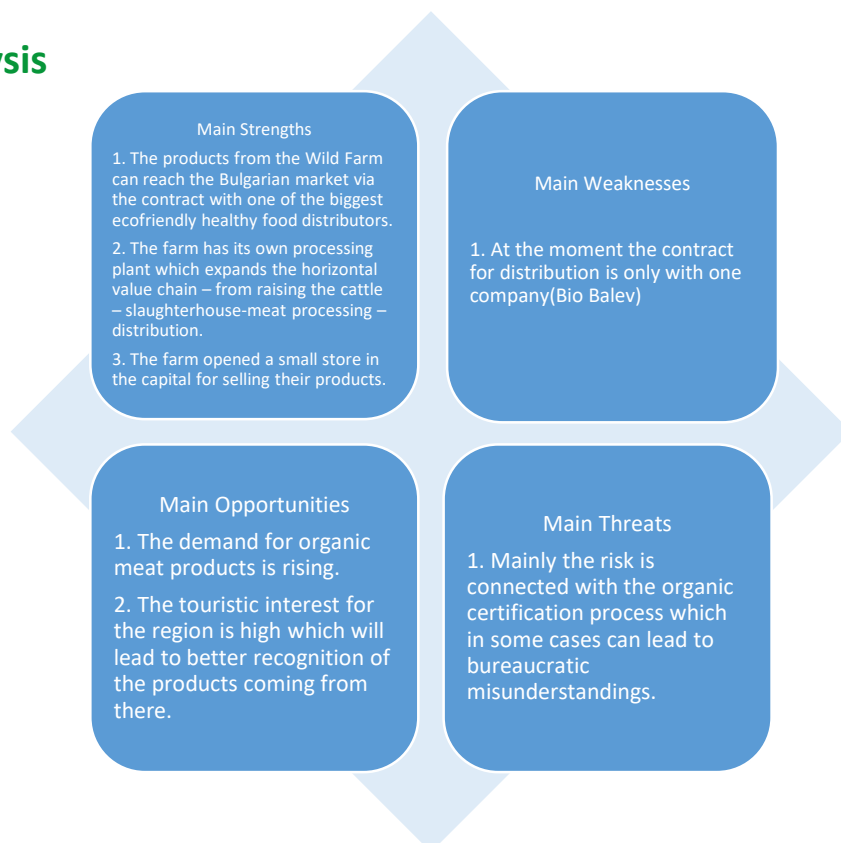


The “Wild Farm” initiative succeeded in not only raising local rare breeds of cattle in organic way but also suppling organic meat for the Bulgarian market. They have been in business for 20 years and although they haven’t been organically certified during the whole period, from year 1 they have been considering conservation measures on their farm. The cattle are raised by spending half of the year in the East Rhodopy Mountain above 1500 altitude, grazing on Alpic mountain hay meadows with specific type of plant species assessed as valuable source of nutrition for the cattle. The activities on the farm provide mainly public goods as biodiversity conservation and animal welfare and are targeted to reach the Bulgarian consumer so that the demand for organic food with high qualities can be met.

Reasons for success:

- One of the few organic husbandries in the country which has a contract for delivering their production to the Bulgarian market.
- The opening of the slaughterhouse secured that the production will not be entirely exported but will serve the Bulgarian market.
- The farm has a longstanding practice for environmental conservation and a high motivation to continue in this manner.

SWOT analysis



Conservation and restoration of grasslands in Strandzha and Sakar mountains for restoring local biodiversity and endangered bird species



For the last several decades former pastures in the Strandzha Mountain has been turned into agricultural land, thus destroying important breeding and feeding grounds for endangered bird species. The contract is between the Bulgarian Society for Protection of Birds and farmers for implementing conservational practices on pastures and restoration of the natural habitats.

Summary

The project started in 2015 and is still ongoing. The main goal was to restore former high-value pastures that have been turned into farmland and in this way to restore the natural habitats of important species – the European Soudlik as a main food source for Imperial Eagle, Booted eagle, Lesser spotted eagle, Long-legged buzzard. The contract is land-based and it includes around 20 farmers in the Strandzha Mountain. The leading organization is the Bulgarian Society for Protection of Birds, which is an NGO. Under a project financed partially by the LIFE + program the association purchased and leased out over 600 ha land to farmers with requirements to restore and maintain the pastures in environmental way.

Objectives

1. Protect the local biodiversity in the area
2. Restoration of the natural mosaic nature of the habitats in the region
3. To encourage the involvement of farmers into contracts for biodiversity conservation



© Svetoslav Spasov, Bulgarian Society for Protection of Birds

Problem description

There is a tendency to plough and convert some of the most important grasslands for endangered bird species into arable land, vineyards and orchards. The main driving force for this contract was the high percentage of tilled pastures, which were turned into arable land in the Strandzha and Sakar mountains. The restoration of former high-value pastures will contribute to the conservation of endangered vulture birds and will also allow the restoration of the mosaic nature of the habitats – an important biodiversity feature.

LAND TENURE



practice-based – leased out- environmental – conservation

PUBLIC GOODS



Farmland biodiversity



Landscape and scenery

INDIRECT EFFECT

One of the ecosystem features of the pastures is the retention of water (water quantity), regulation of surface runoff and decreasing of soil erosion in hilly terrains (soil quality and health)

LOCATION

BULGARIA



Strandzha Mountain and Sakar Mountain (Southeast region, municipalities of Stara Zagora, Yambol and Bourgas)

CONTRACT

The contract is for the whole land provided to the farmers from the Bulgarian Society for Protection of Birds. The financing party in the contract solution is LIFE + programme for biodiversity.

NGO – private

Contract conclusion:
written agreement



Payment mechanism:
No payment but access to land



Funding/Payments:
Part of the financing is for purchasing of former pastures that should be restored and conserved. The farmers are also eligible for governmental support for maintaining pastures in conservational manner (practice-based subsidy) for which the subsidy is 324 euro per ha.

Length of participation in scheme:
7 years/ongoing



Start of the program:
2015

End: ongoing

Data and Facts – Contract

Participation: 20 farms are involved in this contract solution. The area of implementation is around Strandzha Mountain and Sakar Mountain, Southeast region, municipalities of Stara Zagora, Yambol and Bourgas.

Involved parties: The contracting parties are the Bulgarian Society for Protection of Birds (an NGO) and the farmers. The role of the NGO is leading because they manage the project, coordinate it, and perform the monitoring activities. Farmers mainly benefit from maintaining pastures by providing grazing space for their animals and for using the haying for fodder. By covering the specific requirements set into the contract with the NGO they also can apply for government subsidy.

The benefits for the NGO: Financial compensation for managing the project; fulfilling their mission and vision for biodiversity conservation and bird protection which are the core of their activities.

The benefits for the farmers: Farmers cultivate the land without paying rent. By meeting certain environmental requirements they also become eligible for government subsidy (compensations for practice-based efforts).

Funding/payments: The funding organization is LIFE + programme who granted the Bulgarian Society for Protection of Birds for restoration and sustainable management of the Imperial Eagle's habitats. Part of the financing is for purchasing of former pastures that should be restored and conserved. The Bulgarian society for bird protection therefore leased out the lands to farmers in the region for activities that aim at restoring and maintaining the pastures. The farmers are also eligible for governmental support for maintaining pastures in conservational manner (practice-based subsidy) for which the subsidy is 324 euro per ha.

Management requirements for farmers: The main requirements for participation are for conservational maintenance of the pastures, incl. restoration of bushland pastures; removing some of the unwanted vegetation to maintain mosaic habitat; sustainable management of grassland through livestock grazing or mowing; restoration of grassland by restoring grassland naturally or by sowing native grass species.

Controls/monitoring: The monitoring is done by the Bulgarian Society for Protection of Birds.

Conditions of participation: The condition is to maintain and restore the pastures in conservational manner, as all requirements are defined precisely in the contract.

Framework conditions

Landscape and climate: The climate is transitional-Mediterranean with a strong Black Sea influence, which is confirmed not only by the high average January temperatures (from 2 to 3.2 °C), but also by the significant average annual precipitation (from 500 to 1000 mm). The typical habitats are grasslands, bush shrubs and mixed oak forests



- a good breeding ground and predatory place. Bird diversity is very rich: 221 species; 59 of them are included in the Bulgarian Red List, and 96 have conservation significance on a European level. Here can be found the biggest part of the Bulgarian populations of the Imperial Eagle, Booted eagle, Lesser spotted eagle, Long-legged buzzard.

Farm structure: The targeted type of farming is pasture and grassland agriculture with special requirements for conservational management. The total land includes over 600 ha of pastures leased out to farmers. The ownership of the lands is by the Bulgarian Society for Protection of Birds

SUCCESS OR FAILURE?

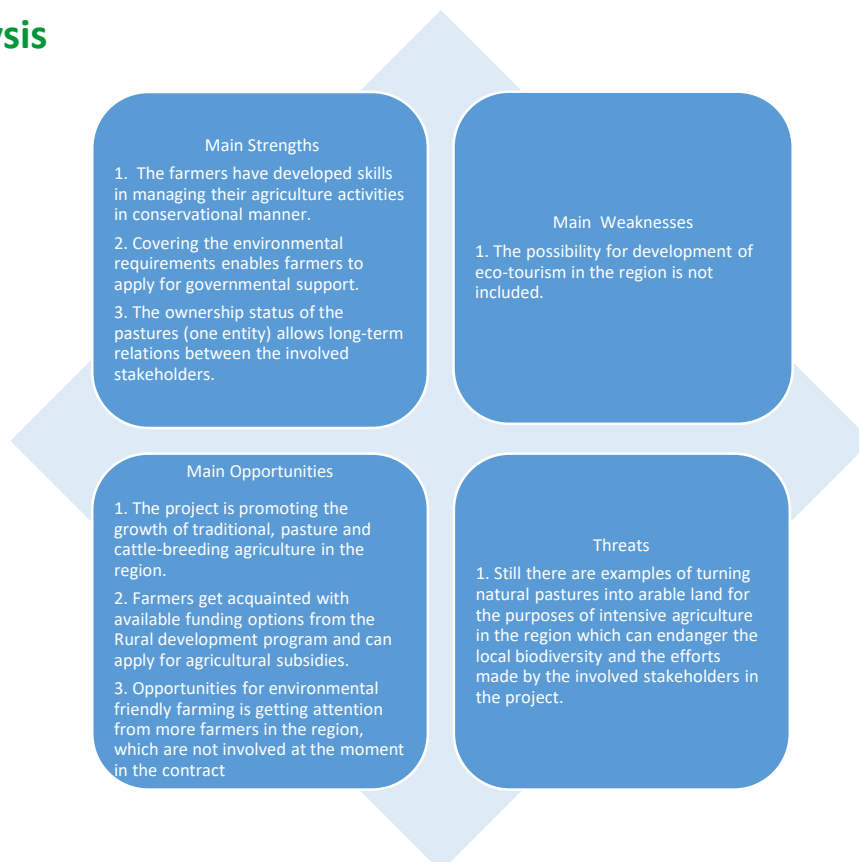


The project involves 20 farmers operating in high-nature value sites with ornithological significance. The agreement between the partners is very effective from an environmental point of view and it highly meets the targeted public goods. The collaboration between an NGO and farmers is a good example for a win-win scenario for both nature conservation and agricultural development.

Reasons for success:

- The ownership of the pastures can be a prerequisite for longer contractual relations between the farmers and the NGO.
- The contract provides a win-win situation for both sites – by preserving the ornithological significant species (core goal of the NGO) and by providing land for livestock farming.
- Local farmers trained in sustainable grassland management in areas with breeding endangered birds.

SWOT analysis



Viticulture on steep slopes creates diversity in the Moselle valley

Measures promoting species diversity in viticulture on steep and extremely steep slopes have been developed in collaboration with winegrowers. At the same time these measures contribute to the preservation of the traditional cultural landscape along the river Moselle.



Summary

The Moselle project was initiated by the farmers' and winegrowers' organisation "Bauern- und Winzerverband Rheinland-Nassau e.V."



in collaboration with local winegrowers. Winegrowers having first experiences with spontaneous vegetation in their vineyards played an important role to motivate participation of colleagues. During the four years since the start of the measure implementation in 2015, 35 winegrowers participated in biodiversity promoting measures. Interrows and field borders of vineyards are valorised and botanical hotspots with native flora and fauna are established. The winegrowers get a financial compensation for the propagation of wild plants inside and along their vineyards. But also abandonment of vineyards threatens plants and animals which thrive in warm habitats. Measures avoiding scrub encroachment are therefore tested. An intensive ecological support by contracted consultants and an individual adjustment of the measures allow to align the nature protection aspects with the production needs.

Objectives

The preservation and promotion of biodiversity by winegrowers in cultivated steep and extremely steep slopes stays in the foreground. This is done by:

- seeding wild plants for greening the interrows of vineyards and field borders
 - establishment of floristic and faunistic hotspots
 - clearance of shrubs of abandoned vineyards
- as well as safeguarding the attractive landscape for tourism of the Moselle valley.



Problem statement

The project has been initiated as a reaction to the loss of flora and fauna typical for the Moselle vineyards and the need of specific protection measures, especially for endemic species like the Apollo butterfly.

Data and Facts

Participation: 35 winegrowers with approx. 25 hectares. The greening of the interrows with wild plants is done on about 14 ha as well as on small areas of adjacent field borders and over 10 ha of shrubs were cleared on abandoned vineyards (March 2019).

Further participation: 3 local municipalities and one parish are participating in the shrub clearance. In addition, contact persons from 5 local associations are serving as 'local heroes', they substantially support the coordination and implementation of the measures on abandoned vineyards. Biologists carry out the monitoring. A public service center responsible for technical training of winegrowers supports the knowledge exchange. The Moselle project is one of the three components of the project "Lebendige Agrarlandschaften - Lively agriculture landscapes" with the German farmers' association DBV as lead.

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Result-oriented and cooperation

Greening of interrows and field borders



Scrub clearance in cooperation with associations

PUBLIC GOODS

Biodiversity



In addition: erosion control and improvement of the soil fertility



Further public goods

Landscape and scenery



Recreational access



Rural viability and vitality



LOCATION

GERMANY



The project area is located in the southwest of Germany, in Rhineland-Palatinate along the river Moselle. Productive and abandoned vineyards on steep or extremely steep slopes (> 30%; 17° up to 68°) are targeted.

CONTRACT

The written contracts concluded with the winegrowers are practice-based, but freedom is given about timing and the exact practices to be applied.



The initial length of each contract is one vegetation period (until 31.12.); can be extended until project end.

Payment: The payment of cost incurred at the end of the calendar year is based on the proof of performance (seeds are provided for free).

Project financing:

German Federal Agency for Nature Conservation (BfN) with funding from the Federal Ministry for the Environment and Nature Conservation (BMU), the Landwirtschaftliche Rentenbank complemented by own funds of the regional farmers' and winegrowers' organization

Duration of contract:

Maximum from 2015 until project end

Start: 1st May 2015

End: ongoing (secured financing until 12/2020)

Farming requirements:

The greening of the interrows and the field borders: individual adjustment of location and measure(s) to be implemented before conclusion of contract; seeds are provided to the wine-growers to establish wild plants on every second interrow. When carrying out care measures in the vineyards to ensure the performance the participants promote the high ecological value at the same time.

Floristical hotspots: propagation of seeds and plants of selected locally adapted wild plants and reestablishment on selected steep slopes or handing out of seeds based on oral agreement with a winegrower. A beneficial side effect of these 20 m² large sites with name tags, also called "letter case" is public relation work.

Scrub clearance from abandoned vineyards: The removal of scrub and the valorisation of dry-stone walls is done with involvement of local/ regional associations. Different techniques are applied: manual as well as mechanical manipulation or grazing. The land is either in public or in church ownership and licensing agreements are concluded while the associations are contracted for the work undertaken.

Controls / monitoring: The contracts contain an access right to check the proper implementation of the measures agreed as well as for the monitoring. The on-the spot checks take place at least once a year. Those sites chosen for monitoring are assessed four times a year during the vegetation period. Some winegrowers take advantage from the monitoring to get the local flora and fauna in and near their vineyards better known. The identification of rare plant and animal species or high number of individuals makes the participating winegrowers proud.

Conditions of participation: The contracts are concluded individually with the winegrowers. Two contracts are needed for the scrub clearance, one with the landowner and a second one with the association or enterprise in charge of implementing the measure.

Risks / uncertainties for participants: It is important to cut dominant plants to avoid that they spread their seeds at the end of the flowering period or grow into vine plants. All in all, a vineyard with wild plants for interrow greening requires increased attention. On the other side the permanent soil cover reduces considerably the risk of erosion. Dependent on site and timing of the seeding approximately half of the plants from the seed mixtures were successfully established. Because of the spring drought in 2017 it was necessary to repeat seeding the following year in some vineyards.

Contract features combination: The contracts concluded under the Moselle project built upon the rural development programme of Rhineland-Palatinate called ELER-EULLE, more specifically the scheme named „environmental friendly cultivation on steep and very steep slopes“. The participants have to respect the requirements of this scheme. Participation is possible on own land as well as on rented land for the greening of interrows and the field borders. If land is rented, the participating winegrowers have to guarantee that they have a right of use.



RESULTS

On the monitoring plots have been identified (2016/2018):

- 398 different plants
- 155 species of wild bees
- 49 butterfly species
- 20 grasshopper species
- 5 reptile species

Framework conditions

Landscape and climate: The river Moselle carved deep meanders into the landscape and shaped the steep valley slopes now covered by vineyards. Those vineyards dominate the scenery. The climate in the Moselle valley and on the slopes is mild, very sunny and characterised by hot, dry summers in the last years and temperate, humid winters.

Farm system: The primary focus is put on viticulture on steep slopes. The area managed by the winegrowers is limited by generally difficult conditions, the vineyards are labour intensive and require a lot of handwork, especially those on steepest slopes. All in all wine is grown on 5.200 ha of steep slopes in Rhineland-Palatinate.

Information / contact:

<http://lebendige-agrarlandschaften.de/moselprojekt/>

SUCCESSFUL CONTRACT SOLUTION



All three measures have been well received. First results of the monitoring are documenting the positive effects of the measures on wild plants and animals. The demand for participation by the winegrowers is higher than the possibilities to fund measures due to limited project funds. There was shortage of seeds in 2019 as only seed propagated regionally is used and the dry summer 2018 had led to losses in yields in seed production. Experiences from the project will be used to promote biodiversity and a sustainable cultivation of the vineyards that characterize the landscape along the river Moselle within the agri-environmental programmes.

Reasons for success:

- The winegrowers make suggestions for the area and possible measures, the exact contract details are negotiated individually.
- The winegrowers get the seeds for free, with 24 indigenous wild plants for the greening of the interrows and 15 species for the field borders.
- Wild plants are established at every second interrow, therefore a profitable viticulture remains possible without restriction.



SWOT analysis



Organic farming for biodiversity

The initiative with a result-based approach is targeting organic farmers. The farms have the possibility to select the measures that fit best for them to foster wild flora and fauna. A certification scheme qualifies them for selling their organic products in retail with premium price.



Summary

The initiative called "Farming for species diversity (Landwirtschaft für Artenvielfalt)" aims to increase the diversity of wild flora and fauna on organic farms. A result-oriented approach with participation of the value chain is pursued. In Mecklenburg-Western Pomerania the WWF Germany and the federation of organic farming named Biopark have started the initiative together with the retailer EDEKA. A new standard going beyond the requirements for the organic certification has been developed with scientific support. The nature protection certification is based on a credit point system with a broad range of over 100 measures. Its central element is a catalogue of measures with credits allocated to each of them. Together with a specialised nature protection advisor, the participating farmers choose the measures that are the most suitable and can be best integrated into their agricultural production. Factsheets provide detailed information on the implementation of the measures, suitable locations and potential indicator species. The whole farm with all its land and the surrounding landscape elements is eligible. If the farmer reaches a minimum of credit points, he gets a supplement for selected products (pork, beef, lamb, and potatoes). The farmer is compensated for his nature protection efforts through the higher priced premium organic product sold with a particular label. The consumers actively support species diversity by purchasing these products.



RESULT-BASED



Species diversity: indicator species and habitats

VALUE CHAIN



Organic farmer – organic farming federation – retailer – consumer

PUBLIC GOODS



Biodiversity

Further PGs



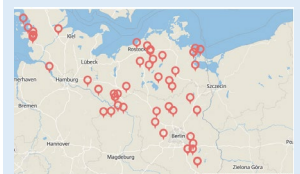
Product quality



Rural viability and vitality

LOCATION

GERMANY



The core area of the project is situated in northeast of Germany. Since 2018 agricultural holdings in Baden-Wuerttemberg, Saarland and Rhineland-Palatinate participate too.

Objectives

- Increase of the diversity of wild flora and fauna in agricultural landscapes
- Establish a nature protection certificate for organic farms
- Improve the market opportunities for selected organic products



© F. Gottwald

Problem statement

The starting point for this project was the observed decrease of the biological diversity on farmland and in agriculture landscapes. In principle organic farming provides an excellent basis for a high species diversity of wild animals and plants. But also in organic farming the increasing economic pressure leads to intensification and this goes along with negative effects on species diversity.

Data and Facts

Participation: 72 farmers, the federations of organic farming BIOPARK and Bioland, the retailer, first EDEKA North, now in addition EDEKA Southwest. The organic farmers cultivate approximately 39.000 hectare with 60% of grassland (November 2019).

Further participation: WWF Germany as project lead; scientific support and realisation by the Leibniz Centre for Agricultural Landscape Research (ZALF).

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CONTRACT

Verbal agreement between the organic farming federation and the participating farmer (involvement of a nature protection advisor)

Guaranteed purchase for selected products, written



Payment:

Farmers get a premium through EDEKA commercialisation; nature protection advice free of charge

Project financing:

Pilot project based on a partnership contract between WWF Germany and the EDEKA headquarter

Duration of contract:

For farmers without end date

Start: 2012

End: ongoing (should be open ended)

End of the project funding: 31.05.2022

Nature protection certification

- Organic farm
- Individual choice from a catalogue of nature protection measures
- Certification if a minimum number of credits at farm level has been achieved
- Cropland, grassland, and landscape elements are eligible for the credits

Participation in the nature protection module:

1. Advice: The nature protection advisor assesses the farm and identifies which wild species are present. Existing nature deficits are discussed and solutions are elaborated. He agrees with the farmer which measures are suitable on which fields or neighbouring areas.
2. Catalogue of measures: Farmer can choose from more than 100 nature protection measures for arable land, grassland and landscape elements. A credit point system provides information about the effectiveness of each measure in protecting or promoting species and habitats.
3. Implementation: The farmer implements the selected measures on his farm. Knowledge is gained thanks to the long-term collaboration between the advisor and the farmer, allowing a continuous optimisation of the measures themselves as well as the overall farm management.



Controls / monitoring: The participating farms are controlled annually if they have successfully implemented the chosen measures on their farm. Currently the nature protection advisors are controlling if the necessary credit points are obtained and certify the organic farms. In future it is foreseen to have the mandatory controls for organic farming back-to-back with the nature protection certification. There are monitoring and evaluation schemes for wild herbs on agricultural fields, the whinchat bird as well as skylark, for butterflies, amphibians and grassland vegetation. The evolution of the populations is assessed on selected farms to check if the implemented measures bring the expected benefits.

Conditions of participation: The participating farms have to obtain a minimum number of credit points by implementing nature protection measures chosen after an in-depth advice. The products from those organic farms can be sold as premium product (mainly meat). Consumers can recognize these products thanks to the logo of 'farming for species diversity' alongside with the WWF logo. In addition, the products are labelled with one of the logos from the organic farming federation (Biopark for EDEKA North, Bioland for EDEKA Southwest). Since 2015 organic farms from Brandenburg, Schleswig-Holstein and Saxony-Anhalt are eligible to participate beside farms from Mecklenburg-West Pomerania. In 2018 also farms from Baden-Wuerttemberg, Saarland and Rhineland-Palatinate joined the initiative.

Risks / uncertainties for participants: A minimum of credit points has to be obtained on a yearly basis through measure implementation to be able to benefit from the premium price for the selected products. In addition, supply contracts with EDEKA are required for privileged market access. In return the retailer ensures constant reliable prices for the products sold.

Contract features combination: The participating farmers are eligible to get EU-cofunded support for organic farming.

Framework conditions

Landscape and climate: Mecklenburg-West Pomerania (M-V), where the core area of the project is situated, is located in the northeast of Germany with a cool moderate climate. The coastal areas are under the maritime influence of the Baltic Sea. The annual precipitation is around 600 mm. It is the most sparsely populated state in Germany. The state is rich in water bodies and has three national parks as well as numerous nature protection areas, together they cover 6.2% of the territory. The land use is characterized by large-scale farming.

Farm system: The initiative focuses on organic farming. Organic farming takes place in M-V on 12.6% of the agricultural area. This makes M-V the number one in Germany. Most of the time the organic farms cultivate land of lower soil quality, have significantly more grassland and a higher percentage of extensive livestock. The farms participating in the initiative differ regarding location, farming structure, and farming practices.

Information / contact:

<https://www.landwirtschaft-artenvielfalt.de>



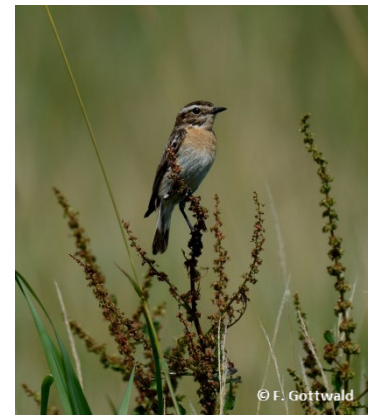
SUCCESSFUL CONTRACT SOLUTION



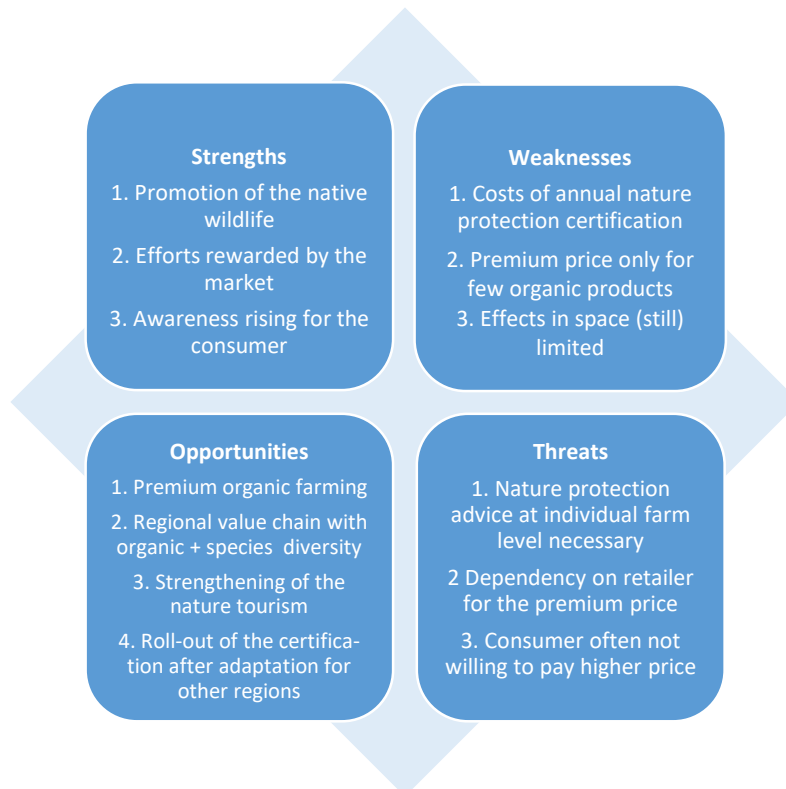
The initiative 'farming for species diversity' shows how organic farms can successfully implement nature protection on their farm land. The nature protection module used to reward achievements in nature conservation has proved its worth. This is also reflected in the number of participants which has increased nearly fivefold since the start of the initiative in 2012. The transferability into other regions could be demonstrated with its enlargement. The ecological monitoring showed significant improvements for selected indicator species, for example the breeding success of the whinchat increased significantly.

Reasons for success:

- Close collaboration between nature protection advisor and organic farmers
- Nature protection measures can be integrated into the farming activities
- Project logo on the products enables consumers to recognize the products with nature protection benefits
- All participating farms can be found on the EDEKA- and the project homepage through a tracking code placed on the product



SWOT analysis



Collaboration for sustainability between institutional landowners and tenant farmers



In the region around the city of Greifswald institutional land owners and tenant farmers cooperate to establish a sustainable agriculture protecting environment and nature. Land tenure contracts with sustainability clauses are the means chosen. A transparent tendering procedure is now taking into account sustainability criteria.

Summary

Key players are the institutional land owners of the region around the city of Greifswald and their tenant farmers. The land use should be shaped in a way to meet ecological, economic and social demands in the long term. The Michael Succow foundation has suggested joining forces by setting up the initiative called 'agricultural initiative for Greifswald (Greifswalder Agrarinitiative)' and has coordinated it until June 2019. After project ending the foundation supported the transfer into an association with the same name to ensure continuation of the cooperative approach. The current practice under which leased land has been awarded changed substantially. A transparent tendering procedure taking into account sustainability criteria has replaced rental price as key decision criterion. The agricultural holdings get advice on how to integrate environmental and nature protection measures into their farming practice. A cooperation agreement is signed between the agricultural holdings and the institutional land owners for new or renewed lease.



LAND TENURE



contracts with sustainability clauses concluded between institutional land owners (city, university, church) – private tenants and farm managers

PUBLIC GOODS



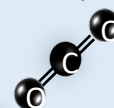
Biodiversity



Soil quality



Water quality



climate regulation

Further PGs

Improvement of the social and economic sustainability of land use

LOCATION

Germany



The project area located in the northeast of Mecklenburg-Western Pomerania encompasses the land around the city of Greifswald up to a distance of 20 km.

Objectives

- Strengthening the sense of responsibility for natural resources of tenants and land owners
- Improving the sustainability of agricultural production
- Biodiversity maintenance and promotion
- Greater consideration of climate protection requirements and the protection of water bodies



Problem description

The agriculture in the region around Greifswald is dominated by large-scale fields and an intensive agricultural production with a high share of rented land. The intensive land use has negative impacts on the agricultural soils and the neighbouring ecosystems. The initiative has been initiated by the Michael Succow foundation.

Data and Facts - Contract

Participation: 54 farms (mainly arable farms) rent 10.000 ha owned by institutional land owners: the city of Greifswald, the University of Greifswald, Peter-Warschow Sammelstiftung (a foundation) and the protestant parish St. Nikolai. The land is predominantly under conventional farming.

Further participation: Project lead by the Michael Succow foundation until June 2019, assistance and project support by scientists from the university of Greifswald as well as independent external experts.

Legal notice: The compilation of the information provided in the factsheets has been done to our best knowledge and is subject to further analysis. Neither the authors nor the contact persons of the presented cases may be held responsible for the use which may be made of the information contained therein.

CONTRACT

A cooperation agreement is signed between the tenant (agricultural holding) and the institutional land owner in addition to the lease contract. 

Payment:

Land tenure contracts with adjusted lease payments, in future supplemented by funds to be collected by association (1 €/ ha and year, paid by land owners and tenants) and possibly external funds

Project financing:

German Federal Environmental Foundation (DBU), institutional land owners

Duration of contract:

during the whole term of lease, as a general rule 12 years

Start: 2013

End: ongoing (should continue long-term)

Project funding:

08.12.2015 until
30.06.2019

Successful cooperation?

- Voluntary collaboration of the regional actors with the common goal 'voluntary mandatory'
- Dialogue forums for an exchange on an equal footing on technical issues
- Successful cooperation requires trust, continuity and seriousness

Farming requirements:

The cooperative approach follows four principles:

1. Cooperative: the involved parties work together closely and on a basis of trust
2. Knowledge-based: based on available scientific and practical knowledge
3. Value-based: the participants act voluntarily based on their values and convictions, taking into account the economic and ecological concerns in a balanced manner
4. Landscape oriented: measures to promote biodiversity take into account the natural as well as the site specific conditions



The conclusion of the cooperation agreement is a prerequisite for land lease. The objectives are formulated as intended improvement, however, without specific targets. The implementation of the measures is to be tailored to the individual agriculture holding in view of long-term value creation and employment in the region. The farmers benefit from transparent lending criteria, connected to ecological (and social) aspects.

Controls / monitoring: Advisors perform an analysis of deficits taking into account landscape-ecological aspects and give recommendations for the implementation of environmental and nature protection measures. There is no systematic control; however, this is foreseen to be carried out by the newly established association.

Conditions of participation: Land for lease is to be awarded to agricultural holdings willing to cooperate and which commit to farm the land according to the guidelines and the cooperation agreements. Nevertheless, during project lifetime cooperation between regional actors became more important than formal agreements in tenure contracts. The measures that have been identified for the agricultural holding to protect and promote biodiversity are formulated as recommendations for action. The implementation of these measures like the establishment of landscape elements, measures for water and soil protection, remains voluntary and the cooperation partners provide support (e.g. through advice about funding possibilities and on technical aspects).

Risks / uncertainties for participants: There is a certain financial risk for the tenants, or at least a funding restriction as agri-environmental and nature protection schemes as well as compensatory measures in line with the German impact mitigation regulation are used for the implementation of practicable measures.

Contract features combination: Conventional and ecological farming are treated equally.

Framework conditions

Landscape and climate: The city of Greifswald is located in the northeast of Mecklenburg-Western Pomerania. The city is situated nearby the Baltic Sea, in the north of Greifswald are the islands Rügen and Usedom. The area is characterised by a flat countryside, rarely going 20 m above sea level.

Farm system: The proportion of rental land is about 80% in Mecklenburg-Western Pomerania. Besides the land owned by institutions there are many private land owners who rent out their land to farmers. 79% of the farmland in the region around Greifswald is arable land. Agricultural holdings with more than 300 ha dominate and half of the farms cultivate more than 500 ha.

The "agricultural initiative for Greifswald" aims at an overall sustainable land use, even though the plots owned by the participating institutions and rented to the farmers do only cover a more or less small part of their land.



SUCCESSFUL CONTRACT SOLUTION



The sustainable land use could be successfully established as common guiding principle for the awarding of lease land in the region around the city of Greifswald. Through an intensive dialogue process it was possible to agree on a goal-oriented proceeding. All three institutional land owners (city, university, and church) have committed to conclude voluntary cooperative agreements with their tenants for an enhanced consideration of environmental and biodiversity aspects. It was possible to keep the process running after the project ended thanks to the setting up of an association.

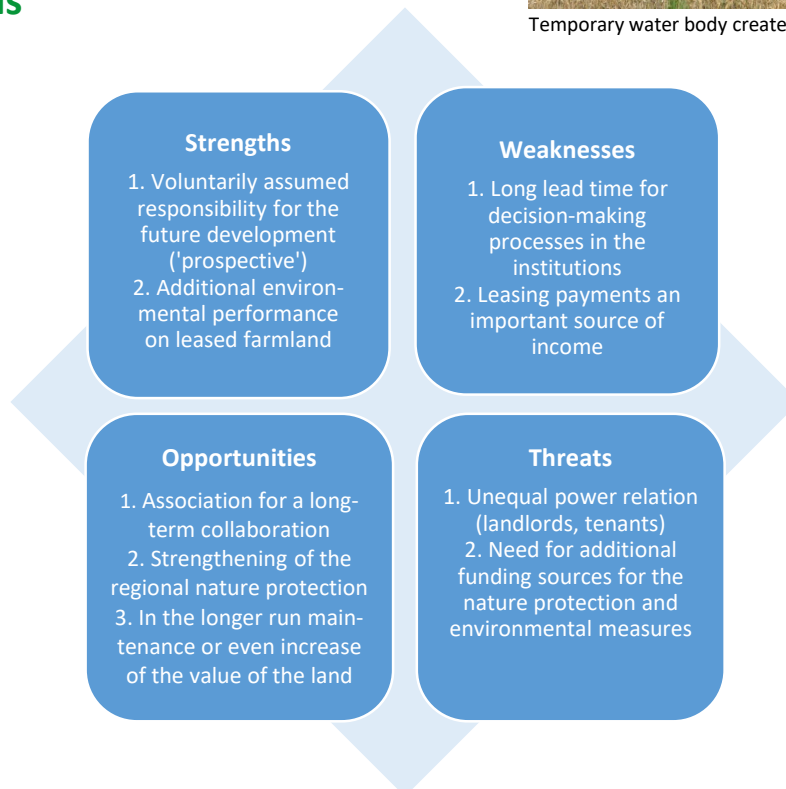
Reasons for success

- The landscape-oriented approach puts the land ownership and the land management into a spatial context going beyond the borders of the agricultural holding and the property, enabling more demanding measures.
- The close involvement of the democratically-elected bodies of the institutional land owners in the cooperation process and the design of the sustainability criteria for renting land
- The process has been scientifically supported, without prejudging its outcome.



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Temporary water body created by the ice age in wheat field

SWOT analysis



Agro-ecological transition pathways in arable farming

Suitable strategies and incentive mechanisms for agro-ecological transitions are co-constructed with a local Multi-Actor Platform (MAP), putting a particular focus on result-oriented approaches. Participatory decision support tools are applied to assess the current environmental, economic and social situation of arable farms in Lower Saxony. The outcome is used to identify potentials for agro-ecological improvements.



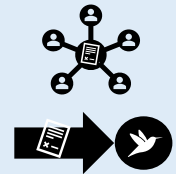
Summary

In intensive arable regions like the Nienburg district in Lower Saxony the uptake of current agri-environment schemes is low and their performance unsatisfactory.

Nine arable farms are assessed using the participatory decision support tools SMART, Cool Farm Tool and COMPAS to better understand current sustainability issues and barriers in implementing agro-ecological approaches. A local Multi-Actor Platform (MAP) is established to identify possible pathways of agro-ecological transitions and to co-construct practice-validated strategies and incentives for the promotion of improved agro-ecological practices. Agro-ecological practices are adopted on specific parts of the farm if and where such practices fit best with the business plan of the farm. Result-oriented approaches will be developed on an experimental basis to foster farmland biodiversity and water protection using the toolkit to assess the environmental, economic and social performance of the innovative strategies at farm level (part of the German case study of H2020 project UNISECO).

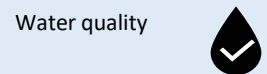
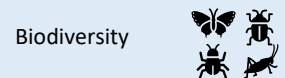


Cooperation & Result-oriented



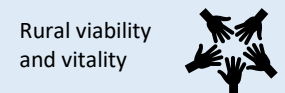
Preparation of a result-oriented approach in collaboration with local actors to foster biodiversity and water protection based on the outcomes of the sustainability assessment.

PUBLIC GOODS



as well as environmental sustainability in general

Further PGs



LOCATION

GERMANY



The case study region is the district of Nienburg located in Lower Saxony, in the northwest of Germany. It is characterized by intensive arable farming and a high share of rented land.

Objectives

A local Multi-Actor Platform (MAP) is set up to:

- improve understanding of barriers and drivers of agro-ecological transitions
- co-construct novel and effective market mechanisms and policy instruments to improve the sustainability of intensive arable farming systems
- design result-oriented agro-ecological practices allowing to improve biodiversity and water quality while minimizing negative impacts on the economic viability



Problem description

In the district of Nienburg, Lower Saxony a high pressure on ecological sustainability in general and biodiversity loss as well as water pollution in particular persists. Land use is dominated by highly market-oriented farming with a high share of rented land. The experience with demanding agro-ecological practices is very limited. Cover crops are grown as greening measure and some farmers have established flowering strips, extensive field margins.

Data and Facts - Contract

Participation: 9 arable farms with 140 ha on average (100 – 200 ha, some with minor pig husbandry). Around 70% of the land is rented, in many cases on a short term. The farmers provide data for the sustainability assessment of their farms and engage in the local Multi-Actor Platform together with other local actors.

Further participation: The Thünen Institute of Farm Economics is coordinating the UNISECO project. It has the lead for this case study and is supported by the Chamber of Agriculture Lower Saxony. Further MAP members are farmers, value chain actors, advisory services, NGOs, and representatives of local and regional administration.

CONTRACT

No contracts are signed.

Instead:

Participants engage in sustainability assessment and contribute to the co-development of strategies for an agro-ecological transition benefitting from result-based approaches.

Payment:

The participating farmers aren't paid by the project.

Project financing:

EU Commission
(Horizon 2020 project UNISECO - grant agreement No 773901)

Project start: 1.05.2018

Project end: 30.04.2021

Duration of case study activities:

Local project activities started in spring 2019 and last for UNISECO until autumn 2020. But the experimental testing of result-oriented approaches will be explored beyond project time life.

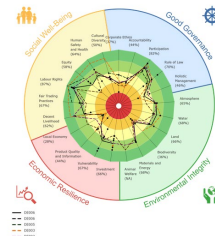
Agro-ecological farming

- is based on the sustainable use of local renewable resources
- benefits from local farmers' knowledge and priorities
- uses wisely biodiversity to provide ecosystem services and resilience
- looks for solutions that provide multiple benefits (environmental, economic, social) from local to global

The participatory decision support tools:

SMART Farm Tool (Sustainability Monitoring and Assessment RouTine):

- multidimensional sustainability tool used to assess ecological integrity, economic resilience, good governance and social wellbeing
- enabling the scoring of very different farm enterprises in a comparable manner through standardised collection of farm specific information
- allows to considers trade-offs and synergies between sustainability aspects



Cool Farm Tool:

- an online decision support tool to estimate the environmental impacts of food production
- started as an on-farm GHG emission calculator allowing farmers to gain insights into the potential emission reductions resulting from changes in farm management practices
- provides a simple, yet comprehensive GHG footprint for a broad range of farms
- today it contains also a water (quantity) and since recently a biodiversity module

COMPAS (Comparative Agriculture System Model):

- an economic performance assessment tool developed by the Thünen Institute of Farm Economics
- allows to analyse economic and technological changes of agricultural production at farm level in detail.
- output consists of various economic indicators including total output, labour productivity, net farm income
- in a first step used to analyse the status-quo of the farm; in a second step, specific model parameters can be changed and the outcome compared with the status-quo.

Controls/monitoring: There are no controls. The farming activities are monitored complementing the farm assessment with the decision support tools. Special attention is given to fertiliser, crop protection and soil management (e.g. precision application of fertiliser, cover/catch crops, flower/buffer strips, tillage practices, crop diversification). Therefore detailed documentation of one representative field for each crop grown including quantitative information about plant protection, fertilisation is required from each participating farm.

Criteria for farm selection: The focus was put on specialized conventional arable farms with 100 – 200 ha (some with minor pig farming). Half of the farmers aren't engaging in any agri-environmental measure, the others implement some agro-ecological practices like flowering strips, extensive field margins.

Risks/uncertainties: One uncertainty was about time required for the interviews for the sustainability assessment and for engaging in the MAP. The result-oriented approaches are still to be developed, thus participating farmers are not sure to be able to benefit from them.

Contract features combination: Some farmers and other MAP members have experience with water protection and biodiversity measures financed under the rural development programme of Lower Saxony (on minor farm area).

Framework conditions

Landscape and climate: The study area Nienburg in Lower Saxony belongs to the North German Plain, a flat region that was formed by glacial action characterized by intensive agricultural land use. The climate is maritime with considerable precipitation and mild winters. The river Weser flows from south to north through the district that comprises an area of approximately 83,100 hectares. 63% of it is agricultural land (83% arable), mainly with loamy or sandy-loamy soils. There are 1500 farms, 560 cultivating more than 50 ha.

Farm system: The case study targets arable farming and the average size of the participating farms is 140 ha. Around 70% of their land is rented. Some of them practice minor pig husbandry. The case study area is adjacent to intensive livestock regions with severe issues in manure management leading to issues regarding biodiversity loss and water pollution threats. The land (rental) prices are high. The crop rotation comprises cereals, rapeseed and maize.

SUCCESS



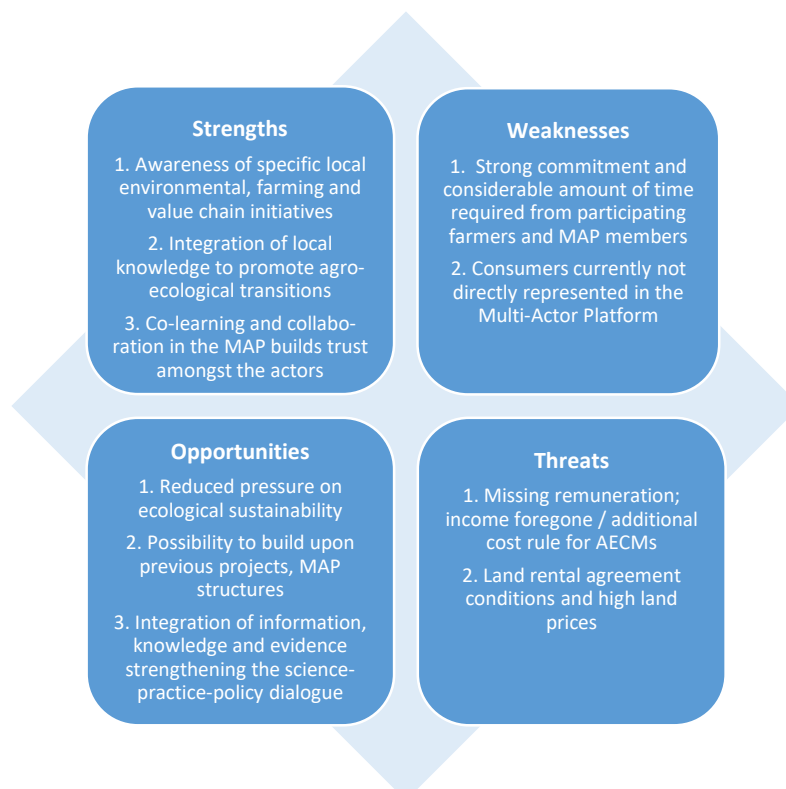
It could be proved that using the participatory decision support tools allows benchmarking the farms regarding their sustainability and to identify entry points for agro-ecological improvements. The willingness to engage in the MAP is core for a successful second step allowing the co-development of suitable agro-ecologic strategies adapted to local specificities. How far the outcomes of the participatory process can be used to develop result-oriented approaches benefiting water quality and biodiversity without harming the economic viability of the farms will be assessed in the forthcoming activities.

Reasons for success:

- Recognition of the influential role of land owners for a agro-ecological transition in regions with high shares of rented land
- Reflection of the farm specific assessment to identify possibilities for environmental improvements
- Commitment and diversity of involved actors facilitating co-learning on how to effectively support agro-ecological transition



SWOT analysis



Water protection bread

Actors of the whole value chain from the wheat producing farmers to the consumers are engaging in the initiative for groundwater and drinking water protection. The farmers renounce late fertilisation of their wheat fields and by doing so avoid nitrate input into the groundwater. The initiative encompasses a communication strategy targeted towards the consumers. It addresses the importance of clean water as well as the possibility to contribute to it by buying the so called 'water protection bread'.

Summary

The initiative called "water protection bread (Wasserschutzbrot)" is led by the government of Lower Franconia and has started in 2014 with one water supplier, one farmer, one mill, and one bakery. Today, in 2019, 32 farmers are participating. The farmers deliver the wheat to the mills that are processing it to flour for regional bakeries, keeping it separated from other wheat. The bakeries sell the bakery product labelled with a special label. Eligible are farmers who farm land in drinking water abstraction areas from a public water supplier and/or in water sensible areas. They renounce late fertilisation of wheat that is heavily criticised from the point of view of groundwater protection and guarantee applying a maximum of 160 kg N/ha. This allows to significantly reduce the nitrogen surpluses in the soil and to avoid leaching to groundwater. Wheat from selected varieties has good baking properties despite a lower protein content of 11-11,5% instead of 13%. A communication campaign targeted at the consumers is part of the initiative to inform about the importance of clean ground- and drinking water as well as the possibility to contribute to it by buying bakery products from this wheat in more than 100 selling points.



VALUE CHAIN

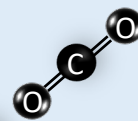


farmer – mill – bakery – consumer and water supplier

PUBLIC GOODS



Groundwater quality



Climate mitigation - through less mineral fertilizers

Further PGs



Rural viability and vitality

LOCATION

Germany



The project area is located in the south of Germany in the Bavarian governmental districts Upper Bavaria, Upper Franconia, Lower Franconia. In Lower Franconia wheat is cultivated on one fourth of the arable land.

Objectives

The aim is the protection of ground and drinking water through a sustainable and regional value chain. Reducing the nitrogen load in groundwater is hereby in the foreground.



Problem description

Problems with the groundwater quality arise in areas with high agricultural intensity combined with low precipitation rates, a low groundwater recharge rate and in parts very shallow soils. The government from Lower Franconia has started the initiative as a response to it; today it includes as well Central and Upper Franconia.

Data and Facts

Participation: 32 farmers, 6 mills und 26 bakeries with 110 selling points, 9 water suppliers (November 2019). The area of is implementation 330 ha on which 2,200t of wheat have been harvested in 2019.

Further participation: The government of Upper Franconia, section water management, has initiated "water protection bread" as contribution to a dedicated action on water protection that started in 2001 in Bavaria; public water suppliers from the region; The Research Institute of Organic Agriculture (FiBL) Germany as external service provider.

CONTRACT

No contracts signed

Instead:
participants sign a voluntary commitment declaration



Private contracts outside of the initiative set the rules for the purchase of the products.

Payment:
the participating farmers, mills and bakeries aren't paid by the project.

Project financing:
Bavarian Ministry of the Environment (project activities and communication strategy)

Duration of contract:
The commitment declarations are open ended.

Start: 2014

End: ongoing (financing secured until 2022)

Farming requirements:

Farmers: project signs to be installed along the wheat fields; cultivation of selected varieties with good baking properties regardless lower protein content; ensure compliance with the required fertilizer conditions (max, 160 kg N/ha, no late fertilisation); regularly soil analysis from the participating wheat fields; a detailed field recording with all management practices; no desiccation treatment

Mills: separate collection; analysis and storage of the wheat from the water protection fields; separate processing to flour; quarterly reporting of the wheat / flour stocks of the wheat from the initiative as well as the amount of flour ordered by the participating bakeries

Bakeries: The participating bakeries commit to replace 50% of their annual requirement of wheat flour by flour from the initiative. As entry-level variant in the first year the bakeries can alternatively commit to sell especially labelled bread containing at least 60% of wheat flour from the initiative.

Controls / monitoring: Annual controls are performed. Farmers are checked for compliance with the conditions of participation either by the local water supplier or by FiBL as external service provider. FiBL does also carry out the controls of the participating mills and bakeries. In addition, the participants of the initiative committed to provide relevant information on a regular basis. For each calendar year the applied fertilizer amount as well as the harvested wheat yields, the amounts of milled wheat, and the wheat flour used in bakery products are recorded. The value of the remaining mineralised nitrogen in the autumn (Nmin value) is surveyed from each of the concerned wheat fields.

Conditions of participation: Even though the commitment declarations are not legally binding the signatories engage in respecting certain rules. For each of the three parties, farmers, mills, and bakeries, specific criteria have been defined in a participatory process.

Risks / uncertainties for participants: Actually there are more farmers willing to participate than can be accepted. The limiting factor is the number of participating bakeries and their demand for flour from the initiative. The purchase quantity is fixed every year in spring, therefore the farmers do not know exactly if they can supply their wheat to the participating mills when sowing it in autumn. But the farmers only grow a small part of their wheat on selected fields as water protection wheat. The bakeries are dependent upon a good selling of the bread labelled under the initiative.

Contract features combination: A number of farmers grow the water protection wheat on fields for which voluntary agreements exist with a water supplier; rented as well as owned land is eligible.

Framework conditions

Landscape and climate: The climate of Franconia is sunny, in the summer Lower Franconia belongs to the warmest areas of Germany. The precipitation is lower than could be expected in that geographical location; in particular in the rain shadow of the Franconian mountainous region, the annual precipitation can be as low as 500 mm. The soils are often shallow, nevertheless rich in humus. Due to the geologic conditions, already small nutrient surpluses from agriculture have negative effects on the groundwater quality. According to the Water Framework Directive, 50% of the groundwater bodies in Lower Franconia are in poor condition due to high levels of nitrate. The main cause is relative intensive agriculture regardless a low livestock density with only 0.4 livestock units per hectare on average.

Farm system: Usually participating farmers are purely cropping farmers doing conventional farming. They adapt their fertilizer application in order to respect the rules for the production of water protection wheat.



The water protection bread

- bakery products from wheat with reduced protein content
- cultivation and use of selected wheat varieties
- separate storage and processing of the water protection wheat
- regional selling points



SUCCESS



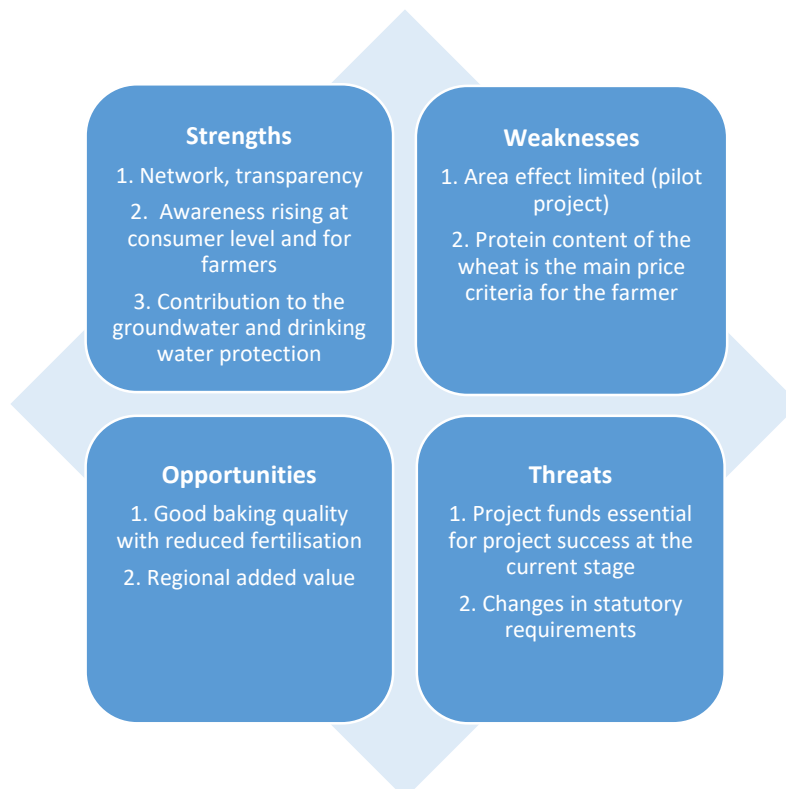
The initiative is a successful example for environmental protection along the value chain. The number of participants has continuously increased since the start of the initiative 5 years ago. There are more farmers willing to participate that are actually able to do so. Even if meanwhile more than 100 selling points are offering bakery products produced with the specific wheat flour, still the market for bread wheat with reduced protein content is rather limited. Nevertheless it was possible to reduce the content of mineralised nitrogen in autumn by 50% on the participating fields and to save 23 000 kg of nitrogen.

Reasons for success:

- Focus on regional value chains
- Accompanying communication strategy, for example through the slogan 'Drinking water protection through reduced fertilizer use'.
- In parts long-term contractual relationships between the farmers and the participating mills



SWOT analysis



Forest conversion from coniferous to deciduous stands - an eco-account case

The environmental restoration of a private forest in Krailling, Bavaria is undertaken as an eco-account offsetting scheme under the German Impact Mitigation Regulation. Hundred hectares of forest are ecologically upgraded while maintaining the subsurface industrial use. Nature enhancement of forest aisles complements this measure.



Summary

The main focus of this initiative is to increase the percentage of deciduous trees through reforestation, forest restructuring and a targeted promotion of native trees in view of enhanced species and habitat protection. Ecological forest conversion takes place in a damaged coniferous forest of 252 hectares in the municipality Krailling in Bavaria. A mainly subterranean industrial use is combined with the creation, upgrading and enlargement of important habitats for wild plants and animals. Thanks to the recognition of the enhancement activities on approximately 100 hectares as private eco-account scheme, the forest conversion is eligible as anticipated offsetting measure. An entry into the land register at the moment when developers make use of the already implemented eco-accounts measures to offset impacts arising from their projects secures the long-term preservation of the forest. The creation of an oak and hornbeam forest associated with wild fruit is complemented by the creation of forest aisles and nutrient-poor grassland in-between the forest pieces.



Emblem of Krailling

COOPERATION



The collaboration between a private forest owner and the nature protection authority enables the long-term protection and ecological enhancement.

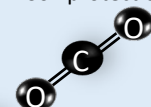
PUBLIC GOODS



Biodiversity



Soil protection



Climate protection

Objectives

Biodiversity protection in the long run through:

- development of a private eco-account in southern Germany that is by its surface one of the largest ones
- long-term preservation of a mosaic of forest pieces and nutrient-poor forest aisles
- compatibility of industrial use and high ecological value in one area



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Further PGs

Reduction of landscape consumption due to ecological enhancement alongside with industrial use.

LOCATION

GERMANY



The project area is located in Bavaria, in the southwest of Munich and belongs to Starnberg County. The site is important for the protection of endangered wild animals and plants and habitat connection.

Problem description

The hurricane "Niklas" caused severe damages in the forest on 31st March 2015. Bark beetles damaged the coniferous trees further. This was taken as an opportunity to schedule a large-scale forest conversion. No public funds are available as the forest is declared as a special area due to the industrial use with tank storage facilities in the underground. The idea to create an eco-account was born to enable the forest conversion in direction of the natural forest cover.

Data and Facts

Participation: The company named "G1 Krailling Real Estate GmbH" is owner of the 252 ha site with its forest since 2016. The operator of the tank storage facilities is supported for the forest area by the cooperative named in.Silva eG.

Further participation: The owner of the site was supported by the department for Food, Agriculture and Forestry (AELF) Weilheim, the Upper Bavaria's regional government and the local nature protection authority (UNB) of the Starnberg County. The development of the eco-account is supported by AGL (company for land use planning) that prepared the expert report.

CONTRACT

Contractual agreement with the nature protection as well as the forest authorities for recognition of the private eco-account.

Financing:

Private pre-financing for the eco-account measures in the forest; refinancing through private and state construction and infrastructure projects.

Payment:

The price setting for the eco-points in the eco-account is based on the cost for the nature preservation measures. Hereby supply and demand on the market of eco-points determine if developers make use of it.

Start: 2019 start of the planning of the eco-account measures

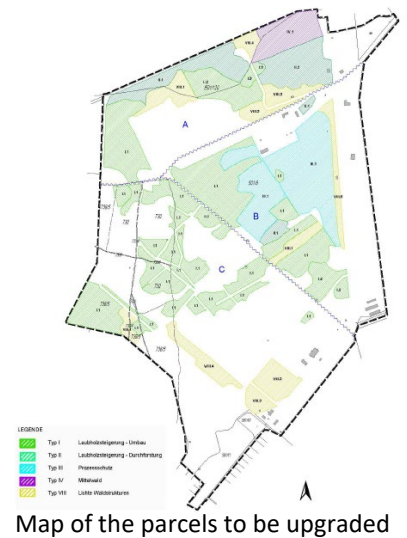
End: ongoing (long-term management and conservation of the eco-account site)

Advantages of eco-accounts

- Planning becomes more flexible and the application of the German Impact Mitigation Regulation is facilitated.
- Economies of scale when implementing the measures due to the large size of the area.
- Possibility to integrate the measures and surface into an overall nature protection concept, e.g. a habitats network.

Development and use of the eco-account:

- The forest owner performs the forest conversion on his own expenses and therefore he acquires eco-points.
- The eco-points are based on the calculation procedures fixed for Bavaria depending upon the measures performed.
- Single forest areas are assigned to forest conservation, thinning and targeted promotion of particular tree species.
- As soon as a developer makes use of the eco-points, an easement for the corresponding forest area is entered into the land register for a permanent safeguarding of the environmental improvement.



Map of the parcels to be upgraded

Through the establishment of the large-scale eco-account it is possible to steer developers' obligation to offset environmental impacts resulting from construction and infrastructure projects on a site that is particularly important for species and habitat protection.

Controls/monitoring: A multi-step verification is undertaken. First, the planned ecological enhancement needs to be recognized by the specialized public authorities; once the forest conversion is done, an on-the-spot check verifies if the measures are in line with the ecological planning as foreseen in the expert report. Finally when the eco-points are used, the situation of the area concerned is once again controlled before the land registration is done.

Conditions of participation: The development of an eco-account is only possible if from a nature conservation perspective an enhancement can be achieved and if corresponding measures are undertaken after approval by the nature conservation authority. In principle all developers – private and public – can make use of the eco-account, including the private owner of the eco-account himself.

Risks/uncertainties for participants: The setting-up of the eco-account and the implementation of the ecological measures is done on the expenses and risks of the land owner. An uptake of the compiled eco-points is not guaranteed. Due to the proximity to the Bavarian capital Munich and the fact that constructions and investments are foreseen in the region (inter alia in connection with the extension of the freight transport by railway) it is likely that there will be a demand.

Contract features combination: It is foreseen to also enhance the forest aisles and the grassland ecologically, including grass stripes along pathways and pipelines on the site with the tank storage facility. The project is foreseen on 35 ha using financing from the Bavarian state programme "BayernNetzNatur". This programme puts a particular focus on interlinking habitats and its key principles are the voluntary nature and the cooperative approach. The sustainable and environmental friendly use of the areas between the green corridors, here the forest pieces, is a precondition. This is the case thanks to the ecological enhancement foreseen as eco-account measures.

Framework conditions

Landscape and climate: The eco-account area is located in the landscape protection area named "Kreuzlinger Forst". The objective of the protection is to maintain, restore, protect and connect not only the areas grown with heather, but all dryland areas in the west of Munich. As the eco-account area has been used as subterranean tank storage facility since the mid-1930s, the site was inaccessible for the public and wild animals could live there relatively undisturbed. Along the unused railway lines and sunny waysides thermophilic plants and animals have settled that benefit from forest conversion and in particular the ecological enhancement of the open land.

Production system: The area afforested with coniferous trees has been used for silvicultural purposes. Besides there are areas that are more characterized by deciduous trees, and individual old trees have been preserved, including over 100 year-old oaks.



SUCCESS



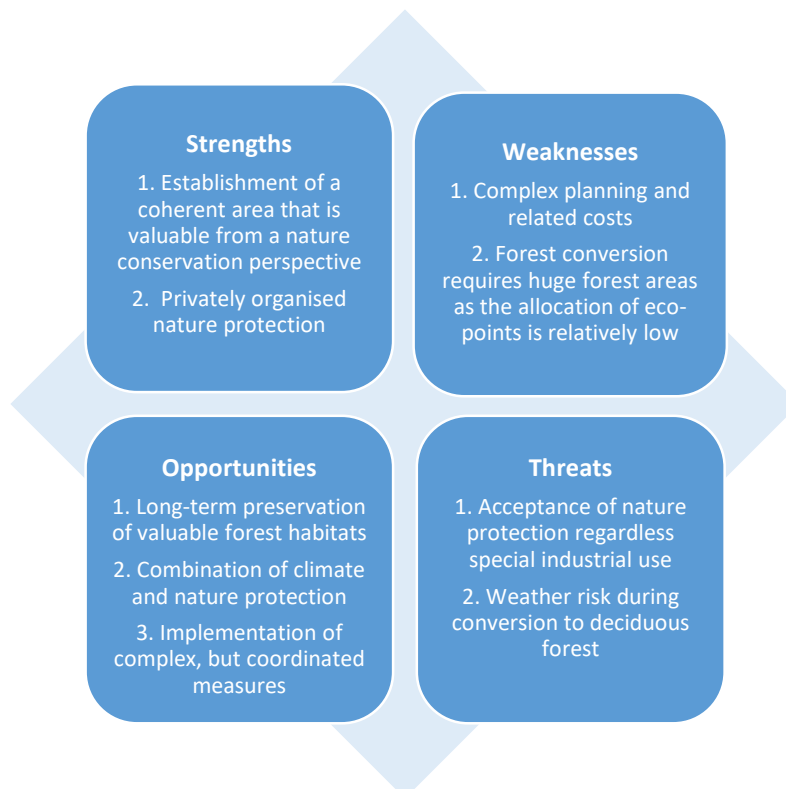
For the eco-account Krailling the formerly typical oak and hornbeam deciduous forest with wild fruit trees like wild cherry will be re-established on a 100 hectares large area. The planted and preserved deciduous trees contribute to climate protection through carbon sequestration in the biomass besides being an important habitat for rare and protected species. Due to the special use of this site and the exclusion of the public, wild animals prone to disturbance can successfully settle and propagate.

Reasons for success:

- Avoiding compensation measures that are in conflict with agricultural objectives in a prosperous region with high land sealing.
- High demand for eco-points in the region, making it likely that the forest conversion area will rapidly be secured on a permanent basis by entering into the land register.



SWOT analysis



Cooperative rice production in coastal wetlands in Southern Spain

A value-chain related contract solution, where rice with higher standards is produced (integrated production of selected varieties). In the case study, rice producers are associated and work together to produce rice in partial and full organic production of high standards.



Summary

In the case study, an association of 1100 farmers created in 2005 (Arrozua) provides a foundation for the producers to produce and market rice with higher quality. These farmers represent a production of about 13.000 ha. The Arrozua program covers almost the entire value chain, from the rice farmers to the storage, the processing plant, the sale to the end customers, everything is organized under the Arrozua brands (i.e., the Doña Ana and El Ruedo labels) and the white labels that are commercialised by Spain high value retailers (e.g., El Corte Inglés). Since 2010 Arrozúa sells online. The rice producers get fixed prices for the rice in average 16% higher than the globally imported rice.

Objectives

The contract between the rice producers and the association (Arrozua) leads to a higher provision of the following public goods:

- landscape and scenery (preservation of managed wetland)
- Biodiversity: The Arrozua program requires a limitation of agro-chemicals applied and maintenance of flooding to preserve biodiversity of migrating birds from Africa to Europe,
- rural viability and vitality (secure economic viability of the farmers in the Doñana region through the sale of rice with fixed prices).

1. Preserve coastal wetland and secure biodiversity conservation
2. Secure economic viability of the farmers in the Donana region
3. Secure high production standards according to consumer preferences



Rice production integrated into the value chain by the Arrozua cooperative. Source: Arrozua cooperative, 2019

Problem description

The sustainability of rice production in coastal wetlands is jeopardised by four main threats: water scarcity, decrease in financial support from the CAP, competition for water to preserve biodiversity, and future climate projections. Current policies are insufficient in response to these kinds of threats and concerns, since they do not consider collective action or time scale. Most local and regional actors are only concerned about the three first threats, and consider the need to deal with climate change as very low priority. In contrast, this last threat is the main focus of international actors.

The high degree of collaboration between producers could be sufficiently important to define new collective action policies and contract solutions to preserve biodiversity. It will be important to incorporate public opinion into the processes of developing contract solutions, since the public opinion is fundamental in the area of the case study.

VALUE CHAIN



farmer – cooperative - distributor - store - consumer

The participation in the practice-based payment is conditioned by the membership to the cooperative Arrozua

PUBLIC GOODS



(Farmland) biodiversity



Landscape and scenery



Rural viability and vitality



Quality and security of products



Cultural heritage



Resilience to natural hazards

CONTRACT

It is a private-private contract.

Financing party:

Market sector-oriented

Contract conclusion:

Written agreement



Payment mechanism:

Product price



Funding/Payments:

The farmers collectively fund the cooperative.



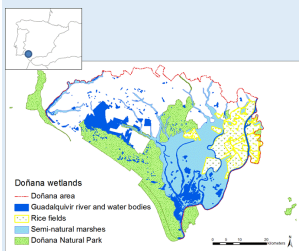
Start of the program:

2000

End: open end

LOCATION

SPAIN



Source: A. Iglesias

Data and Facts - Contract

Participation:

- Number of farms: 1100 farmers
- Area of implementation: 13000 ha
- Other participants: retail stores

The area adjacent to the case study is the Doñana National Park with 54252 ha.

Involved parties: The contracting parties are on the one hand the participating rice producers. The producers are organized in an association (Arrozua) founded 2000. The association consists of 1100 members (land owners). The members deliver their rice to the Arrozua cooperative. Arrozua has a drying plant and a storage plant. They organize the drying, processing and selling of the rice. All this is done under the different rice commercial brands and some white label brands on high-end retail stores. A part of the Arrozua rice is also sold directly to private consumers online. Since 2010 the Arrozua farmers can be certified according to integrated production criteria that guarantees low input agriculture while they do not meet the standard of organic agriculture. The Arrozua brand is an economic factor for the whole region. It also influences the tourism sector, because rice is very important in the local gastronomy. In the end the Arrozua rice reaches the consumer in form of high quality rice.

Cooperatives are organizations managed under the principle of collective ownership and the democratic control of members, as well as the tracking of adherence to common values and cooperative principles. Their strength is based on the existence of common interests, the joint interests of the members in pursuing the objectives of the cooperative (economic, social and environmental) and in the steadfastness of the established relationships (objectives and commitments, relations among members, and interaction among members and the Management Board). Agricultural cooperatives are an important tool for the survival of rural areas, competing against current trends in business concentration and maintaining social cohesion.



Rice production in the managed coastal wetlands near the Doñana National Park. Source: Arrozua cooperative, 2019

Advantages of participation:

- Rice producers – they produce with integrated production label and guarantee the selling each year to the Arrozua cooperative. They receive a fixed price and their product is dried and stored.
- Arrozua cooperative – They receive a stable amount of good quality rice that they distribute to high end retailers.
- Retailers – they receive a stable production of high quality rice on two labels and also they can use a retail white label.
- Consumers – they receive high quality rice

Management requirements for farmers: The Arrozua farmers require certain farming conditions. During the growing season (middle of April to October) the rice is inundated. The Arrozua farmers cultivate with minimum agrochemicals in a way called integrated production. The water is left in the fields an extra month to serve as habitat for migratory birds.

Controls/monitoring: In the Case Study, agro-chemicals applied are monitored at least once a year. The costs of inspection are covered by the Arrozua cooperative, and are indirectly paid by the farmers that are members of the cooperative.

Renewal / termination: Termination, by exiting the cooperative or failure to produce in an integrated production way.

Conditions of participation: to be a member of the cooperative.

Risk/uncertainties of participant: Price risks is high since the price is partially set by the international market

Links to other contractual relationships: So far, rice farmers in Doñana received approximately 1,670 €/ha as public subsidies (within the framework of the CAP) and if they met the integrated production commitment that includes a group of best management practices, they also received 398 €/ha. Currently, rice farmers will have to meet the measures included into the CAP greening to perceive the equal subsidies. Thus rice production can be considered profitable for farmers since the average cost of producing rice in Doñana is over 1,496 €/ha (reduced due to a highly mechanized agricultural system and higher education training of farm managers that implement precision agricultural methods) and rice price usually ranges between 2,000-2,200 €/ha on average.

Product requirements: Rice is planted only under irrigated conditions, in medium to large and highly mechanised farms. Direct seeding by broadcasting is the popular method of crop establishment. Rice crops are applied with adequate rate of fertilizers and other agro-chemicals for crop protection. The development and transfer of integrated rice crop management system has increased rice yield during the recent past. Rice varieties belong to japonica and Indica subspecies. Since the 2000s, the areas sown with the indica varieties has gradually been on the increase, and today they cover almost 90% of the rice growing area. The L-202 variety, also known as Thaibonnet, is almost the only Indica type cultivated in the marisma area. Thanks to the exceptional weather conditions, more than half of the long grain Indica type rice produced in the European Union are of Andalusian origin. The Cooperative Arrozuza accepts both indica and japonica varieties, however, it requires a quality defined by: morphological uniformity and physicochemical characteristics.



Doñana coastal wetlands provide an exclusive habitat for migration of birds and rice provides crucial services. Source: Arrozuza cooperative, 2019

Context features

Landscape and climate: The Doñana region is a coastal wetland in the Guadalquivir River Basin District of Southern Spain, where water is shared among the natural and the artificial wetlands. The recent high temperature and drought episodes are influencing the view of local communities about the need for adaptation in the Doñana natural ecosystems and agricultural systems. The water district is already under environmental pressure, the coastal vulnerability to sea level rise is high, and the potential increase of irrigation demand is very high.

Farm structure: The semiarid conditions and the salinity of soils make the cultivation of many other crops difficult in the rice area. The flooding irrigation system allows tolerable levels of oxygen, temperature and salinity for growing the rice (maximum concentration of 2g/l of salt in the water) whilst avoiding the emergence of a saline crust in the top soil. Further, the sea intrusion increases largely the salinity of the water in the estuary and the Guadalquivir Basin Authority has to provide for dam releases upstream from the rice area to improve the quality of irrigation water. The Doñana coastal wetland is a complex socio-ecological system where the rice production and the wetland ecosystem show a great dependence on water and climate and any change of these factors may alter the state of the environment and local livelihood security.



SUCCESS? Reasons for success

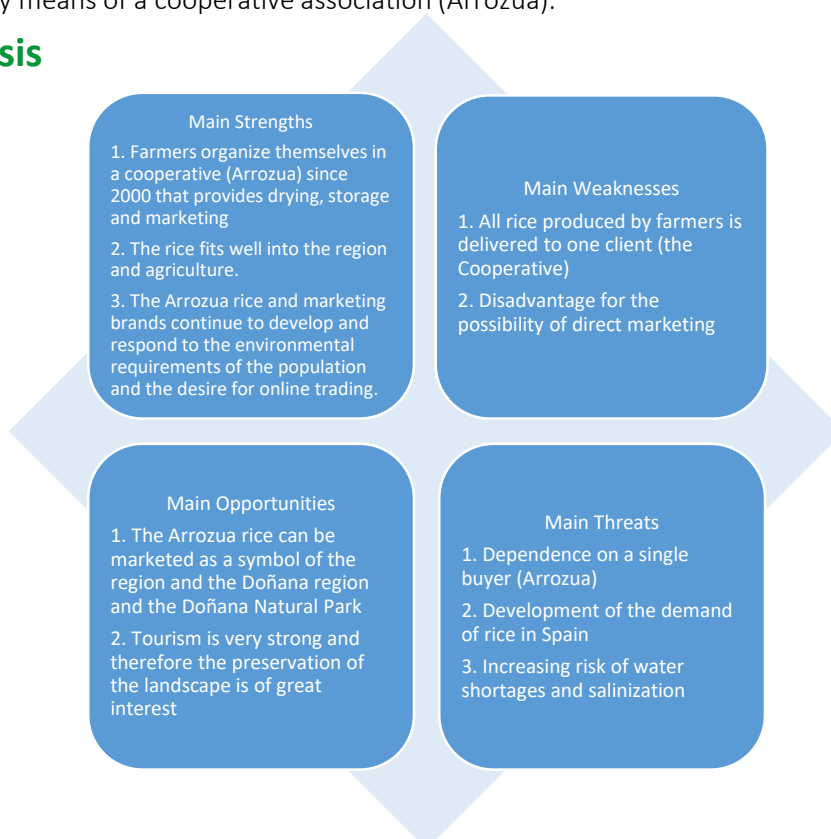


The solution is a success. Cooperatives are organizations managed under the principle of collective ownership and the democratic control of members, as well as the tracking of adherence to common values and cooperative principles. Their strength is based on the existence of common interests, the joint interests of the members in pursuing the objectives of the cooperative (economic, social and environmental) and in the steadfastness of the established relationships (objectives and commitments, relations among members, and interaction among members and the Management Board). Agricultural cooperatives are an important tool for the survival of rural areas, competing against current trends in business concentration and maintaining social cohesion. The farmers in Doñana benefit from collective production and the scale economy since the XIII century.

Reasons for success:

1. The Cooperative program provides an alternative for the farmers to the less profitable value chain in the global competitive market.
2. The rice production in the Doñana region has a long tradition and the area is very suitable for this type of farming.
3. The initiative for the Cooperative program was from the rice farmers themselves and they organised themselves by means of a cooperative association (Arrozua).

SWOT analysis



Organic wine in Rueda, Spain (Rueda)

One contract about provision of organic grapes; the initiative is connected to specific labels, advertised to the domestic and export markets, to enhance the image of the company. The overall target is to expand organic wine production in an emblematic area that influences greatly the Spanish wine market.



Summary

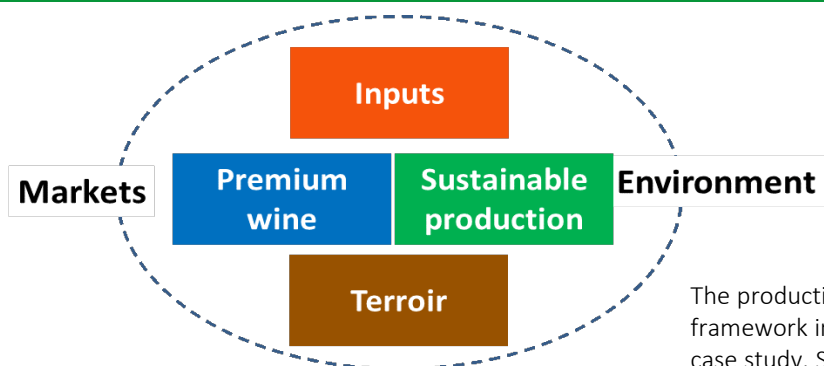
It is a value-chain related contract solution, where only grapes produced ecologically are bought by the winery Herederos del Marqués de Riscal, S.A (from now on, Riscal), to produce two selected varieties: MARQUÉS DE RISCAL ORGANIC and MARQUÉS DE RISCAL SAUVIGNON BLANC ORGANIC.

In the Rueda case study, grape producers are not associated, however, they are integrated into the value chain by complying to the winery standards and have periodic controls on quality and residues, and have a strict protocol of organic production of high standards.

Objectives

The contract between the grape producers and the winery (Riscal) leads to a higher provision of the following public goods:

- landscape and scenery (preservation of wineries)
- protection of endangered species of birds
- rural viability and vitality (secure economic viability of the grapevine producers in Rueda region through the sale of grapes with a higher price than the non organic producers).
- secure high production standards according to consumer preferences

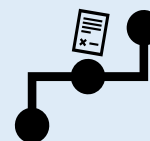


The production framework in the case study. Source: A. Iglesias, 2020

Problem description

The Rueda case study is located in the Duero River basin in northern-central part of Spain, where it occupies an area of 280,000 ha and currently grapevine is grown in almost 15,000 ha. Rueda belongs to the Mediterranean Continental pedoclimatic zone. The Rueda region is one of the wine regions in Spain that is more profitable, but at the same time needs a lot of man work, so organic production is a clear alternative. Wine production in the area in Rueda, is challenged by four main threats: water scarcity, decrease in financial support from the CAP, frost and future climate projections. The sustainability of wine production in the area is dependent on organic production that is becoming more attractive to consumers and with very high demand for export. The Rueda region offers a great possibility for organic production since the limited summer rainfall guarantees low incidence of diseases, especially mildew, therefore if the crop is adequately managed, does not require pesticides. Riscal is a leading company for innovation for organic production in technology and commercially. The producers also plant trees in the edges of the fields to comply with the greening measures of the CAP.

VALUE CHAIN



farmer – winery – distributor – store – consumer

The participation in the practice-based payment is conditioned by the organic production that is strictly controlled by the winery

PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Rural viability and vitality



Quality and security of products

Specific environmental benefits through maintenance of habitats for migratory birds, such as Avutardas, and includes an official special zone to protect birds (ZEPA de "La Nava-Rueda")

INDIRECT EFFECTS



Cultural heritage



Soil quality (and health)



Climate regulation – carbon storage/ greenhouse gas emission



Water quality

CONTRACT

It is a private – private contract.

Financing party: Market sector-oriented

Contract conclusion: verbal agreement/ handshake

Payment mechanism: Product price



Start of the program: 2010

End: open end



Data and Facts - Contract

Participation:

- Number of farms that sell to Riscal: 100 farmers
- Area of implementation: 400 ha
- Other participants: retail stores

Involved parties: The contracting parties are on the one hand the participating individual grape producers. The producers deliver their grapes for wine to the Riscal winery. Riscal is a winery that produces, bottles, and sells wine. All this is done under two wine commercial labels. A part of the Riscal wine is also sold directly to private consumers online. Since 2014 the Rueda grapevine producers that sell to Riscal, are certified according to Organic criteria. The Riscal brand is an economic factor for the whole region. It also immensely influences the tourism sector, because Rueda wine is very important in the local tourism and gastronomy. In the end the Riscal wine reaches the consumer in form of high quality wine.

Advantages of participation:

- Grapevine producers – they produce grapes with organic certification and guarantee the selling each year to the Riscal winery. They receive a fixed price and their product is transformed into wine of two high value labels.
- Riscal – They receive a stable amount of organic grapes that transform, bottle and distribute to high end retailers, restaurants and exports.
- Retailers – they receive a stable production of high quality wine of two labels.
- Consumers – they receive high quality wine

Management requirements for farmers: Organic production.

Controls/monitoring: strict control by the certification authorities

Risk/uncertainties of participant: increase of mildew and climate change

Product requirements: Organic certification, grapevine quality for premium wines



Verdejo



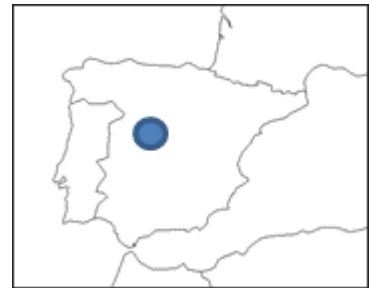
Sauvignon blanc

Grapevine varieties grown.

Soure: V. Sotés, 2001

LOCATION

SPAIN



The Rueda case study is located in the Duero River basin in northern-central part of Spain

Context features

Landscape and climate: Rueda is a Spanish Denominación de Origen Protegida (DOP) for wines located in the Community of Castile and León. It comprises 72 municipalities, of which 53 are in the province of Valladolid, 17 are in the north of the province of Segovia, and 2 are in the north of the province of Ávila. It is one of Spain's leading wine regions, and is known primarily for its white wines based on the Verdejo grape. The climate is continental (long hot summers, cold winters) with a certain Atlantic maritime influences. Temperatures vary widely and can drop below zero in winter (-1 °C) and can reach 30 °C in summer, which is not as high as similar wine-producing regions in southern Central Spain. There is a risk of frost, freezing fog, high winds and hailstones in winter/spring. On the other hand, there is only a very small possibility of drought. Normally it rains in spring and autumn, with an average rainfall of 400 mm/year, while the vines receive 2,700 hours of sunlight per year.

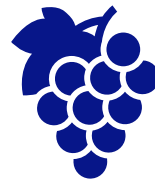
Farm structure: Grapevine is a monoculture since it is a permanent crop. Trees are planted along the edges to the fields to increase carbon sequestration



SUCCESS OR FAILURE?



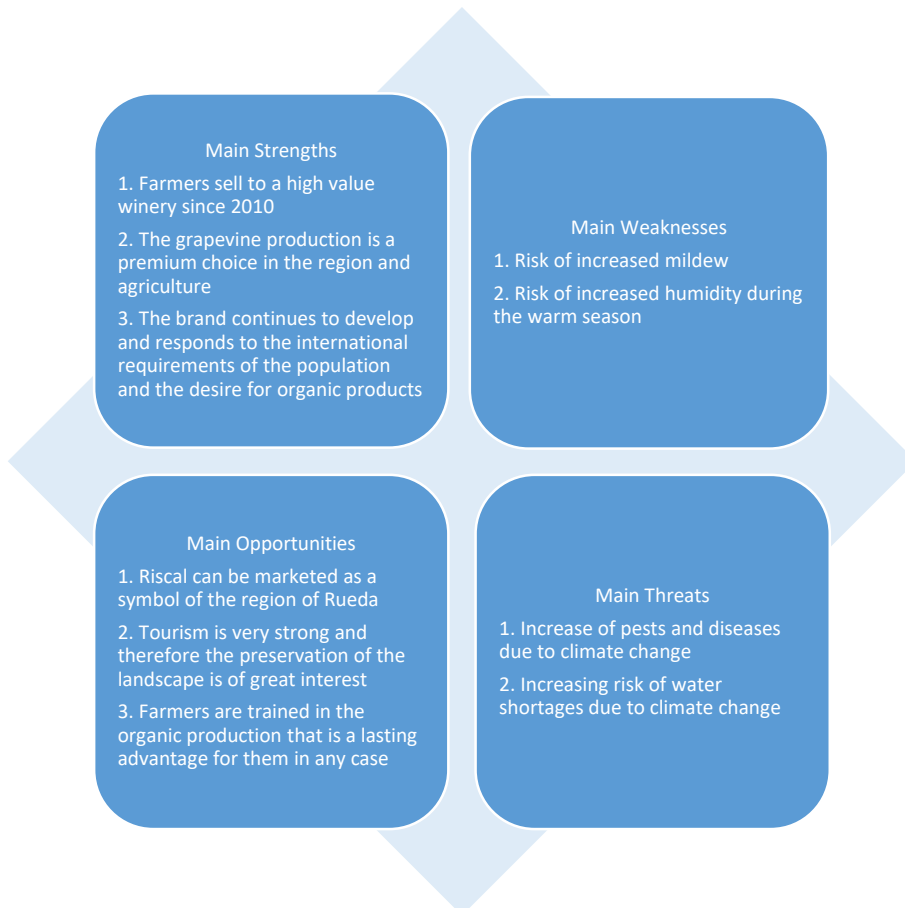
Very successful and expanding



Reasons for success:

- Preferred choice to national consumers and excellent choice for exports
- Knowledge transfer between organic producers

SWOT analysis



Monitoring and boosting environmentally beneficial practices in the olive grove within the framework of the new CAP measures



There are several technologies with potential application for key soil and environmental variables. These variables are included as potential indicators of eco-schemes and, as well, application of best practices. In the present case study, different approaches based on Copernicus will be evaluated and tested for monitoring of best practices under the new CAP.

Summary

The combination of Sentinel satellite imagery, spatial software capable of analysis and assessing the eligibility of features and land uses based upon probability assessments and geotagged photography under controlled conditions together present the opportunity to minimise the need for traditional on-the-spot controls. The benefits of this approach will be multiplied if this data collection process occurs in synergy with other digital technologies, such as crop monitoring and yield forecasting, bringing greater efficiencies to farms. Soil Organic Carbon (SOC) and Soil moisture will be evaluated under the potential eco-schemes from the new CAP.

Objectives

Soil resources can be managed to help mitigate climate change, to increase agricultural production and to maintain soil quality. Land management can influence Soil Organic Carbon being the main component of Soil Organic Matter. Soil formation can be influenced by temperature, moisture regime, soil properties and their interaction with soil biota. The main objective is the monitoring of SOC changes in olive groves under beneficial practices as key variable for soil quality status and to help mitigate climate change.



Problem description

The Integrated Administrative Control System (IACS) introduces specific regulatory requirements and technological tools (Geo Spatial Aid Application, LPIS, etc). The current IACS incorporates different databases (farmers' register, animal register, LPIS, entitlement register, claim databases) but not a methodology to monitor agricultural beneficial practices. In the draft IACS legislation for the new CAP, there is the possibility of introducing data and monitoring systems using Copernicus/Sentinels satellite data or equivalent. Currently, there are several reports on the potential for the use of technologies such as satellites, drones, artificial intelligence, which would support a large part of these tasks, reducing costs in transporting technicians to the plots and increasing the number of plots to be monitored. However, if these types of technologies are not facilitated and supported by policies, they can hardly be widely implemented. The methodology developed by Evenor-Tech is based on MicroLEIS and CarboSOIL model, and earth observation techniques for monitoring water retention. For that, validation in-situ model with EO services will be carried out considering tillage management variables (plantation system, vegetation cover, and residues). The final step is developing pedotransfer functions for finding relationships among indicators for soil carbon content and soil water retention and bands or indexes from Sentinel.

OTHERS

Monitoring of environmental performance using novel technologies

PUBLIC GOODS



Soil quality (and health)



Climate regulation-carbon storage



Rural viability and vitality

INDIRECT EFFECTS

Water quality, climate regulation, biodiversity, soil fertilisation.

LOCATION

SPAIN
Andalusia

CONTRACT

The contract can cover the whole farm or only single parcels depending of surface declared. It is based on public funding by the government (with EU-cofunding). It is a public-private contract between the administration and the farmers.



Contract conclusion:
Via online platform

Payment mechanism:
Subsidy



Funding/Payments:
The financing is provided through direct payments and agri-environmental aid to olive farm holders participating in the voluntary measures set in line with the Common Agricultural Policy. However, regarding the potential eco-schemes in the new CAP, new contractual relationship could be monitored through remote sensing related to promotion of public agri-environmental goods.

Length of the contract:
open-end



Data and Facts - Contract

Participation: With just over 1.52 million hectares, the olive cultivation occupies more than 30% of the agricultural area of Andalusia, acquiring an important importance in the province of Jaén, the south of Córdoba, the northwest of Granada, the north of Malaga and the southeast of Seville. Currently, more than 240.000 has were declared under CAP payments. A total of 30 farmers will be targeted in collaborate during the project, related with ASAJA members, attending to crop management, payments received and others variables.

Involved parties: The contracting parties are on the hand the participating farmers. The main participants in the case study will be from the ASAJA network. Most of them apply beneficial practices in their olive groves (in some cases under integrated production also). Another involved part is the regional administration and payment agencies. They are responsible to check the correct tasks declared under the CAP. Currently, the methodology for the on-the-spot controls is based on a first analysis by satellite image (mainly crop identification and surface declared).

The benefits for land managers or farmers: Maintaining of soil quality, greater competitiveness. In the end, the final product reaches the consumer in form of high quality oil or olives.

The benefits for administration: Maintaining rural activity and less on-the-spot controls.

Management requirements for farmers: Real exploitation of plots, real agricultural activities.

Controls/monitoring: Each year a monitoring/certification of the activity of the plots carried out through the registration of documentation, control of the plot, etc.

Conditions of participation: Participants have to be active farmers eligible to be beneficiaries of direct payments and agri-environmental aid. In the Spanish case, one of these three criteria must be met: that the annual amount of direct payments is at least 5% of the total income obtained from non-agricultural activities in the most recent tax period for the that such evidence is available; that their agricultural activity is not insignificant, on the basis that their agricultural income other than direct payments is 20% or more of their total agricultural income in the most recent available tax period; or thirdly, for legal persons or groups of natural or legal persons, that within their statutes it appears, before the end date of the period of modification of the application, the agricultural activity as its main corporate purpose.

Legal status of the contracting parties: Individual farmers and legal persons

Risk/uncertainties of participants: Errors in controls and payment reductions



Context features

Landscape and climate: The olive groves in the Andalusian case study are characterized by varying soils (Regosols, Cambisols, Vertisols, etc). The climate is sub-continental Mediterranean characterized by cold winters and warm summers.

Farm structure: It is aimed at those farmers who really have active productions and carry out an economic activity. Regarding potential eco-schemes (soil protection, climate regulation), the possibility is also sought that eco-scheme payments are based on an indicator such as the increase in carbon sequestration or lower water consumption, compensation is received based on the new CAP.

SUCCESS OR FAILURE?

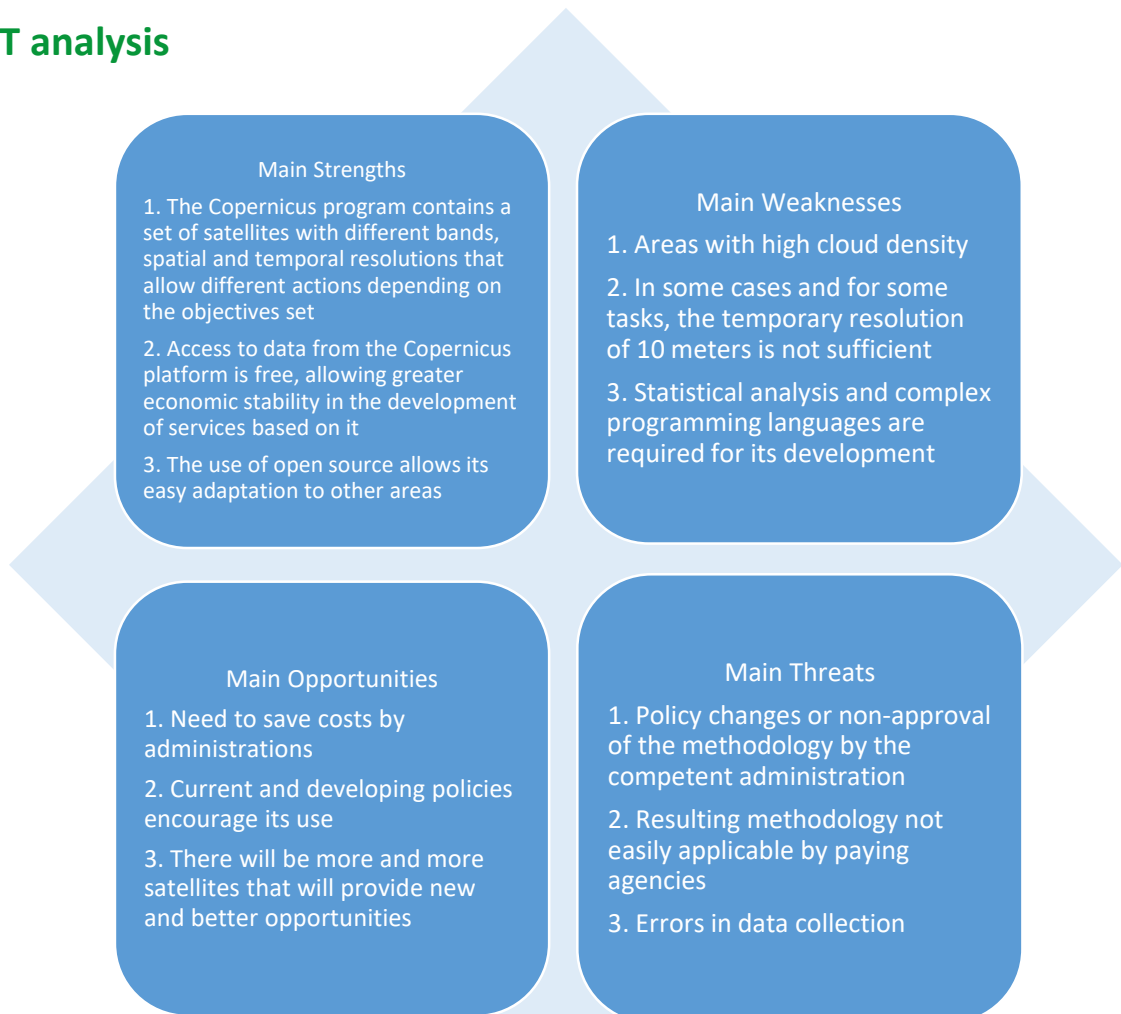


The monitoring and boosting of environmentally beneficial practices in the olive grove within the framework of the new CAP measures is likely to become a success story. In addition, indicators benefitting novel technologies / satellite images such as carbon sequestration is one of the lines that the regional government pursues for mitigating the impacts of climate change.

Reasons for success:

The main reason for success is the possibility of maintaining small farms, which produce in a more conservative and sustainable manner considering the natural resources, compared to large farms. The potential success of the new contractual relationships is the society's demand for increasingly sustainable food and the societal concern about climate change.

SWOT analysis



Integrated production in the olive groves

Agricultural system of production using farming techniques ensuring sustainable agriculture producing oil and olives from high-nature value region.



Summary

With the integrated production program, sustainable agriculture in Andalusia has been promoted. The statistics offered by the regional government show that participation in this measure has been increasing over the past few years. Specifically, in the olive grove sector, there is a lot of competition. "Integrated production" provides the farmer with a sustainability brand that is usually linked to a better market price. The contract can be made directly with the administration or through cooperatives that manage various farms (minimum 5). As added value, the use of earth observation techniques allow the monitoring of Soil Organic Carbon (SOC) under different crop management increasing the soil quality and the mitigation of climate change impacts

Objectives

- Preservation of soil conservation and biodiversity associated.
- Monitoring Soil Organic Carbon under different crop management
- Improving visibility of integrated production as a system provider of multiple lasting AECPGs.



Problem description

The regional administration provides information on the use and application of different amendments based on expert knowledge and pest risk forecasts. The objective was to obtain a product of both environmental and social quality by granting the integrated production brand. The different crop management have different impact on soil organic carbon. The evaluation process is based on CarboSoil model, developed with 16 soil types and more than 1600 soil profiles in order to predict the soil capacity for carbon sequestration in Mediterranean areas. The novelty in the present case study is developing a control-carbon soil map at a detailed scale for the 0-25 cm soil section, and identifying the impact of crop management on soil organic carbon through earth observation techniques. For that, olive groves under different soil types and crop management will be selected and monitored for estimate the crop management impact on soil organic carbon.

Data and Facts - Contract

Participation:

Number of farms: 55 000; Area of implementation: Currently, more than 500,000 hectares; Other participants: 377 operators (Technician, APIS (Integrated Agriculture Production Groups))

Involved parties: The contracting parties are the participating farmers, coming mainly from the ASAJA network. Another involved part is the regional administration and APIS (Integrated Agriculture Production Groups). Sometimes, cooperatives are also involved, providing a better price to the farmers for their product.

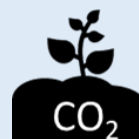
VALUE CHAIN



PUBLIC GOODS



Soil quality (and health)



Climate regulation-
carbon storage

INDIRECT EFFECTS

Climate regulation,
biodiversity, rural viability
and vitality

LOCATION

SPAIN



CONTRACT

The contract covers the area declared under integrated production for 5 years. To do this, it must be integrated into an integrated production association (APIs) and follow the management recommendations and requirements during the contractual period. The recommendations are advised by expert personnel and pursue the environmental and economic sustainability of production.



Contract conclusion:

Online platform

Payment mechanism:

Product price



Funding/Payments:

Farmers don't receive economical benefits or payment, it is a distinctive brand that later in the market usually gets a better price.

Length of the contract:

5 years extendable



Start of the program:

1995

End: still running

PRODUCT

A product badge obtained in a sustainable way is granted

Data and Facts - Contract

The benefits for land managers or farmers: Better prices in the market and reduction of inputs and food safety. In the end, the final product reaches the consumer in form of high quality and sustainably produced oil or olives.

The benefits for administration: Maintaining of soil quality.

Management requirements for farmers: The Integrated Production Regulation establishes a series of prohibited, mandatory and recommended practices based on different threats:

- erosion: plantation following contours or terraces and terraces, strip cultivation or the use of plant covers in the streets of the olive grove and reduction of tillage.
 - Plantation: use of certified seeds or seedlings and a recommended plantation framework of 200-300 olive trees/ha without excluding higher density plantations.
 - use of fertilizers and amendments: dose taking into account the olive variety, age, density, cup volume, vegetative development, soil fertility level, nutritional status and contributions from rainwater, irrigation water, mineralization of organic matter, etc.
 - phytosanitary: application of phytosanitary products following the recommendations of risk assessment and the establishment of economic thresholds of losses developed by APIs.
 - irrigation: drip irrigation is recommended as the main irrigation system. Regarding the calendar, the use of the methodology proposed by FAO is recommended, using recommended crop coefficients. Recommendation of the use of the accumulated water reserve in the soil during the rainy season and the use of deficit irrigation strategies, taking into account the critical moments of the olive tree. In the case of the use of purified wastewater, a continuous bacteriological analysis (once a month) should be performed, to ensure that the permitted thresholds are not exceeded.
 - harvesting: the use of any of the olives collection systems existing in the market is allowed, provided that the quality of the fruit is maintained, avoiding contact with the soil and its subsequent sweeping, such as tarpaulins or nets.
 - training: the Integrated Production Regulation encourages the training of all personnel involved in the application of this standard, and contemplates the obligation to possess the pesticide card. It also establishes the conditions that agricultural holdings must maintain (irrigation water, storage of phytosanitary products, etc.) and cleaning and safety measures.
- Controls/monitoring:** Each year monitoring/certification of the management is carried out through the registration of documentation, control of the plot, etc.



Context features

Landscapes and climate: No require specific conditions. The olive groves in our case study can be found under different soils (Regosols, Cambisols, Vertisols, etc) and different climate (Sub-continental Mediterranean of cold winters and sub-continental Mediterranean of warm summers).

Farm structure: Within the integrated production there are different types of farms, large or small, as well as conventional or organic. In the case study, we will focus on those farms⁷¹ belonging to ASAJA partners dedicated full time for the olive tree.

SUCCESS OR FAILURE?

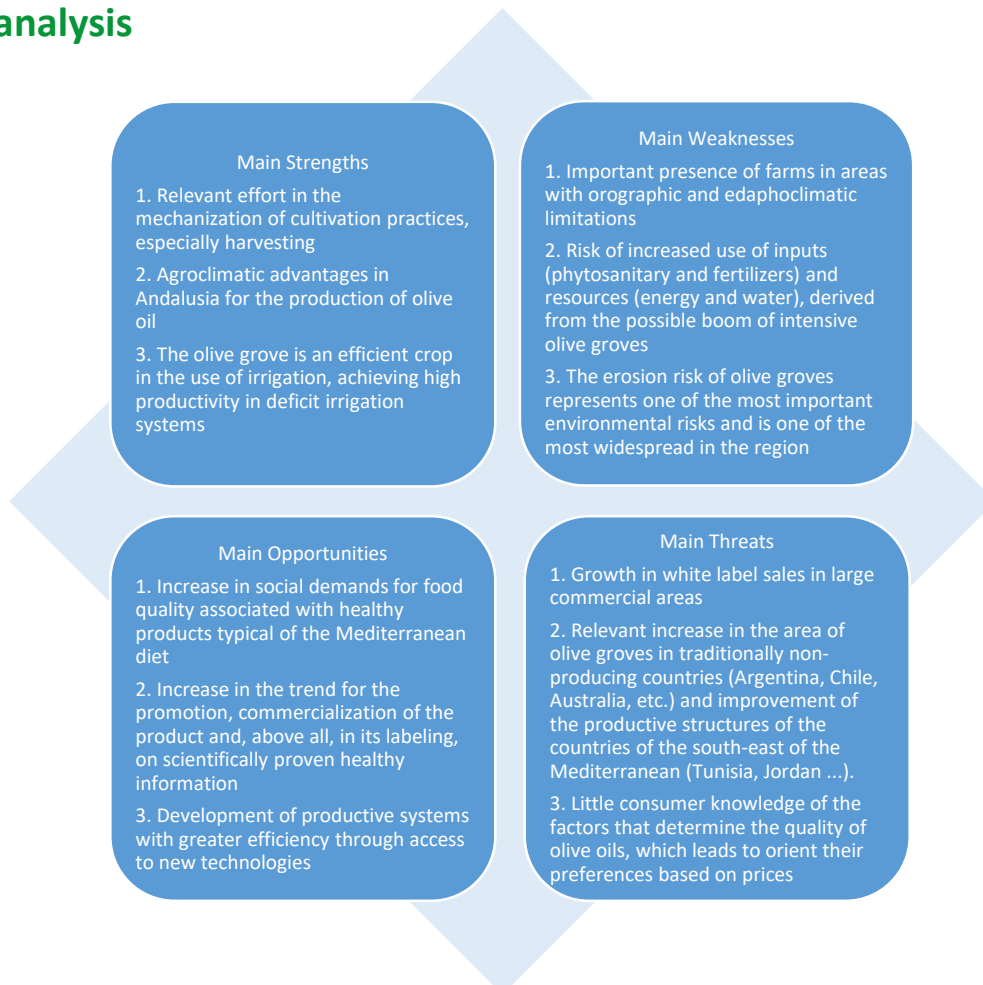


A reduction in the use of chemical fertilizers and pesticides and an increase in the number of hectares dedicated to integrated production have been detected. However, we did not find quantitative data on environmental improvement.

Reasons for success:

- Societal demand: society increasingly demands high quality products which are produced in a sustainable way.
- Sustainability: practices and recommendations can extend the productive life of the plot allowing the farmer to continue cultivating for longer.
- Obtaining a better price in the market: Some brands and mills look for products that carry the badge of integrative production to be more competitive in the market.

SWOT analysis



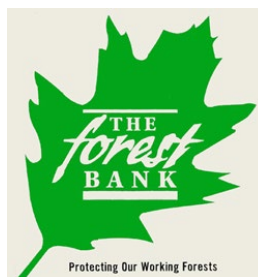
Forest Bank – a forest conservation program in Indiana and Virginia, US



Private forest owners convey both land development and timber rights to a quasifinancial institution, Forest Bank, in exchange for guaranteed annual payments, the value of which is based on the landowner’s standing timber. The Forest Bank protects valuable habitats and harvests timber using environmentally sound methods. The bank recoups payments made to the landowners, plus an administration fee, through timber sales as prescribed in a management plan that has been accepted by both parties. The owner gets access to annual income without need to liquidate his/her forest assets and compromise conservation values. The Forest Bank is based on market incentives and landowner preferences. The owner can choose between a fixed-term (30 yrs) and permanent (99 yrs) contract.

Summary

Forest Bank attempts to blend economic and ecological objectives by protecting valuable habitats and watersheds and executing ecologically sound forest management that yields reasonable financial return to landowners. Landowners’ preferences, economies of scale in management operations across fragmented forest landscapes and Forest Bank’s prudent style of timbering should produce a steady flow of revenue that covers both its management costs and the annual returns paid to landowners. Timber harvests are the main source of financial income but carbon offsets and green labels (e.g. FSC-certification)



can provide additional revenue to the Forest Bank. Payments to landowners are delivered once a year. A new forest inventory is performed after each timber harvest in the property or every ten years, whichever comes first, and annual payments to the landowner (depositor) are adjusted accordingly. Forest Bank program was initiated by the largest conservation organization in the US, The Nature Conservancy (TNC), in 2002 and has since been running in two states: Indiana and Virginia. In addition, plans or feasibility studies have been made e.g. in Wisconsin, Michigan, Minnesota and New York. It was initially projected that in favorable conditions the Forest Bank could become a self-funding mechanism for conservation. The Virginia Forest Bank is financially self-sufficient but the Indiana Forest Bank receives some financial support from the regional TNC office. The landowners can retain ownership of the underlying land but the development rights (e.g. construction, mining) are always permanently transferred to the Forest Bank, implying that the land will stay forest forever. The landowners can continue to hike, hunt, pick berries and mushrooms and collect firewood as long as it does not hamper forest health and growth and decrease environmental values. The innovative element of the Forest Bank program is that it is voluntary, market-based and accounts for forest owner preferences. It gives owners a way to get cash out of their forest without immediate need to harvest and compromise environmental values also in situations where next harvest incomes would be attained in distant future.

Objectives

- Preservation of biodiversity (valuable habitats and species)
- Ecologically sound forest management that yields reasonable economic return to landowners
- Prevention of erosion and protection of water quality
- Economic viability of local communities

Data and Facts – Contract I

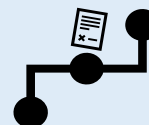
In the contracts the landowners transfer all forest management rights to the Forest Bank. The contracts are supplemented by conservation easement agreements in which the landowners who enroll in the Forest Bank program also waive most land development rights. An underlying objective of the Forest Bank is to make agreements with several adjacent forest owners whose holdings or tracts are located in areas of recognizable natural features and ecological values. In this way the Forest Bank aims to promote collective implementation and accomplish important environmental goals at landscape and watershed level.

LAND TENURE



Forest management and/or conservation easement agreement

VALUE CHAIN



Green labels and environmental premiums for the harvested timber are used (forest owner – Forest Bank – local sawmills – distributors – stores – consumers and other end-users). Virginia Forest Bank also sells verified forest-carbon credits (forest owner – Forest Bank - firms in the carbon trade system) which can be interpreted as a value chain feature.

COLLECTIVE



The contract solution involves several (adjacent) forest owners in the same region.

Problem statement

The Forest Bank scheme was developed in the late 1990s by The Nature Conservancy (TNC), the largest conservation organization in the United States. The motivation for the novel contract solution was that protection of forests was too slow because acquiring environmentally valuable areas from private landowners required significant amounts of capital that was not usually available for conservation purposes. Working the standard way – preserving nature and protecting biodiversity by buying smaller parcels of land – mostly resulted in fragmented conservation areas that had limited environmental impact; they were not suitable for many imperiled species that required larger natural habitats or for watershed management that required landscape level planning and actions. The acquired lands were often also fairly disconnected from other natural lands. TNC experts recognized that conservation efforts should be redirected to account for limited amount of capital, landscape level requirements, and a new form of integration of economic and ecological objectives that accounts for landowner preferences and viability of local communities. They developed an innovative contract solution, Forest Bank, which i) addresses conservation priorities and local economic needs simultaneously, ii) requires less initial capital because it is based on leases and conservation easements and accounts for landowner preferences, and iii) enables operating at the scale of landscapes and watersheds. The arrangement was named Forest Bank since the underlying idea was that a trustworthy institution holds and manages the tracts of forestland “deposited” by many small holders, then pays these owners a guaranteed rate of return on the appraised value of their timber assets, much as a commercial bank pays interest to people on their savings deposits. The Forest Bank is only available in priority ecological and environmental areas. These are often adjacent to national or state forests and parks, or other existing conservation and recreational areas. An important goal of the Forest Bank program is to establish ecological buffer zones around these areas and ecological corridors between them.

Data and Facts – Contract II

Participation: Indiana Forest Bank has 60 forest owners and covers 3 500 hectares. It operates in two environmentally sensitive locations in southern Indiana, adjacent to several state forests and state parks. Virginia Forest Bank has 2 landowners, covers 9 000 hectares and operates in southwest Virginia, also adjacent to state parks. Both Forest Banks are TNC programs that are managed by its local offices (TNC Indiana, TNC Virginia).

Involved parties:

- Nonindustrial private forest owners (NIPFs), parishes and municipalities (landlords)
- The Nature Conservancy: Forest Bank administrator and operator (tenant)

Management requirements for farmers: Both parties need to accept a forest management plan (stewardship plan). The plan is updated every 10 years; in the absence of owner approval, the previous plan shall remain in effect until a new plan is approved. Forest management operations are carried out by the Forest Bank. FSC certification or other sufficiently demanding green label for forest management is required.

Controls/monitoring: Annual third-party audits (FSC group certification). FSC group certification allows a group of forest owners to join together under a single FSC certificate organized by a group manager. In Indiana and Virginia the group manager is TNC.

Renewal / termination: If contract is fixed-term, renewal is possible every 30 yrs. Termination results in financial penalties (applies to both parties). However, the Forest Bank will always retain land development rights which means that the land will stay forest forever.

Conditions of participation: No minimum or maximum number of participants but operational efficiency (economies of scale) and possibilities for landscape and watershed management increase with the number of participants (“depositors”) and the area enrolled in the Forest Bank.

Links to other contractual relationships: The maximum length of this type of contracts in Indiana and Virginia is 99 yrs (also in Finland, Tenancy Act). Renewal is possible.

Legal notice: The compilation of the information provided in the factsheets has been done to our best knowledge and is subject to further analysis. Neither the authors nor the contact persons of the presented cases may be held responsible for the use which may be made of the information contained therein.

PUBLIC GOODS



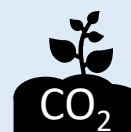
Landscape and scenery



Biodiversity



Soil quality (and health)



Climate regulation-
carbon storage



Resilience to natural hazards



Rural viability and vitality



Water quantity (e.g. water
retention)

INDIRECT EFFECTS

Improved recreational
access and cultural
heritage management

CONTRACT

Market sector-oriented private-private contracts

Contract conclusion:
Written agreement



Payment mechanism:
tradable emission certifications



Length of participation in scheme:
fixed-term (30 yrs) or permanent (99 yrs)

Start of the program:
2002



End: still running

PRODUCT

FSC forest certification ensures that products come from responsibly managed forests that provide environmental, social and economic benefits; see FSC certification in the US. <https://us.fsc.org/en-us>

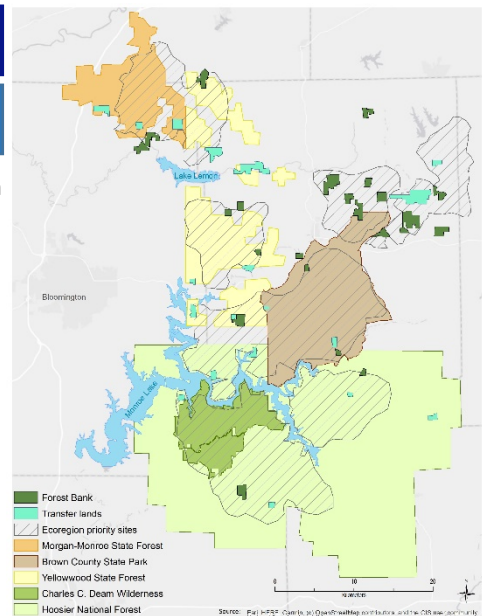
Risk/uncertainties of participants: Landowners are able to transfer most of the risks related to forest management and annual payments to the Forest Bank: input and output price risks, risks of natural hazards etc. On the other hand, owners are exposed to default risk as virtually in all forms of deposits. The probability of default depends on e.g. market conditions, legislation, financial solidity of the Forest Bank, terms of deposit withdrawal and length of the contract. The current deposits are guaranteed by The Nature Conservancy. However, there is no guarantee that the Forest Bank can fund early withdrawal requests in short term. This feature is not uncommon in real estate business because real assets are less liquid than for example common stocks and bonds.

Funding/Payments: The scheme is meant to be self-funded in a sense that income (mostly from timber harvests and carbon credits) covers all the operational costs of the Forest Bank as well as annual payments to the landowners. It has also been projected that the timber sold by a Forest Bank could earn a price premium through the use of some kind of green or environmental label. Indiana Forest Bank has been financially supported by the local TNC but the Virginia Forest Bank has reached financial self-sufficiency. An important reason for this is that the latter has sold carbon offsets since 2014; currently carbon payments account 25 percent of its total income. Both Forest Banks have also sold environmentally valuable lands to public (federal and state) entities and through these transactions have received financial income that supports their economic stability.

LOCATION

USA

Regional, currently applied in two states: southern Indiana (12 counties) and southwest Virginia.



Context features

Landscape and climate: The state of Indiana lies mostly in the temperate zone. It has a humid continental climate with cold winters and hot summers, with only the extreme southern portion of the state lying within the humid subtropical climate, which receives more precipitation than other parts of Indiana. Most forests are located in the southern part of the state. Hardwoods are the dominant species. Most common tree species are maple, yellow poplar, oak, hickory, beech, birch, cherry and ash; conifers are relatively rare. Eighty-three percent of Indiana forestland is privately owned. The state owns 7 percent and the federal government 8 percent. There are four more densely forested areas in Indiana and the local Forest Bank operates in two of them (Brown County Hills and Blue River). The Blue River watershed ranges from the Brown County Hills to the Ohio River, thus the two Forest Bank regions are also environmentally connected.

Southwestern Virginia lies in the subtropical zone where summers are hot and winters are moderately warm. The Virginia Forest Bank operates in central Appalachians which area resembles the Brown County Hills and is known for its beautiful landscape, exceptionally high biodiversity, steep hills, and streams and rivers. The location of the Virginia Forest Bank, Clinch River Valley, is home to one of the highest concentrations of rare and endangered species in the United States. Before the establishment of the Forest Bank, TNC ranked the Clinch River Valley watershed first in a scientific evaluation of the biodiversity in all watersheds across the United States.

Farm structure: The Forest Bank is designed for nonindustrial private landowners with a desire to maintain and preserve their forests as forests, on the one hand, and a need for access to its financial value, on the other hand. In Indiana, the average size of forest holding is two hectares and an increasing number of private forest owners are non-residents. Both Forest Banks are committed to use continuous cover forestry (no clear-cuts); they will harvest timber and build roads but in ways that maintain the structure of the forest and its biodiversity. Other main objectives are production of high-quality forests and timber, reintroduction of natural tree species and prevention of invasive species.

SUCCESS OR FAILURE?

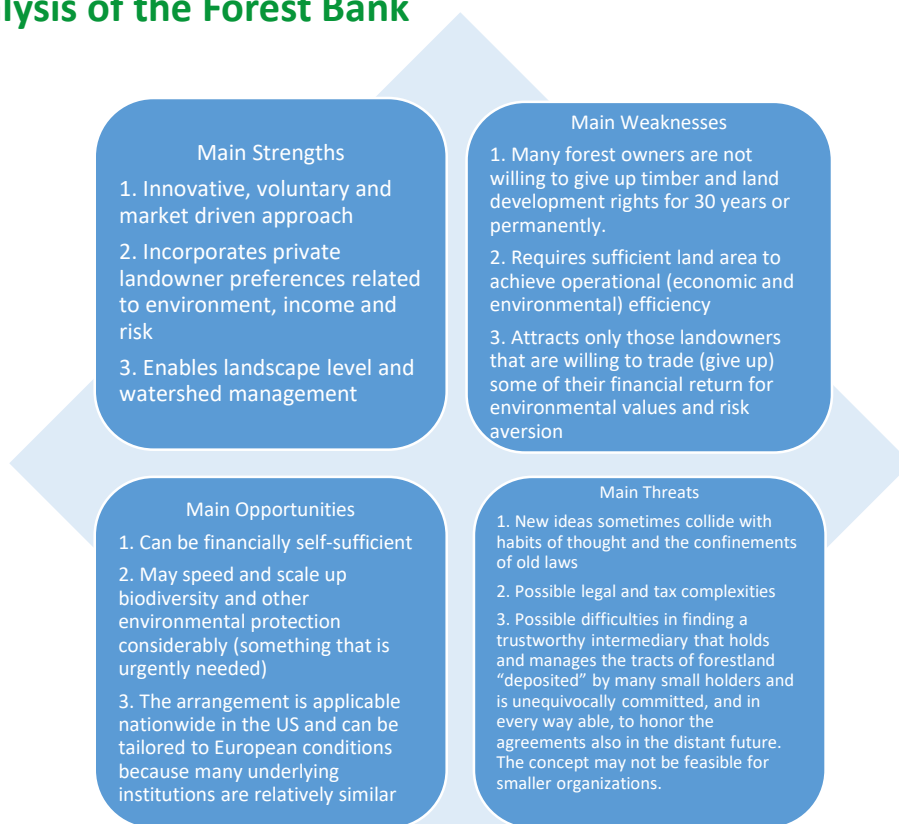


SUCCESS. Forest Bank has attracted private forest owners and its operations are aimed at increasing forest biodiversity at landscape level. Although the development has been slow, the number of forest owners enrolled in the two US Forest Banks has steadily increased since 2002.

Reasons for success:

- Forest Bank offers an innovative, voluntary, market-based and replicable contract solution that combines the protection of biodiversity and ecosystem health with economically compatible forest management on private forestlands.
- The Forest Bank offers a new way to work with landowners that otherwise would not be reached. It is attractive to landowners who value biodiversity and continuous flow of income from an asset (forest) that is generally non-liquid, and who in exchange for these ecological and financial benefits are willing to accept a lower but still reasonable economic return.
- The collection of land is managed by one entity, the Forest Bank, which operates at the scale of landscapes and watersheds and thus can greatly expand biodiversity and other conservation effectiveness.

SWOT analysis of the Forest Bank



Protected areas of private forests as tourism destination



In Kuusamo cooperation network, visually attractive protected areas are uncovered from private forests. Local nature-based tourism enterprises are offered a possibility to use these spots, nature trails leading to them and potentially existing facilities with their customers. Enterprises make an agreement with the forest owner to compensate the use.

Summary

Kuusamo cooperation network (2016-2019) is one of the first attempts to use private forests as a tourism destination and provide a possibility to compensate their use for private forest owners. The aim of the Kuusamo project is to enable contracts between private forest owners and tourism entrepreneurs. The contract has features of land tenure, collective implementation and result-based agreement. Contracts increase access to attractive landscapes and sceneries, and this recreational access can improve physical and mental health. Contracts support rural viability and vitality. The project was initiated by the Forest Centre who took contact to voluntary forest owners and planned 14 nature trails leading to the protected spots. Local tourism enterprises are offered a map of these nature trails as well as additional facilities (parking area, shelter, fireplace). The length of the trails vary from 2-5 kilometers and they are not marked into the forest. Forest owner and the enterprise are free to agree the compensation model, for example number of people visiting the spot. By the end of the project, four contracts have been made.



RESULT-ORIENTED



The amount of money that forest owners receives from the enterprise is based on the amount of tourists visiting the area.

LAND TENURE



Forest owners make contracts with the enterprises for certain period of time. During this time they allow enterprises to take tourists to the spots according to the contracts.

COLLECTIVE



In a case of some nature trails, there are several forest owners along the trail. To establish the trail and get compensation from enterprise, all forest owners need to be willing for the contract.



Photo by Laila Hökkä

Objectives

1. Create a contract model and enable cooperation to born between forest owner and local tourism enterprises (rural vitality).
2. Promote nature-based tourism (landscape, scenery, recreational access) together with biodiversity protection and forestry, i.e. multifunctional forest management.
3. Deliver knowledge of Finnish forestry and multiple uses of forests to foreign tourists (rural vitality)

Problem statement

The idea of Kuusamo cooperation network evolved from the fact that there are several, unknown, attractive spots in private forests that are already protected via METSO-program, and these would be beautiful places to visit for outsiders too. Moreover, tourism enterprises needed places that are uncrowded, silent and untouched "pearls", to take their customers, supporting the realization of the significant potential of growth in nature-based tourism in Finland. One of the key ideas in this project was not to give any new restrictions for forest owners who have already voluntarily protected part of their forest. Rather, the idea was to inform tourists about the forestry and silvicultural treatments along the nature trail leading to the protected spot. Forest Centre was the initiator of the project.

The project in Kuusamo is one of the cooperation networks within METSO program. Main aim of cooperation networks is to fit together forest biodiversity protection and other uses of forest through enhancing cooperation among different actors and forest owners. Particularly, the initial focus was in connecting neighboring forest areas to create more clustered biodiversity protection networks. Networks test and develop local ideas, support rural vitality and livelihoods, recreation and multiple uses of forests.

METSO program is biodiversity protection program for the forests of Southern Finland. Southern Finland is dominated by private, family owned forests, and forests have been managed dominantly for timber production. The METSO program was developed as a response to increasing societal understanding that declining forest biodiversity needs to be considered more seriously. Moreover, program was a response for Natura 2000 process, where the top-down approach and poor informing of forest owners led to conflicts. METSO program highlights voluntary means and more acceptable solutions.

The valuable spots that are protected in METSO program are selected according to certain criteria. Especially, the focus is on sites that are in natural state or that can be easily restored. Sites can host endangered species, include notable amounts of some structural characteristics, or be important due to ecological connectivity. Elements such as small natural water features, decaying or burnt wood as well as mature broad-leaved trees are important. Protection is always voluntary for forest owners, who can agree either temporary (10 or 20 years) or permanent agreement.



Data and Facts

Participation: 14 spots and nature trails leading to them have been finalized. By the end of the year 2019 four contracts have been made between forest owners and enterprises.

Involved parties: Private forest owners provide their forests to be visited. Nature-based tourism enterprises take their customers into these forests. Customers are typically foreign people. Forest Centre has established and led the project, organized meetings for forest owners and enterprises, and planned the nature trails in cooperation with the voluntary forest owners. Part of the trails, and the facilities along them are owned by municipalities or State Forest (Metsähallitus), and their use have been agreed separately with them.

PUBLIC GOODS



Landscape and scenery



Recreational access /
Improvements to physical
and mental health



Rural viability and vitality

INDIRECT EFFECTS

Forest owners were asked stories about their forests. These stories are included into trail descriptions, and this might increase the local cultural heritage. The establishment of trails evoked some new projects in villages such as building a sightseen tower, which might further increase recreational use, and rural viability more broadly also among local people. Even though most of the spots were already protected, some new biodiversity protection areas were established when planning the trails.

CONTRACT

Private-Private contract

Contract conclusion:

Written agreement



Payment mechanism:

In the example agreement payment system is x-number of euros per visited person (product price). However, forest owner and enterprise can freely agree the payment system for each case separately.



Financing party:

Market-sector oriented



Start/end of the program:

First contract was made in January 2018 and three contracts in December 2019. It is up to contract parties to agree the length of the contract. It can be, for example, five years. The project ended in 2019, but the aim is that forest owners and enterprises can continue establishing new agreements.

Requirements for forest owners: The key idea of the contract is that there are no new restrictions or demands for forest owners. However, if forest owner conducts silvicultural treatments (pre-commercial thinning, harvesting) s/he needs to report this to another party of the contract and to Forest Centre who can update the description of the nature trail and spot accordingly.

Controls/monitoring: There is no control or monitoring. The agreement is based on trust; enterprises honestly report the amount of tourists visiting the spot.

Conditions of participation: In the project, there was limited amount of resources to construct nature trails, and not all the volunteered forest owners were able to participate. Besides limited resources, the spots needed to be attractive enough also for the customers of the tourism enterprises. Example contract is freely available for all interested in the internet pages of the project (Kuusamon yksityismetsien luontohelmet tutuksi, 2019).

Risk/uncertainties of participants: There are no great risks for forest owners or nature-based tourism enterprises. Forest owners haven't invested their money; the ecologically valuable spots have already been protected and compensated, and the nature trails have been planned by the project. It is in the responsibility of the tourism enterprise to take care of their customers not to harm e.g. the facilities or endangered species in the forest. At the moment, the trails are marked only on maps, there are no signs in the forest. If there are many visitors, the trails may become visible in forest, which may increase the use of them by private people (based on Everyman's right).

Renewal/termination: Forest owner and enterprise can agree about the renewal.

Funding/Payments: Forest owner and nature-based tourism enterprise make an agreement about the use of the spot, nature trail and the services included (e.g. fireplace, parking place). Enterprise pays for the forest owner according to agreement. In the example agreement, the compensation is based on the amount of persons visited (e.g. 5 euros per person). However, the parties of the agreement can freely decide the compensation level and the basis for payment (lump sum, per person). In the agreement, it is possible to define minimum and maximum amount of persons visiting the spot for example during one year. Typically, this kind of compensation is not much compared for example to sums received from biodiversity protection or timber trade. According to the present experience, it seems that for the forest owners, it is more important to agree about the terms of the use and be aware who and when is using the nature trail and facilities included, than to get small level of monetary compensation.

If a forest owner has very attractive spot in an easily reachable area, s/he can find several enterprises interested. In these cases, it is possible to get reasonable compensation, e.g. by providing also firewood and a good shelter (cabin)."



Photo by Laila Hökkä

LOCATION

FINLAND



Region: Kuusamo FI1D6

Context features

Landscape and climate: Kuusamo is located in northeast Finland, in highland area (200 meters above the sea). Boreal spruce and pine dominated forests as well as big and smaller lakes are typical. Climate is continental, average temperature around the year is 0°C and the snow cover is one of the greatest in Finland. Growing period during the year is 125-135 days, the annual temperature sum is 800-900 degree days.

Forest owner structure: The program is targeted for private forests in Kuusamo area, however, some of the nature trails and facilities are in commonly owned forests, state or municipality owned forests. In Kuusamo area, the average size of forest holding is 39 hectares. 65% of the owners are living in their holdings or in a same municipality. In Kuusamo, forest owners are on average 60 year old and 72% of them are male.

Information: www.metsakeskus.fi/kuusamon-yksityismetsien-luontohelmet-tutuksi

SUCCESS OR FAILURE?

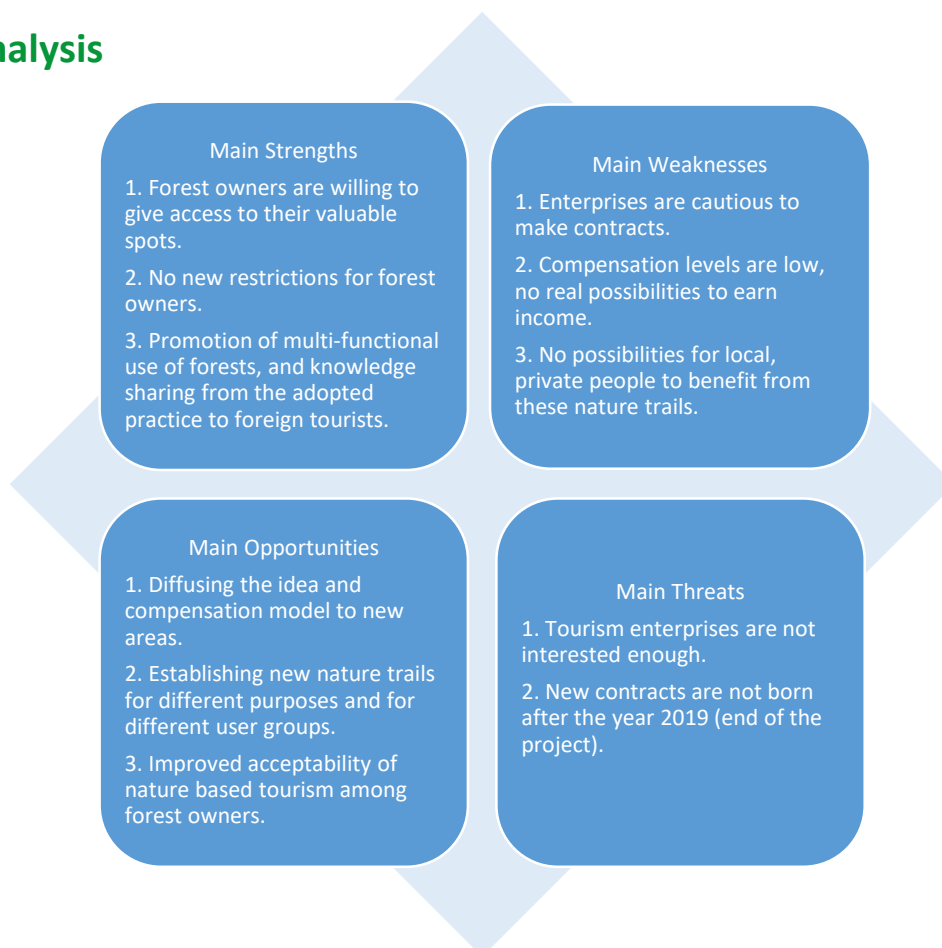


The presented contract solution, in which protected areas of private forest are used as places for tourists to visit, can't be yet classified as success or failure. The acceptance of forest owners is in general high, but the enterprises are cautious to make contracts. If the number of contracts remains low, the use of public money to map the spots and nature trails in the project hasn't been efficient. According to first experiences, the compensation level that forest owners receive is not very high, although all they receive is additional income from their forests. On the other hand, the project was piloting this kind of contract solution, and all the experiences are valuable when establishing similar compensation models elsewhere.

Reasons for success/failure:

- Forest owners have already protected part of their forest and nature trails to these spots can generate new income to them (success).
- The compensation level is low, especially if there are only few enterprises interested (failure).
- Tourism enterprises are cautious to agree the contracts (failure).

SWOT analysis



Carbon Market – a marketplace for the restoration of ditched peatlands

Carbon Market (Hiilipörssi) is an online donation service designed to reduce carbon emissions and increase carbon storage by restoring ditched peatlands. It is targeted to consumers and companies who want to decrease their carbon footprint. The landowner offers the drained peatland that can be restored to its natural state as a carbon stock. Investments, actually donations, from private persons and enterprises provide capital that enables restoring actions. The landowner commits to leave the peatland untouched and transform it to as a private protection before the restoration begins.



Summary

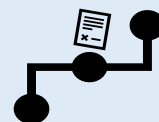
The Carbon Market, launched in May 2018, is a value chain contract solution that aims to reduce greenhouse gas emissions and to increase carbon storage by restoring ditched peatlands to their natural state. The contract solution has also collective elements, since many of the peatlands have several owners. The owners of the peatland (usually individual forestland owners but can be also foundation, municipality or parish) assign a drained peatland to be restored and to leave it untouched. Until now, some 700 hectares are agreed to be restored from 10 landowners (private individuals and foundations), and negotiations with five landowners are ongoing. The restoration is financed by selling shares on the Carbon Market. In practice this means that participating people and companies give money to the Carbon Market. Investors/donors receive the carbon stock certificate, stating the amount of restored peatland and the carbon stock. The price for the donors is fixed, 800 euros per hectare. By the end on 2019, there were some 2,900 investments from 2,500 people, total sum being 820,000 euros. Companies have also been interested to collaborate with Carbon Market, and a kind of compensation product is being developed for them. Currently, there is more money than suitable peatlands to be restored.

Objectives

1. Increasing carbon storage
2. Safeguarding biodiversity
3. Safeguarding water quality



VALUE CHAIN



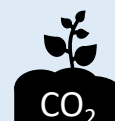
landowner – marketplace – investor/donor

COLLECTIVE



In case of some peatlands there are several owners, all of them need to agree the restoration project and sign the contract.

PUBLIC GOODS



Climate regulation-
carbon storage
Peat accumulation



Biodiversity of drained
peatlands



Water quality
Restoration improves the quality of water systems, as the natural peatland effectively filters various impurities from the water flowing through it.

Problem statement

Peatlands cover almost one third of Finland's land area and they are one of the largest carbon stock in Finland. From 1960s to 1990s, more than half of the (original) mires were drained for forestry purposes (Southern Finland 80%, Northern Finland 40%). However, in many cases ditching efforts did not result in growth increase of forests, since the peatland areas were not fertile enough for timber production purposes. Draining of pristine mires was given up in 2001, and recent forestry related emphasis has been on ditch clearing and associated supplementary draining. Draining alters the hydrology of mires which may destroy mire vegetation and lead to biodiversity loss, cessation of peat accumulation and increased carbon emissions. Restoration of drained peatlands, e.g. by filling in and damming the ditches and removing part of the growing trees, aims to gradually restore natural mire hydrology and original mire vegetation, and turn the peatland back to carbon sink. So far, restoration projects for peatlands have concentrated almost entirely on protected areas on state land. Carbon Market is one of the first instruments that funds restoration of private peatlands.

The Carbon Market is founded by the Finnish Association for Nature Conservation in 2018. The initial development efforts of the Carbon Market were funded by the Kone Foundation. The aim has been to develop a new, inspiring way to mitigate climate change and to raise funds for nature conservation. The main idea is an online donation service designed to reduce carbon emissions and increase carbon storage by restoring ditched peatlands that are unsuitable for forestry use.

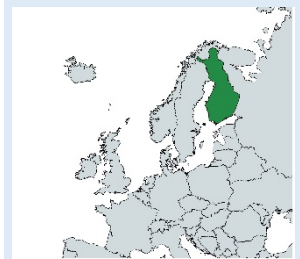
Through buying shares from Carbon Market, one can directly invest in the sequestration of carbon dioxide from the atmosphere into peatlands. The investor (i.e. donor) will receive the carbon stock certificate, stating the amount of restored peatland and the carbon stock. The landowner, in turn, may offer drained peatland to the Carbon Market for restoration. The suitability of the peatland is assessed by experts of Carbon Market. The landowner allows the experts of the Carbon Market to make the restoration plan for the ditched peatland, and the Centers for Economic Development, Transport and the Environment (ELY Centers) gives permission for the restoration work. Assigning the peatland for restoration doesn't mean a change in the ownership of the peatland but landowner has to transform it into a private protected area, which ensures the contract is binding and permanent. It is possible to get public support for protection if it is considered to be very valuable.

INDIRECT EFFECTS

Natural mires have been a part of the national landscape, however, today they are rare in Southern Finland. In some of the restored peatlands, there have been events to raise awareness of the meaning of peatlands and in this way the contract solution may increase also cultural heritage.

LOCATION

FINLAND



Whole Finland

Data and Facts - Contract

Participation: Until now some 700 hectares are contracted to be restored from 10 landowners, and negotiations with five landowners are ongoing. There are some 2,900 investments from 2,500 people, total sum being 820,000 euros. The contracted landowners are private individuals and foundations. Companies have also been interested in collaboration with Carbon Market, appropriate forms of cooperation are being developed. In some of the restored peatlands there have been events to raise awareness of the meaning of peatlands.

Involved parties: The direct contract parties are the landowner and the Carbon Market, online donation service, owned by the Finnish Association for Nature Conservation (FANC) with whom the landowner makes the contract of the peatland restoration. The landowner assigns a ditched peatland, approves the restoration plan and allows it to be transformed into a private protected area. Besides the restoration contract, the landowner signs an agreement with the ELY Center (state institute) to establish a private



CONTRACT

Private-private contract
landowner - Carbon
Market - donor

Contract conclusion:
Written agreement



Payment mechanism:
No payment for
landowner, covers only
the costs of restoration.
Restoration is funded by
donations.



Financing party:
Market sector-oriented

**Length of participation in
scheme:**

Permanent contract, the
restored peatland will
be transformed into a
private protected area
with a legal status.



Start of the program:
May 2018
End: still running

protected area if the area has not been protected earlier. The Ely Center also gives permission to do the restoration work. The third involved party is the investor (typically individual consumer), who “buys” a piece of peatland from the Carbon Market and receives a certificate of how much carbon is stored annually. The landowner and the investor do not make a mutual agreement. Further on the resident population around the water system of the restored peatland is also involved.

Management requirements for farmers: All landowners of the uniform peatland to be restored must enter into a contract. A restoration plan will then be made for the peatland area in question. It will be implemented under the control and expense of the Carbon Market. The landowner does not need to do anything, but if he or she wishes, he or she can contribute to the plan. Once the work is done, the landowner is not allowed for any activities in the area. Finally, the area needs to be formally protected, i.e. a contract with regional authorities (ELY-Centres) will be made, after which it will become a private protected area.

Controls/monitoring: The experts of the Carbon Market make self-monitoring when resources allow, for example by checking the condition of the dams.

Conditions of participation: One landowner is enough for participation if s/he is the only owner of the continuous peatland area that is suitable for restoration. However, often there are several owners within one peatland. In this situation they all need to agree the restoration plan and the contract. Each peatland is a special case for which a restoration plan is made. The plan will be annexed to the Agreement that is made with landowner. The restored peatland will be transformed into a private protected area with a legal status. Intentional damage is punishable under the Criminal Code.

Risk/uncertainties of participants: The restored peatland may at first result in increased release of methane emissions as water level raises. On the other hand, heavy rains and floods are expected to increase with climate change, which will also increase emissions as water floods into the wetland. As the climate warms and dry seasons increase, peat decomposition accelerates and peat fires may become more probable.

Funding/Payments: In the Carbon Market, there are usually no payments for the landowner, as the peatlands they own are not productive and thus do not result in economic returns. The minimum investment/donation that anyone can make is 50 euros which funds the restoration of 600 m² of peatland, capturing a minimum 45 kilos of carbon annually. By investing 4,000 euros, one can store 3,750 kilos of coal per year, which is approximately equivalent to the amount of carbon emissions of an average Finn per year. The website has a counter that can calculate how much peatland and coal one can get with his/her investment. Of the money invested in the Carbon Market, 70% goes directly to restoration work, 10% to Carbon Market maintenance and other climate actions, 10% to development and marketing, and the remaining 10% to scientific and artistic activities supporting peatland restoration.

Context features

Landscape and climate: Finland is one of the world's northernmost countries, the landscape being mostly flat with few hills and fewer mountains. 78% of Finland's land area is covered by forestry land and 10% by water (lakes, rivers and ponds). The share of peatland is almost one third of Finland's land area. Finland lies in the boreal zone, characterized by warm summers and freezing winters. However, the temperature varies considerably between the southern coastal regions and the extreme north, indicating characteristics of both maritime and continental climate. The annual amount of precipitation varies between 500 and 650 millimeters. Lapland has the lowest precipitation, while inland areas in the southern and central parts of the country get the most downpour.

Farm structure: Private forest owners, ordinary families own 60 per cent of Finnish forestry land and 70 per cent of the annual growth of wood stock. The state-owned forests managed by Metsähallitus, forest companies, municipalities, parishes, foundations and jointly owned forests.

There are approximately 350,000 family forest holdings owning at least two hectares of forest land. These holdings have more than 600,000 owners. According to Natural Resources Institute Finland, the annual growth of Finnish forests is 107 million cubic meters and the sustainable annual harvesting level is 84 million cubic meters. The amount harvested is some 70 million cubic metres. Family forest owners sell the forest industry 80 per cent of the Finnish timber it needs. Forest land that is in productive use, is typically managed for timber production. Dominating forest management strategy has been and still is even-aged management. Attempts to increase the productivity of forest management has resulted in intensive ditching of mires.



SUCCESS OR FAILURE?

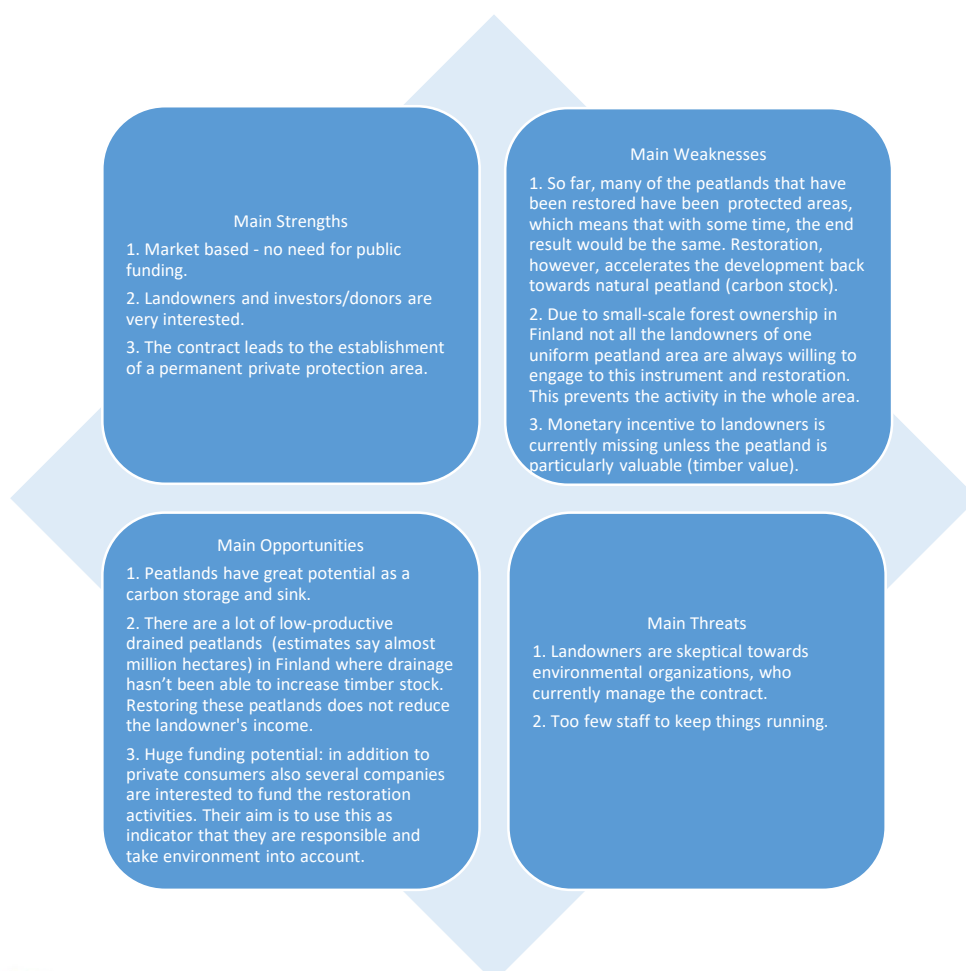


The Carbon Market has been a success given its short life span; within one and half year it has collected nearly one million euros, and some 700 hectares are agreed to be restored. It is too early to assess the environmental impact, as the restoration of the drained peatland is a slow process. Investors/donors are very interested, but it is difficult to find good peatlands for restoration; eager private landowners offer their own piece of peatland for restoration, but there are often several other landowners who also own parts of the same continuous peatland and not all of them are willing to participate for restoration project.

Reasons for success:

- Usually no need for public funding at all.
- An inspiring channel to collect private money for the restoration and protection of peatlands.
- The contract will lead to the establishment of a private protected area, which is a permanent nature protection instrument in Finland

SWOT analysis



Pasture bank - a platform for pasture leasing

Pasture bank is an online platform through which the landowners and the domestic animal herders can find each other. This platform provides an example of a contract model for leasing pastures.



Summary

Pasture bank is a platform through which the landowners and the domestic animal herders can find each other and agree a land-tenure contract for leasing pastures or grazing animals. Increasing grazing of underutilized pastures can improve biodiversity, landscape and animal welfare. Besides a contract model, pasture bank offers information about pastures, herding animals (domestic sheep, cows, horses) and services available for all interested partners around the country. The amount and direction of money transferred varies case-by-case; either the animal herder pays for wild pastures, or the landowner who leases grazing animals pays for the herder. The contracts are made between private entrepreneurs, but also municipalities and other organizations can offer their land for animal herders. Pasture bank was initiated in 2005, and during this time the amount of written contracts has increased. There are around 150 announcement every year (including both animals and pastures).



Objectives

1. Increase co-operation between pasture owners and animal herders
2. Increase biodiversity of the underutilized pastures
3. Keep landscape open by grazing
4. Promote animal welfare by using wild pastures



Problem description

The amount of grazing animals has decreased locally, since the number of farmers has decreased and the amount of livestock of a single farmer has increased. Therefore, some domestic animal herders may need more pastures than they own. On the other hand, some of the pastures that have been developed during the hundreds of years in the rural areas have been abandoned and they have become covered with forest. The pastures that are still existing are underutilized and have declined in biodiversity (and at landscape levels). Increasing grazing would promote biodiversity, for example, the amount of plants, insects, butterflies and birds. Nowadays, pastures with grazing animals are wanted also for the landscape and recreation. Pastures around towns or cities provide recreation possibilities for the nearby citizens. In order to improve the pasture characteristics, the landowners could offer their underutilized areas for herders. However, there hasn't been a platform through which the landowners and herders could meet. Also, there has been a great need for information about the contents of contract between landowner and herder. The pasture bank platform was initiated by Rural Women's Advisory Organisation together with ProAgria which is a Finnish expert organization providing an extensive network of specialists and a wide range of services to rural entrepreneurs.

LAND TENURE



In the contract between landowner and domestic animal herder the terms to use the pasture are agreed. Typically, terms include what resources can be used, for how long and under what conditions.

PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



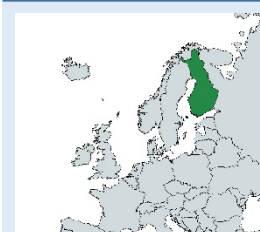
Farm animal health and welfare

INDIRECT EFFECTS

Recreational access, rural viability and vitality, cultural heritage

LOCATION

FINLAND



The participation is possible in the whole country.

CONTRACT

Public-private contracts
municipality/parish -
animal herder

Private-private contracts
land-owner - animal
herder



Contract conclusion:
Written or spoken
agreement

Payment mechanism:
Rent - payment either
for land-owner or
animal herder
depending on the
contract.



Financing party:
Market sector-oriented

**Length of participation
in scheme:**
1-5 years, length of the
contract varies, and
since the contracts are
not monitored or
controlled through the
online service, there is
no exact information
available.



Start of the program:
The online service has
started in 2005.
End: still running

Data and facts

Participation: On average, there has been 150 online announcements (including both animals and pastures) per year during the last years. However, the number of contracts is unknown since they are made privately between the domestic animal herder and the landowner. The online service is available for whole Finland.

Involved parties: The contracting parties are private farmers or other landowners such as municipalities. They can announce their grazing animals or pastures in Pasture bank online service. Once the contract documents have been signed, the partners may not need the online service anymore even though their cooperation continues during the following years. The online service is also a marketing channel for private specialists and companies. The online service is maintained by ProAgraria, which is a Finnish expert organization providing an extensive network of specialists and a wide range of services to rural entrepreneurs. The online service is maintained by yearly payments of The Central Union of Agricultural Producers and Forest Owners (MTK), Metsähallitus, Fingrid PLC OYj (public limited liability company), and ProAgraria association.



Management requirements for farmers: There are no specific requirements for the contract partners. In the contract models offered by Pasture bank there is a detailed list of needs, risks and responsibilities that the partners should agree in the contract solution, such as who is responsible for daily care of livestock or building the fence. However, it needs to be noticed that the contract models can be freely modified by the partners.

Controls/monitoring: There is no control or monitoring of the contracts.

Conditions of participation: There are no specific requirements for number of participants. The contract model available online can be modified by the partners if needed. If the contract conditions are not full-filled, the consequences are carried out by the contemporary law.

Risk/uncertainties of participants: The main risk is the planning of the agreement and the quality of the contract (verbal, written) in which all the responsibilities should be mentioned. The concrete risk is that the other partner is not satisfied, for example the landowner might think that the livestock number is not sufficient to maintain the landscape, the pasture is too small to feed the livestock, the mistreatment of livestock or the escape from an enclosure. There is also a risk of predators.

Links to other contractual relationships: The length of a contract is dependent on the partners. The land-owner or the leaseholder can get **agri-environment** support from EU, if the circumstances fulfill the demands. In this case, the length of the contract is five years.

Funding/Payments: Originally, the domestic animal herder pays a rent of pasture for the land-owner. The rent varies depending on the location of the pasture and the possibility to get the agri-environment support which is 450 €/ha/year or in the highly valuable

pastures 600 €/ha/year. On the other hand, the landowner might have high need for the benefits that grazing animals bring, such as increased biodiversity, keeping the landscape open, or possibilities for recreation, and therefore the landowner pays for the animal herder. For example, for one season the price is around 50 € per sheep and 200 € per cow. It is also possible to agree that no money is transferred, but in the contract the terms for grazing are agreed. Due to private nature of the contracts, the amount of money transferred is not known. Typically, the contracts are made between private partners, but quite often public partners such as municipalities offer their land for the animal herders. Using pasture bank platform is free of charge.

Context features

Landscape and climate: There is no specific landscape or climatic characteristics, except that the winter in Finland is long and summer is short. Typically, animals are taken back to their home farms during the winter time. Thus the minimum length of the contract can be only few months. The climate also differs in the different parts of Finland. The heat summation varies from less than 600 to more than 1400 degree days.

Farm structure: Most of the domestic animal herders being contract partners are private entrepreneurs, whereas the landowners can be also public organizations such as municipalities.

SUCCESS OR FAILURE?

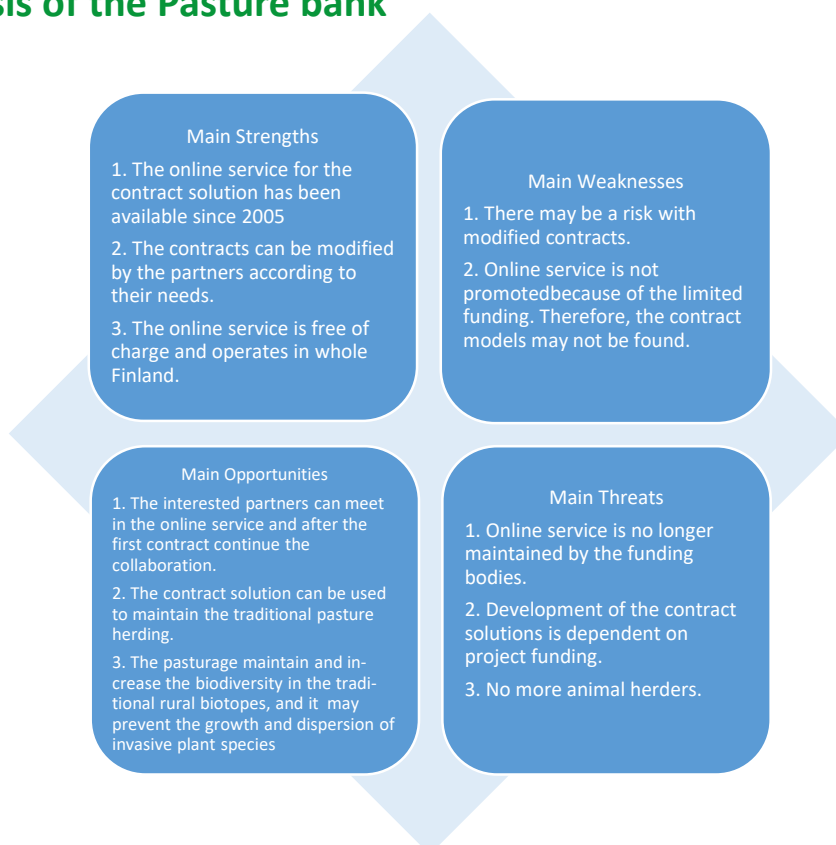


The contract solution could be evaluated as successful even though there is no exact knowledge about the contracts. The online service offering information started in 2005 and is still running. There is a great need to maintain old pastures because of the landscape and biodiversity benefits. The number of written contracts has increased and the number of spoken contracts has been decreasing. However, the marketing, monitoring and developing of the solution is dependent on the external funding. The contracts made during the last 15 years should be evaluated in order to get specific information about the impacts on biodiversity, landscape and animal welfare.

Reasons for success:

1. The contract model offered in the online service covers all the aspects of the pasturage, animal health as the most important, making the cooperation feasible and successful.
2. The contracts can be modified by the partners. Even the direction of payment varies.
3. The contracts enable the traditional herding culture in the old pastures, but also in new pastures for example near population centers.
4. The information about the contract possibilities is freely available for all in the online service.

SWOT analysis of the Pasture bank



Green jointly owned forest - TUOHI

The green jointly owned forest TUOHI is a multi-owner forest property applying continuous cover (uneven-aged) forest management regime and thus avoiding clear cutting in forestry. TUOHI is juridically private, established according to the Act on Jointly Owned Forests in Finland.



Summary

In TUOHI, the contract solutions include private investments in the jointly owned forest in forms of invested money or forest property. Monetary investments are spent for acquisitions of forest land.



All shareholders of TUOHI have agreed on the management regime based on continuous cover (uneven-aged) forestry. In addition to economic benefits to shareholders, TUOHI is addressing improvements in forest biodiversity and increasing carbon storage. General juridical provisions on jointly owned forests are applied. Currently, TUOHI is attracting an increasing number of investors.

Objectives

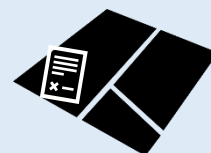
- Win-win solution: Profitable forestry without clear cuttings
- Preservation of rich forest nature and multiple use opportunities of forests
- Maintain and increase carbon storage in forests



Problem description

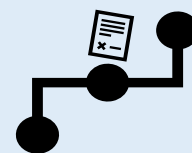
In Finland, uneven-aged forest management has been allowed since an amendment in Forest Act in 2014. Before this amendment, forest management was legally restricted practically only to even-aged forestry regime. This restriction lasted approximately 60 years. In even-aged forestry, all trees on a forest site have roughly the same age and height, and the forest is regenerated in a single point of time, typically with clear cutting. In uneven-aged forestry (continuous cover forestry), clear cutting is avoided and the forest is regenerated naturally by harvesting mainly only part of the biggest trees. Therefore, there is no single point of regeneration and the forest remains wooded all the time. In uneven-aged forestry, dispersed age class structure increases the features of natural forest, biodiversity, scenery and recreation possibilities, as well as carbon storage. Currently, uneven-aged forestry is still applied in rather low levels in Finland. If applied with success, uneven-aged forestry may also result in valuable roundwood products and economic benefits to owners. Traditionally, jointly owned forests as a forestry-specific juridical and financial entities have had strictly planned management with even-aged forestry regime. If the shareholders of a jointly owned forest agree with an uneven-age forestry management regime, this may be taken as the main forest management regime of the jointly owned forest. In addition, the jointly owned forest area of uneven-aged management may increase, if it attracts investors with additional private capital. In the case of the jointly owned forest TUOHI, new legal opportunities (structural change) combined with skilled initiators in continuous cover (uneven-aged) forestry management this kind of development has taken place.

LAND TENURE



Tenure of the forest property is given to TUOHI that applies continuous cover (uneven-aged) forest management practices

VALUE CHAIN



There are also some features of value-chain; the timber cut from TUOHI forests can be sold as "Clear cut free wood products" and there is a brand co-operation with Jukola Lumber Ltd.

COLLECTIVE



Collected investments from investors/forest owners, forest area owned jointly by the investors, profits shared in relation to share of ownership

CONTRACT

Private – private contract

(Jointly owned forest is a juridically private entity)



Contract conclusion:
Written agreement



Financing party: Market sector-oriented



Start of the program:
Establishment in 2015, thereafter increasing number of contracts by investors/ forestry property mergers

End: Basically permanent, withdrawal is possible

PRODUCT

There are no specific product requirements. Uneven-aged forestry emphasizes production of valuable sawlogs instead of less valuable pulpwood. The applied forest certification criteria must also be fulfilled.

Data and Facts - Contract

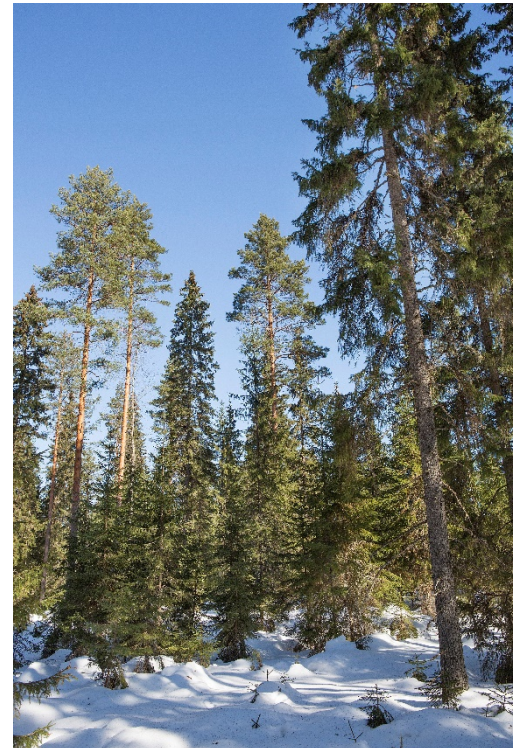
Participation: TUOHI has approximately 45 shareholders and the total area is 500 hectares (October 2019). The forests of TUOHI are located in several provinces, and the operating area is whole Finland. The shareholders of TUOHI are not participating on the operative level, but an agreed number of them are annually elected to TUOHI's administrative board to manage the jointly owned forest.

Involved parties: Contracting parties are the shareholders of the jointly owned forest. Involved parties are individual entrepreneurs, who perform cutting operations in jointly owned forest TUOHI and timber buying companies, who buy the harvested timber. All citizens have free access to forests of TUOHI (Everyman's right) and can enjoy the provision of benefits from forests, but this is similar practically in all forests in Finland.

Management requirements: If a forest owner invests into TUOHI with his/her own forest property by merging it into jointly owned forest, there are no specific requirements. After joining the TUOHI, the forest property is managed according to TUOHI's continuous cover (uneven-aged) forestry regime.

Controls/monitoring: Due to accepted management regime by shareholders, TUOHI has no specific external but rather internal control mechanism (e.g. annual partnership's meeting of all shareholders). However, the applied forest certification criteria must be fulfilled. In applied PEFC group certificate, controlling is focused more on areal and entrepreneur/contractor performance, and less on property level.

Renewal / termination: No need for renewal, due to permanent contract. Withdrawal of a shareholder is possible with invested money and if agreed with forest property, but not necessarily with the originally invested/merged forest property.



Conditions of participation: In establishment process, at least two forest properties are needed to form a new jointly owned forest. In case of TUOHI, the principal conditions of participation are minimum amount of investment (10,000 euros) or merged forest property and acceptance of uneven-aged forestry regime.

Risk/uncertainties of participant: In jointly owned forests, there are normal investments risks for participants (shareholders). If a shareholder invests into jointly owned forest with his/her own property, he/she cannot use his/her forest as "a bank" any more, but incomes will be distributed more evenly over years. When uneven-aged forestry regime is applied, there are also natural regeneration risks and risks related to forest health (e.g. root rot risk) as well as damage risks caused by biotic and abiotic factors (insect outbreaks, wind and snow damages). The same risks prevail, however, also in even-aged forest management.

Funding/Payments: Jointly owned forests are principally privately financed. Private investments are received from forest owners and investors in forms of forest property or invested money. Forest owners and investors receive a share of jointly owned forest.

However, government is offering some incentives for establishing and running jointly owned forests; first, land management measures like establishment of a new jointly owned forest or merging a forest property into existing jointly owned forest are fully financed by the government. Second, jointly owned forests have income tax rate, which is some percentages lower than that of family forest owners.

Context features

Landscape and climate: Finland is one of the world's northernmost countries, the landscape being mostly flat with few hills and fewer mountains. 78% of Finland's land area is covered by forests and 10% by water (lakes, rivers and ponds). Landscape and climate are Nordic boreal forests characterized by softwood tree species. Typically, summers are warm and winters are freezing but the temperature varies considerably between the southern coastal regions and the extreme north, indicating characteristics of both maritime and continental climate. The annual amount of precipitation varies between 500 and 650 millimeters. Lapland has the lowest precipitation, while inland areas in the southern and central parts of the country get the most downpour.

Farm structure: In Finland, forest ownership is dominated by private forests. Measured in productive forest land percentage shares (year 2016), public forest owners include state (26%), municipalities (2%) and parishes (1%) and private forest owners include private persons (59%), jointly owned forests (3%), limited companies (8%) and other owners (1%).

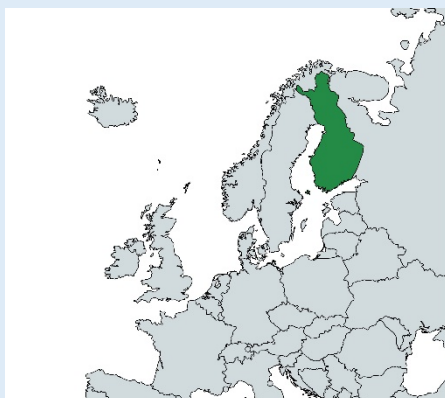
Public goods

Indirect effects: Wooded forest without clear cuttings benefits air quality and microclimate. Moreover, avoiding strong soil preparation increases soil quality. Uneven-aged forestry produces more sawlogs and less pulpwood (high-valued timber). Lesser drainage is needed due to more stable transpiration by trees which improves downstream water quality.

TUOHI is one of the pioneers with certain publicity in applying continuous cover (uneven-aged) forestry regime in Finland. Their expertise has, for instance, been employed in uneven-aged forest management recommendations, available for all forest owners.

LOCATION

FINLAND



The jointly owner forest TUOHI operates in whole Finland.

PUBLIC GOODS



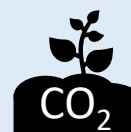
Landscape and scenery
Avoiding clear cuttings and strong soil preparation



Recreational access / Improvements to physical and mental health
Recreational features are associated with wooded landscape and preserved paths since the clear cuttings are avoided



Biodiversity
Avoiding clear cuttings benefits species requiring large wooded areas



Climate regulation-carbon storage
More stable carbon storage in forests, and increased carbon storage in wood products



Resilience to natural hazards
Dispersed age distribution in forest stands may reduce risks

SUCCESS OR FAILURE?



At the end of year 2016 there were in total 356 jointly owned forests in Finland with 455,000 hectares of productive forest land. Some of these entities are already over 100 years old. Jointly owned forest TUOHI is established in 2015 and can be regarded as a newcomer with rather small forest area in this group. TUOHI's emphasis to strongly increase continuous cover (uneven-aged) forest management in Finland has so far been exceptional among the jointly owned forests. The success of TUOHI may therefore not be evaluated only by assessing its' own hectares, but also by the example given to other forest owners. The operations of TUOHI are dominantly privately funded, with minor public assistance for certain operations. In Finland, there are no separate incentives (public costs) of promoting uneven-aged forest management. Due to short term in operation since 2015, TUOHI's contribution to uneven-aged forest management may be regarded as a success with regard to the given example and expertise and unclassifiable with regard to own forest area. The effects to the provision of public goods can not be evaluated at the moment.

Reasons for success:

- Unclassifiable: Provision of public goods (in particular forest biodiversity) is not clear after only four years of operation.
- Success: Private initiative in the establishment of TUOHI, skilled managers with good networking with forestry and environmental organizations and media.
- Unclassifiable: Slow accumulation of private capital for enlargement of TUOHI.

SWOT analysis



Nature value bargaining (Luonnonarvokauppa)

Nature value bargaining was a voluntary and temporary (10-20 years) biodiversity protection instrument in which forest owners got payment for maintaining and/or increasing biodiversity in a certain forest area within their forest holding. The solution was tested in pilot project phase (2002-2007) when the different protection instruments for METSO program (biodiversity protection programme for Southern Finland) were developed.



Summary

The "Nature value bargaining" was tested during METSO pilot programme 2002-2007. The aim was to operationalize markets for biodiversity and natural values. Forest owners received subsidy for making the contract. The subsidy level was based on both the biodiversity values of the stand and timber stock. In addition, forest owners' goals affected their price demands, improving the cost-efficiency of the system. After the pilot period, the instrument was abandoned and replaced with more traditional AES due to EU-level legislative reasons.



RESULT-ORIENTED



In Nature Value Bargaining, the subsidy was partly based on the existing and potential (future) biodiversity values of the forest area offered for protection.

PUBLIC GOODS



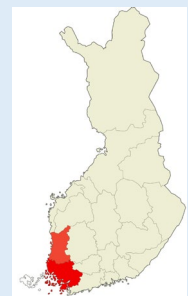
Biodiversity

INDIRECT EFFECTS

Temporary protection of the rather large areas indirectly improved the provision of various other public goods, such as landscape and scenery (no timber harvesting in protected areas), recreation, cultural heritage and water quality.

LOCATION

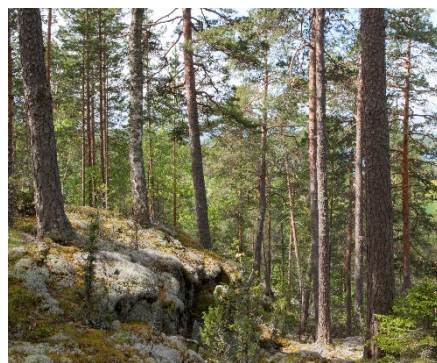
FINLAND



Area where Nature value Bargaining was piloted: FI196, FI1C1

Objectives

The objective of nature value bargaining was to establish markets for the natural/biodiversity values of forests. In these markets, forest owners are active and voluntary participants who offer valuable areas from the forests they own (Gustafsson ja Nummi 2004). Owners are encouraged to provide natural values by making temporary contracts with authorities (Forestry Centre or Environmental Centre) and by receiving a subsidy for providing the nature values. Basically, private forests are thus rented/leased to state for providing natural values for the predefined period.



Problem description

The voluntary instrument (being part of the planned METSO biodiversity protection program for Southern Finland) was developed as a response to increasing societal understanding that negative biodiversity development needs to be considered more seriously globally and nationally. In particular, it was considered as a solution to Southern Finland, which is dominated by family owned forests. In Southern Finland forests have been managed dominantly for timber production. In this situation, establishing large continuous protection areas was considered to be challenging. The development was also affected by the experiences gained in Natura 2000 process, where the top-down approach and poor informing of forest owners led to conflicts. As a whole, state authorities were active in driving and developing new and more acceptable solutions. However, the nature value bargaining was an innovation that was developed in regional level (South-Western part of Finland, Satakunta) and it was piloted when the instruments for the METSO programme were tested during the pilot phase 2002-2007. After the pilot phase, the METSO programme was launched in 2008, but the nature value bargaining was not among the instruments anymore.

CONTRACT

Public-private contract
Forest owners receive subsidy from state-organization, namely Forest Centre.

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments



Financing party:
Government (without EU-funding)

Length of participation in scheme: typically 10, but can be also up to 20 years



Start of the scheme:
2002

End of pilot phase:
2007

Data and Facts - Contract

Participation: In Nature Value Bargaining 356 owners (3700 ha) offered areas from their forests. After examining the offered areas, contracts were made with 158 owners, resulting in 1520 ha of temporarily protected area (average size about 9 ha).

Involved parties: The direct contract parties are the forest owner and the state authority with whom he makes the contract. In addition, in the pilot project in which this instrument was tested, the forest owners committed to give information to related research project(s), that studied the characteristics and efficiency of the mechanism. In addition, the forest owners could ask advice e.g. from Forest Management Associations, that are advising forest owners in their forest management decision-making and operations.

Management requirements for forest owners: The forest areas that were contracted needed to meet certain characteristics. The offered areas were inventoried by forest/biology professionals. First, the forest area in question was required to represent certain important habitat types (groves, forests with considerable amounts of dead wood component, forests located near small water bodies, certain peatland habitats, traditional biotopes (altogether 11). In addition the forests presenting these habitats needed to contain certain structural characteristics that were important and predefined too. Finally, the price demand from the owner and the willingness to pay from authority needed to meet.

Controls/monitoring: Regional Forest Centre monitored that the characteristics of the protected forests were not damaged.

Conditions of participation: Single forest owner was enough for participation. There was flexibility regarding the characteristics of forest areas that could be accepted for the contract. When the contract was made, it clearly defined the conditions under which the contract could be terminated and what was the process if the land was transferred (sold, inherited) to new owner.

Risk/uncertainties of participants: There were only low risks for forest owners since the state paid the whole sum immediately after the contract was signed. Forest owners also had rights to remove dead trees from the protected forest, if a threshold was exceeded (e.g. > 20 trees/ha), which decreased the risks for insect damages.

Links to other contractual relationships: No, selling the forest holding was possible, but the responsibilities of the contract were transferred to new owner.

Funding/Payments: The funding for the nature value bargaining came from state budget. The actual funding organization was state organization, namely regional Forestry Centre or Environmental Centre. A single farmer made a contract with the Forestry Centre or Environmental Centre and then received the payment. The level of payment was defined in negotiation process between authority and farmer, and it depended on the biodiversity values of the stand, opportunity costs as well as farmer's objectives (nature oriented farmers could demand smaller payment).

Context features

Landscape and climate: The two regions (Satakunta and Varsinais-Suomi) are characterized by twofold climate: On one hand, the proximity to sea affects the climate. Winters are short and relatively warm, whereas autumn period can be rather long and moist. The average annual temperatures vary from +3°C (North-Eastern Satakunta) to +6°C (archipelago). The areas are among the best agricultural regions in Finland, due to long growing periods (the annual temperature sum varies from 1100 (only in limited North-Eastern part) up to 1450. In the most fertile forests in these regions, one can find, in addition to typical boreal tree species (Scots pine, Norway spruce, birch) also some nice deciduous trees like oaks, maples as well as alders. The landscapes are rather flat in Southern and Western parts of the area, which is one factor that improves their properties for agriculture. When going towards North-Eastern parts of both regions, one can find some (not very high) hills and upland areas.

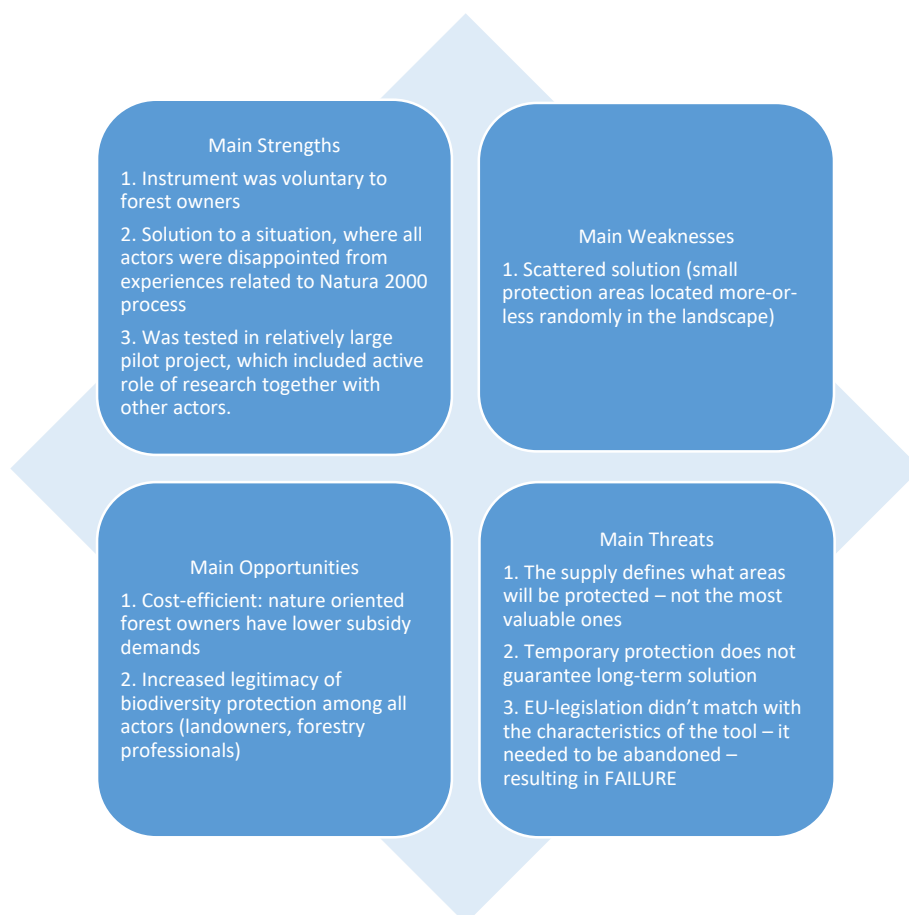
Forest holding structure: In the South-West of Finland the average size of privately owned forest property is 30 hectares. In these forests, the prevailing forest management strategy is even-aged management, although the forest ownership goals and management intensities of forest vary between owners.



SUCCESS OR FAILURE?

The solution, per se, was a success. It attracted considerable number of forest owners to participate in the contract during the pilot period. It would have allowed more cost-efficient biodiversity protection that takes into account the forest ownership objectives in the definition of the payment. However, due to EU regulations, which prevented paying subsidies that were based on production of natural values, it needed to be abandoned, resulting in failure.

SWOT analysis



Eco-grazing - Grazing for ecological grasslands maintenance in the green areas of Brest Metropole



The Head of Green Spaces of Brest Metropole has chosen to entrust the management of the mowing of some of their green spaces to an eco-grazing service proposed by a breeder with a part of his flock of Scottish Black Face-bred sheep whose production (lamb meat) is subsequently sold (not cull or amenity animals as classically done). Eco-grazing is more expensive than conventional mowing, but has been chosen for the many environmental services that result (reducing GHG emissions, reducing noise, social link, local agriculture, invasive plant management, favouring mellow-flowering plants).

Summary

Brest Metropole has explicitly chosen eco-grazing to manage the mowing of some of their green spaces instead of the conventional mowing, although less expensive, because of the environmental services produced by eco-grazing (decrease in the carbon footprint, noise reduction, social link etc. that are perceived by the metropolis). Even though environmental services are not explicitly paid through the current contract (public contract with specified technical clauses), the higher price of eco-grazing could be considered as the city's willingness to pay for induced environmental services. The choice of Brest Metropole in eco-grazing is motivated by the provision of environmental services that could not be produced by thermal mowing. It is a 6-years contract, to guarantee a long-term vision for the breeder.

Objectives

1. Decrease in carbon footprint (from 2 to 8 mower interventions to max 1 passage with a lighter machine)
2. Noise reduction
3. Social link in neighborhoods
4. Meat production from local urban agriculture
5. Biodiversity, invasive plants management
6. Alternative approach to thermal and chemical tools



© Brest Green Spaces

Problem description

Brest Metropole used to manage extensive meadows using the mower and other thermal tools. In order to implement greener management of these grasslands, the Head of Green Spaces took the initiative to introduce eco-grazing, which was more expensive than previously done. A breeder responded to the call for tender by proposing to set up eco-grazing as part of his organic lamb production, to ensure the maintenance of meadows and to provide the desired environmental services.

LAND TENURE

Eco-grazing – pleasure meadows - local urban agriculture – breeder-meat production – ecological maintenance



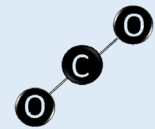
PUBLIC GOODS



Landscape and scenery



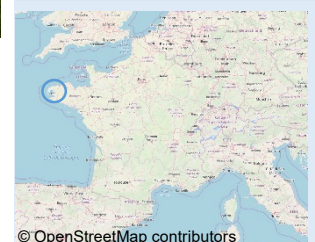
Biodiversity



Climate regulation - greenhouse gas emissions

LOCATION

FRANCE



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Brest Métropole, France

CONTRACT

It is a contract between a public structure (Brest Metropole) and a private person, a livestock breeder



Contract conclusion:
Written agreement



Payment mechanism:
Public procurement/tender

**Length of the contract/
of participation in
contract solution:**
6 years/2 years



Start of the program:
January 2018- still ongoing
End: scheduled end 2024

Data and Facts - Contract

Contract feature: Land-tenure. The pleasure meadows have a different management with eco-grazing without changing the use of the site. There has been an increase in the number of visitors to green spaces in the presence of sheep. The periodic presence of animals is extremely appreciated by people of all generations (especially parents and their young children, young teenagers, elders).

Indirect effects: The management of the extensive grassland of Brest Metropole (eco-grazing) has resulted in benefits in terms of biodiversity (invasive plant management, control of brushwood progression), improvement in physical health (decrease in noise, improvement of well-being) and social bonding, as well as local production of urban meat (being in the general interest from the point of view of the Brest Metropole).

Participation: Contractors are a professional breeder and Brest Metropole (Head of Green Spaces). As part of the eco-grazing, a breeder is involved, who practices eco-grazing on 28 hectares of green spaces in the Brest Metropole area (19 hectares in 2018, which could go up to 40 hectares,). The area involved are the green spaces of Brest Metropole, which cover a total area of 860 hectares (not necessarily pasturable yet). The idea would be to join other external partners (Marine, Ifremer...) and their surfaces, which could greatly expand the eco-grazing area in order to reach a potential of 200 hectares of pasture in the territory of Brest Metropole. In the short term, the objective would be to reach an area of 70 hectares in eco-grazing and to install a shepherd and a herd on site.

The Head of Green Spaces and the farmer agree on the management of the pasture on small plots, not necessarily close to each other, ensuring that there is enough food for the sheep while having a grass not too high. The breeder's responsibility is the weekly movement of the sheep (i.e. 4 to 5 hours of work with a sheep dog), the health management of the herd and the emergency interventions (escapes, diseases, etc.). Green Spaces are responsible for the supply, installation and maintenance of the fences, the provision of water and the daily visit to the lots of sheep on the plots (counting, lame detection, sick animals). The population near the grazed areas benefits from the reduction of noise pollution and the social bond that is created by discussion around sheep and interactions with them.



CONTRACT

Funding/Payments:

The payment for the eco-grazing is 350 euros/hectare/year excluding taxes. It comes from Brest Metropole. The land rent is graceful as well as the grazing and provision of a 3.1 ha parcel of meadows and a few small buildings (by contract on the duration of the market).

Renewal of the contract:

No
(public tender has to be proposed again to continue the activity)

Termination of the contract:

There are termination clauses on both sides with a notice period. On the Brest Metropole side, it occurs if there is a non-completion (CCAG - General Administrative Clauses Book).

The benefits for the livestock breeder: This is a first step before not only contracting the eco-grazing service but associated environmental services and for extending this activity to other areas on Brest Metropole territory and with other financiers, especially private ones.

The benefits for the Head of Green Spaces: It is an alternative to mowing. It produces a range of environmental and ecosystem services (noise reduction, GHG reduction, endemic biodiversity, social link, local agricultural production). In order to sustain the eco-grazing activity, the Head of Green Spaces promotes eco-grazing and related environmental services to private and government partners and is considering the integration of eco-grazing and agricultural food production in a broader reflection, for example in the context of the Territorial Food Plan.

Management requirements for the farmer:

- to provide a herd with a minimum of 40 sheep, up to 80 depending on the season and the maintenance goal;
- to ensure the health monitoring of the animals and to ensure the preservation/improvement of the health of the animals in his care;
- to ensure the movements of the sheep from one place to another.

Controls/monitoring: At this time, there are no indicators, except for potential complaints from the public/individuals who enjoy recreational grassland but on the contrary, the local population appreciates this type of management. The Head of Green Spaces manages the annual planning of the pastures, with two person who follow the condition of the plots (visual aspect) on a weekly basis (at least) depending on the condition of the plots and the amount of food available for the animals. The breeder and the Head of Green Spaces jointly determine the number of animals to be deployed (the breeder adjusts according to his own appreciation of the feed availability of each plot at a given time).

Conditions of participation: No special conditions, other than to match Brest Metropole's requests issued during the tender (CCTP - Special Technical Clauses Book) and to offer an eco-grazing service at a rate that fits into the budget of the Green Spaces.

Risk/uncertainties of participants: The risks of the participants are shared, although more important for the breeder, for him they are particularly related to animals, and in this case, the risks are borne by the farmer (escapes related to malevolence and the condition of the fences, loss, theft, aggression by dogs in particular, sudden death). The risk of grazing discharges is limited by the breed used (Black Face), but there is a mulcher passage each year. There is also a risk of vandalism on the fences, which is the responsibility of the Green Spaces.

Context features

Landscape and climate: The climate is temperate ocean. The landscape to be mowed is characterized by meadows spaces mainly, with invasive plants, brambles, ivy on tree trunks, heath and heather, some undergrowth. The breed of sheep (black face) was chosen for its ability to ingest these plants, refused by other breeds, and its resistance to bad weather. Black Face **sheep** are relatively wild which limits its fraudulent collection.

Farm structure: A farm/shepherd that offers eco-grazing with a breed adapted to environments and constraints (including management of invasive plants).

SUCCESS OR FAILURE?

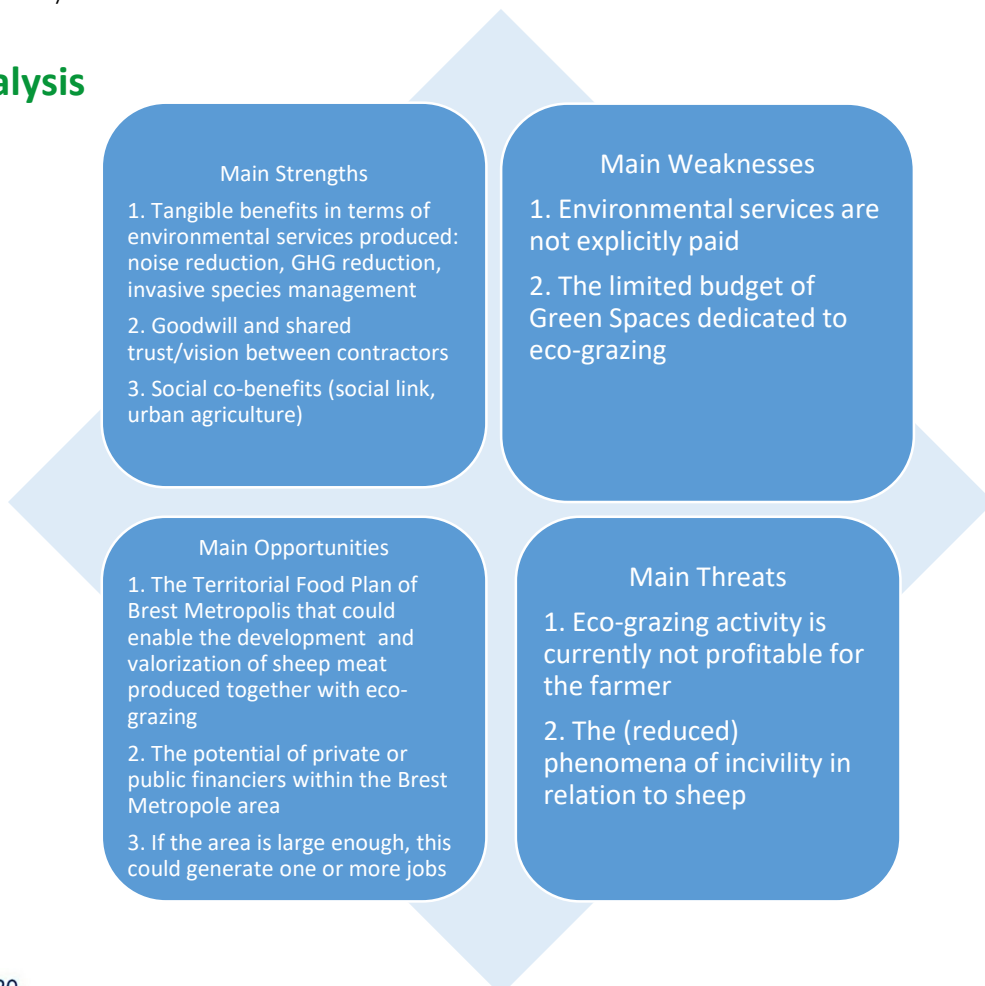


This is a successful contractual solution as the Head of Green Spaces is satisfied with the contracting of eco-grazing (limited investment, low-cost maintenance, little work for agents, low equipment maintenance and little fuel, no risk of economic loss), and wants to increase the number of plots where he can set up eco-grazing. The Head of Green Spaces is actively looking for private or public partners (and the farmer for private or public financiers) to expand eco-grazing (and associated environmental services) on the Brest Metropole perimeter and to allow an explicit payment of the eco-grazing environmental services. It will only be a complete success if environmental services are explicitly paid for in the medium term.

Reasons for success:

- The compromises made by both parties: the contracting farmer proposed a payment for his eco-grazing activity which proved to be unprofitable for him and the Head of Green Spaces tries to take over much of the daily maintenance of eco-grazing
- The contracting farmer proposed a breed adapted to the needs of Brest Metropole.
- Eco-grazing has proven to be successful for the population, people are asking for it and become more animal-friendly.

SWOT analysis



Terres de Sources - Public food order in Brittany, France

The farmers located in the drinking water supply area of the city of Rennes can contract for the supply of the public canteens of the urban area. Only farmers who commit themselves to improve their farm environmental practices using the IDEA method can subscribe to this public contract. In this case, the difference between practice-based and result-based is questionable since the IDEA method is mainly based on farmland use and agricultural practices indicators.



Summary

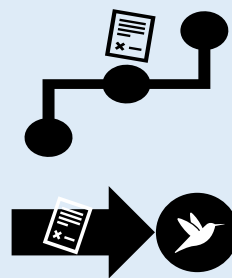
The contract solution is to create a public call for tenders that is orientated towards environmental services while also providing food supply to canteens in Rennes urban area. An association between Collectivité Eau du Bassin Rennais (EBR) and the city of Rennes initiated the first call for tenders in 2015 to supply Rennes canteens (10,000 meals per day, a budget of 50,000€ per year). There were three applicants (two pork and one dairy producers). Those three farmers had committed to improve their agricultural practices for the length of the contract (3 years) using the French IDEA method, which includes a system of 42 sustainability indicators. When applying to the call, the farmers decide their output price based on their cost of production, transport cost to canteens and an additional adjustment cost towards more environmental friendly practices. EBR also gives them an annual bonus payment according to their environmental contribution using an incentive term mentioned in Article 17 of the French public markets rules. A farmer who contracts with the city of Rennes and EBR gets a fair price of his output and a bonus payment for the environmental service he provides to enhance drinking water quality.

From this first experience, EBR and 15 municipalities in Rennes urban area launched a second public call for tenders to supply canteens in this area (20,000 meals per day) in 2017. There were 20 applicants (meat, fruits and vegetables, dairy, wheat ...). The farmers who have contracted for 4 years under this call are either direct sellers or sell their output through downstream firms (the agricultural cooperative Le Gouessant, Establishment Bigard or the new dairy cooperative Lait Sprit d'Ethique).



Indirect effects (provision of further public goods): The contractual solution aims to favour more sustainable farming systems using the IDEA method developed by the Research Supervision of the French Agricultural Ministry. The IDEA method assesses farm multi-performances (the overall farm performance) using 42 indicators which cover the three dimensions of sustainability (agroecology, sociology and economics). These indicators include biodiversity, autonomy and low use of inputs, natural resources preservation (soil, water and energy), economic viability, local development and circular economy, food, employment and labor quality). The use of this method allows farms to be evaluated on a broader scope than only environment impacts (here drinking water quality). Consequently, other AECPGs may be concerned in this program.

VALUE CHAIN and RESULT-BASED



The contractual solution aims to favour more sustainable farming systems using the IDEA method developed by the Research Supervision of the French Agricultural Ministry. The results are based on the improvement of agricultural practices using 21 indicators over the 42 provided in the IDEA method. The results are not directly linked to the supply of a public good (improvement of drinking water). The contractual solution is changing to focus on 9 indicators. If no improvements are made, the contract and the supply of catering can be suspended.

PUBLIC GOODS



Water quality-
drinking water - and
further ecological benefits

CONTRACT

The contracts are made between farmers (private) and local government (public) through a public tender. The contract covers the whole farm, since the IDEA method, used to monitor and assess environmental services, is applied on the farm overall management.



Contract conclusion:
Written agreement



Payment mechanism:
Combination of incentive payments and product price



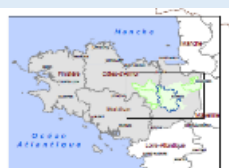
Length of contract: 3 years for the first one (start in 2015) and 4 years for the second contract (start in 2018)
Length of participation in contract solution: 5 years for the first three farmers and 2 years for the other 17 farmers

PRODUCT

The products must comply with the requirements of the canteens, in addition to the requirements in terms of practices.

LOCATION

FRANCE



Rennes urban area, Brittany.

Objective

- Improve drinking water quality in Rennes urban area in Brittany, France

Data and Facts - Contract

Participation: For the first call for tenders (public market from 2015 to 2017), three farmers contracted: two pork and one dairy producers who were direct sellers. For the second call for tenders (public market from 2018 to 2021), 20 producers (pork, sheep, dairy, fruits, vegetables, wheat, beverage) contracted. 12 are direct sellers and 8 producers sell their products through downstream firms. For both calls, the area of implementation covers two drinking water catchment areas (Northeast of Rennes and West of Rennes).

For the first call for tenders (public market from 2015 to 2017), the other participants were:

- Collectivité Eau du Bassin Rennais (EBR), a local government that produces, manages and distributes drinking water supply within the Rennes urban area,
- The city of Rennes.

For the second call for tenders (public market from 2018 to 2021), the additional participants were:

- 14 other municipalities in Rennes urban area,
- The Cooperative Le Gouessant et Establishment Bigard, the new cooperative Lait Sprit d'Ethique, Manger bio 35.

Involved parties: Among the involved parties, there is the EBR. EBR has 12 drinking water catchment extraction points, mainly surface water resources (rivers, water storages) whereas most French urban areas get one main water resource. 85% of drinking water is extracted outside Rennes urban areas. Water basins covers a large surface of 1,500 km².

For the first call for tenders, 3 farmers who sell directly to canteens of the city of Rennes were involved. The city of Rennes provides 10,000 meals per day in its canteens. The city initiated the first call for tenders to provide food in its canteens from farmers who are committed to use a code of environment-friendly practices. The objective of the code of practices is to improve drinking water quality through the improvement of the farm production system.

For the second call for tenders, in addition to the EBR, 15 municipalities in Rennes urban area were involved as well as 20 producers (pork, sheep, dairy, fruits, vegetables, wheat, beverage). 12 are direct sellers and 8 producers sell their products through processing firms (two agricultural cooperatives and a processing firm).

Financing party: Local governments (the city of Rennes and other municipalities from Rennes urban area) for food purchase to supply canteens and EBR for the bonus payment associated with environmental services.

Funding/Payments: There are two stages. First, local governments initiate a call for tenders. Farms who are located in the water catchment areas can apply to it. Local governments select applicants based on the code of practices. Then, the selected farmers can provide agricultural products to canteens for the contract length. Each local government, depending on its needs, chooses to purchase or not food products from those selected farms.

- Food price: Farmers are paid for their output. Each farm, when applying to the call for tenders, sets its fair price. The output price includes the cost of production, the transport cost and the additional cost to adopt the code of practices. Local government pays them for the quantity provided.
- Environmental bonus: The selected farms have an annual bonus payment for the environmental services targeted. This payment depends on how the selected farms have set their agricultural practices target in percentage. The improvement is determined using the initial IDEA farm score, the maximum IDEA score (182 points), and the target defined by each farm. A selected farm can get 150€ per percentage. The annual bonus is limited to 3,000€ per year and per farm.

The advantages of participation: For EBR, these contracts help to improve drinking water quality and to reduce water treatment costs. Similarly, it allows the city of Rennes to provide drinking water with high quality, local food products for public canteens, and to help to get a sustainable territory. For farmers it is a way to get a payment for an environmental service and to increase their market outlets for some of their outputs.

Management requirements for farmers: Farmers who applied to the call for tenders must produce under a stringent code of practices :

- Use of feed that is GMO-free and palm oil-free
- No use of preventive antibiotics
- No use of some pesticides

A farm diagnosis is realised using the IDEA method.

Problem description

Collectivité Eau du Bassin Rennais (EBR), the local government which produces, manages and distributes drinking water supply within the Rennes urban area, has committed to provide solutions to improve water quality (e.g. reduction in nitrogen and pesticide use) in Rennes urban area in Brittany (10th urban area with 710,000 inhabitants). Rennes urban area is composed of 56 municipalities and provides drinking water for 480,000 inhabitants. Drinking water catchment areas are located in an intensive agricultural area (2,000 farms). Two water basins are concerned. The first one is located in Northeastern Rennes, where agricultural production is mainly dairy production. The second one is located in Western Rennes with animal production (dairy, pig and poultry productions).



Controls/monitoring: An initial and a final diagnosis are done by one of the three following organisations (Chamber of agriculture, Agro bio or Adage) to give a farm score using IDEA method. Once a year, EBR checks the planned improvements made by each farm, pending the implementation of the labelling process.

The following points are checked:

- Feeding: GMO-free and palm oil-free,
- Animal health: no use of preventive antibiotics,
- No use of some pesticides (neonicotinoids, metaldehyde, Dimethenamid, metolachlor),
- An improvement in the IDEA score.

Conditions of participation: Farmers must be located in the catchment area (2,000 farms). They must produce agricultural products that can be used in canteens. The consequences of non-compliance with the contractual conditions can be the suspension or the termination of the contract.

Risk/uncertainties of participants: Some agricultural products are excluded from the call for tenders because canteens cannot use them. However, when EBR finds that a farmer commits to a high enough environmental target, local governments can collaborate with the farmer to help them change his output so it could meet canteens' requirements. Since 2016, the public procurement code requires buyers to analyse the supply (sourcing) before launching their public call for tenders. It allows local governments to ensure that the call for tenders will be successful. Otherwise, the risk would be that the call for tenders has no applicant when the code of practices is too stringent. For the first and second calls for tenders, local governments are not committed to buy a minimum quantity of products. In the next call of tenders, this will be considered, in order to guarantee farmers a minimum added value so that they are encouraged to adopt more ecological practices.

Links to other contractual relationships: The contract involves several stakeholders. First, EBR and the municipalities create a group order to initiate a call for tenders and select applicants. Second, this group order and each farmer sign a contract to define the agricultural products that can be provided to the canteens and the target for the environmental service.

Context features

Landscape and climate: The 12 water catchment areas are water surface areas and 85% of the area is located outside Rennes urban area. This region has an intensive agricultural sector. 2,000 farms are located there. They mainly produce animal products (dairy, pork and poultry productions).

Farm structure: The contractual solution does not target any farming system. The objective is to improve the ecological practices of all farms located in the water catchment areas.

SUCCESS OR FAILURE?



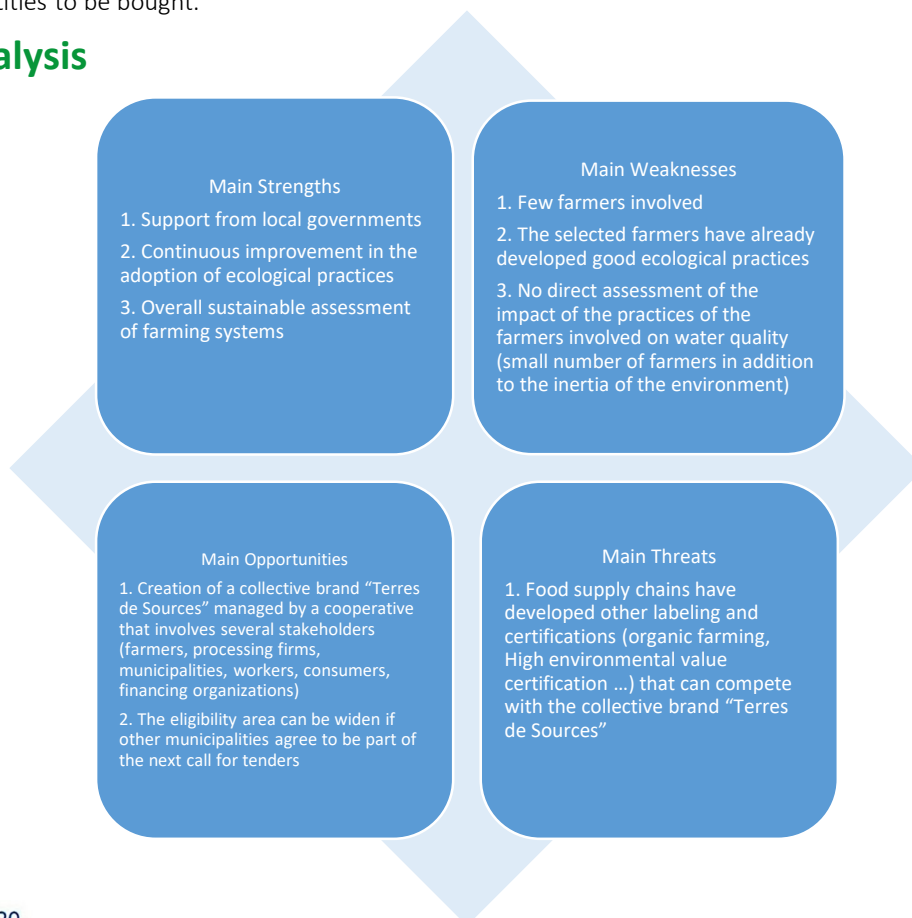
We can say that the Terres de Sources program is successful because the number of participants has increased from 3 in 2015 to 20 in 2017. However, the results on water quality improvement are not measurable because the participant rate is still too low.

We can mention, as a success criterion, that Terres de Sources has just received a financial aid of 20.6 million euros to strengthen water resource preservation and to develop new food supply chain with a collective trademark "Terres de Sources". A cooperative will be created to manage this trademark and will be governed by several stakeholders (producers, processing firms, consumers, local governments, workers, banks). The cooperative will promote the collective label, provide technical services to farmers, processing firms and administer sales.

Reasons for success:

- The project has started with few participants, which has allowed to grow trust between them. The project was built with all the parties concerned, taking into account everyone's needs.
- No strong commitments for local municipalities regarding the amount of food to buy from farmers, which facilitates their participation (but this does not guarantee the payment of environmental services and efforts made by farmers).
- Experimental process that aims at involving more farmers, more municipalities and commitments in terms of food quantities to be bought.

SWOT analysis



Esprit Parc National - Food and services in the national park of Guadeloupe

"Esprit Parc National" is a brand promoted, delivered and granted by the French Biodiversity Agency. This label is granted to farmers and tourism enterprises that adopt production practices for nature protection (close to organic farming) in the vicinity of the core natural reserves in national parks. In Guadeloupe this might be an opportunity for agroforestry farmers to get better prices. However transaction and production costs seem too high for most eligible farmers.

Summary

The contract is characterized by two regulations frameworks: a generic one and one depending on the categories of products or services branded. The generic regulation states the common commitments and eligibility criteria required for every provider of products or services called User (of the brand). Among the general requirements are those relative to the protection and the valorization of the landscape quality and biodiversity, the valorization of natural resources and local craftsmanship in a processes of sustainable development. The User has to comply with these regulations during the contract. The length of the contract is not fixed in these regulations and can be renewed. The contracts are between the User and the national park where her activities are located. The Users pay an annual fee to use the collective brand. The amount of the annual fee is fixed by decision of the French Biodiversity Agency. The Agency can also decide to change unilaterally the regulations both generic and specific, in which cases the User can have up to 3 months to comply with the new regulation.

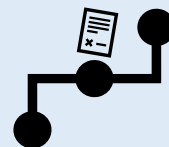


Problem description

"Esprit Parc National" is a collective brand registered by the national parks of France and it is implemented in each of the 10 French national parks. The brand is exclusively granted to products or services from economic activities that preserve the biodiversity and the heritages. Through this brand, the national parks contribute to the preservation of the cultural heritage and the valorisation of activities compatible with nature protection. The national park of Guadeloupe is a part of it, and has implemented this brand in its territory, first in order to support the development of ecotouristic activities. However this brand also concerns agroforestry productions, in particular undergrowth crops such as vanilla, coffee or cocoa.



VALUE CHAIN



Natural park – farmer or producer – consumers

Short value chains are promoted to create more local value and social links with the national parks and to make national parks an asset and an opportunity for neighbours rather than a source of environmental constraints hampering the economic development.

PUBLIC GOODS



Landscape and scenery



Recreational access / Improvements to physical and mental health



Forest biodiversity



Rural viability and vitality

CONTRACT

Public – private contract

Between one national park and a private law person



Contract conclusion:
Written agreement



Payment mechanism:
Product price

Financing party:
Consumer-oriented



Start of the program:
2015

End: still running

Data and Facts - Contract

Participation: The collective brand is attributed to products and services, and not to units of production: several products or services can be produced by the same unit of production, but not all products from this unit of production are entitled to be branded as « Esprit Parc National ». In 2019, there were 939 products and services branded as “Esprit Parc National” over the 10 French national parks, included transformed products, artcrafts, accommodations. Four of them are Vanilla products, with two located in the national park of Guadeloupe. This national park covers 18 800 ha of land and 3 300 ha of sea (heart of the park).

The total area of the terrestrial hearts of the national parks covers 2 486 918 hectares and the maritime hearts 49 750 hectares. The eligible areas can be larger or smaller than the hearts of parks depending on the parks.

Involved parties: The French Agency for Biodiversity manages the collective brand “Esprit Parc National”. The contract is made between the relevant national park and the user, for one or several products or services. The collective brand has been implemented since 2015. There are 33 classes of products concerned by the brand. The products or services are sold and proposed locally, and the short chain of value is encouraged. However, through the communication of the brand, the promotion of local products and services is wider (national and international). The objective is to encourage the economic development of park lands, while preserving nature.

The advantages of participation: The French Agency for Biodiversity manages the collective brand “Esprit Parc National”. The farmers or other users of the collective brand benefit from the notoriety and image of national parks. They benefit from a visibility of their activity on the territory and beyond, thanks to local and national communication actions. It allows them to promote more widely the environmental quality of their products and services and their local roots. Doing so, they are part of a network of professionals who defend common values. They also benefit from a special support and training. For the consumers, the collective brand is the warrant that the products or services consumed are from the local economy while preserving the landscape and biodiversity within the national parks.

Objectives

1. A tool for the economic development of park lands, while preserving nature
2. A bearer of the values of national parks (commitment, authenticity, respect, sharing, vitality)
3. Raise consumers' awareness

Management requirements for farmers: Besides the general requirements, there are specific requirements that depend on the category of products or services the applicant wants to market with the brand “Esprit Parc National”. For instance, in the case of products category relative to “fruits, vegetables, mushrooms, plants and edible flowers, cultivated or harvested plants”, the farmers/producers have to commit to 13 mandatory criteria and at least to 3 of the 6 facultative criteria in the case of the production and commercialization of fresh products. The mandatory criteria are: the location on the territory of the national park, product valuation, location in a pollution-free environment, no use of synthetic chemicals, no GMOs in cultivated species, no agri-ecological infrastructure degradation, species or variety diversification, water resource protection, fruit and vegetable conservation, management of the waste related to production activity, customer awareness. Among the facultative criteria, farmers can choose between: choice of local or old varieties, setting up a natural mulch, packaging fresh products in biodegradable materials, responsible personnel management, partnership with local players, business development agri-tourism. Some of these requirements are very close to the organic farming ones.

Funding/Payments: Payments are coming from the consumers. The Payment for Environmental Services (PES) corresponds to the monopolistic competition mark-up (positive price difference due to the discrimination of the product), if any, associated to the branded product compared with standard product. A strictly positive mark means that some consumers voluntarily contribute to the environmental objectives of the brand while buying the branded product.

Product requirements: In terms of products quality, the farmers are required to be part of a process to enhance their production: enrolment in a process to identify the quality and origin of their production or be labelled in organic agriculture or proposing direct sale, short circuit or be registered in a collective approach product valuation (territorial brand...) or value their production through a transformation activity.

Controls/monitoring: There are controls. In each product category regulation, the type of control is mentioned for each mandatory and facultative criteria. The farmer has to be able to prove, using invoices, vegetation or field indicators, or any other means or document agreed beforehand, that the criteria are met (the mandatory ones and the facultative ones chosen by the farmer). The French Agency for Biodiversity and the national parks can proceed to controls regarding the use of the collective brand, either by proceeding directly to these controls, or by delegating this mission.

Conditions of participation: There are no limitation of participation, but there are some conditions to use the collective brand. In the generic regulations, the requirements to be eligible to use the collective brand are to adhere to the values of the national parks. In the case of products such as “fruits, vegetables, mushrooms, plants and edible flowers, cultivated or harvested plants”, that have their own particular category regulation, one of the conditions is to have 70% of the crop area located within the national park. The requirements and norms are precisely and comprehensively defined in documents that are available online with no restrictions (consumers and producers can have access to these information). The consequences of a non-compliance of the contractual conditions may vary according to their frequency and their severity, but can lead to the interdiction of using the collective brand.

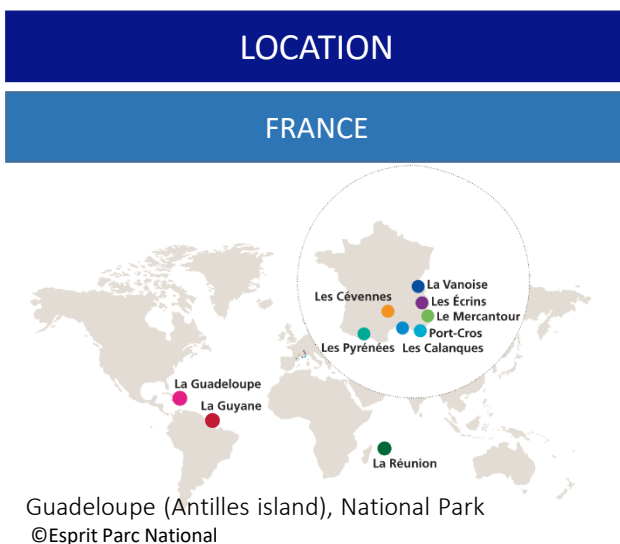
Risk/uncertainties of participants: As long as the farmer respects her commitments, she has low risk to lose the ability to use the brand (except for a change in the product category regulation). There is a risk that the price, even higher than standard, does not cover the cost of environmental efforts, the fee and other transaction costs.



Context features

Landscape and climate: Guadeloupe is a Caribbean island with a tropical climate. The national park of Guadeloupe benefits from a wet tropical climate. It is made of mountains (altitudes: 0 to 1467 metres) covered by tropical forest. All national parks have a specific landscape, scenery and biodiversity, sometimes extremely fragile, such as in the national park of Guadeloupe, with numerous endemic species. In order to preserve these parks and promote them, the collective brand “Esprit Parc National” has been created, in the logic of a sustainable development.

Farm structure: There are no particular types of agricultural systems targeted, however, the conditions required to be part of the collective brand are numerous and stringent, given the objective of environment, landscape and biodiversity conservation. For farmers, the agricultural practices required are close to the biological agriculture: no use of synthetic chemicals, no GMOs in cultivated species, no agri-ecological infrastructure degradation (hedges, isolated trees, walls), species or variety diversification.



SUCCESS OR FAILURE?



We could not find an access to any results indicators that could track the evolution of natural resources or biodiversity. However, the collective is implemented since 5 years with a relatively important offer, it seems somehow successful.

SWOT analysis



ECO-METHANE – Rewarding dairy farmers for low GHG emissions in France



With the ECO-METHANE program, farmers commit to provide a monthly analysis of the fatty acid profile of their milk and to feed their cattle with rich-omega 3 feed intake (mainly through grass feed) and by doing so to decrease the methane emissions of their cattle. In 2019, 617 farmers were engaged in this result-based method.

Summary

The Eco-Methane program is a private-private result-based contractual solution. Methane emissions of dairy cows are estimated by frequent and regular infra-red analysis of their milk. Indeed, there is a correlation between an equilibrated feed ration, the composition of milk fatty acid and the emission of enteric gas (methane) by dairy cows. Farmers' payments depend on the difference in their methane emissions to a regional reference. They also depend on the donations by private companies to support their effort. Funds are collected by the Bleu-Blanc-Coeur fund for health-oriented agriculture and payments granted by the private association "Bleu-Blanc-Coeur" that also governs a food brand based on better animal nutrition for healthier human food. The Eco-Methane method has been recognized by the French Ministry of Ecology in 2011 and by the United Nations in 2012, as a specific methodology for projects of methane emissions reductions of digestive origin through the feed of dairy ruminants.

Objectives

1. Reduce GHG emissions
2. Increase zootechnical performances of the dairy cattle



Problem description

Animal breeding contributes for 14,5% of global GHG emissions (FAO) and on a dairy farm, the methane emitted by cows represents more than 50% of the total GHG emissions of the farm. This contract solution was implemented in France with the initiative of a feed company and the association Bleu-Blanc-Coeur. Bleu-Blanc-Coeur is a label that focuses on the nutritional benefits of consuming products from animals fed with omega-3 rich feed ration. Furthermore, there is a correlation between an equilibrated feed ration, the composition of milk fatty acid and the emission of enteric gas (methane) by dairy cows. They have used the program Eco-Methane to encourage dairy farmers that could not be involved in their label (due to a lack of local adapted structures) to adopt practices that would reduce their methane emissions. The Eco-Methane method has been recognized by the French Ministry of Ecology in 2011 and by the United Nations in 2012, as a specific methodology for projects of methane emissions reductions of digestive origin through the feed of dairy ruminants.

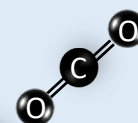
RESULT-BASED



Each farmer commits individually to provide each month its milk analysis to the association Bleu-Blanc-Coeur. The milk analysis provides the composition in fatty acid that can be directly linked to methane emissions.

The commitment to the Eco-Methane program forbids the use of synthetic chemical adjuvants such as synthetic fatty acids, formalin, caustic soda and of all sources of palm (oil and meal) or copra in the cows feed. It also encourages farmers to include in the dairy cows' feed ration a fraction of omega-3 throughout the year, mainly given from grass.

PUBLIC GOODS



Climate regulation - greenhouse gas emissions

Data and Facts - Contract

CONTRACT

Private – private contract between farmer and private association (Bleu-Blanc-Coeur)



Contract conclusion:
Written agreement



Payment mechanism:
incentive payments (vouchers)

Length of contract:
Annual contract with tacit renewal for the farmers

Length of participation:
4.5 years in average (increasing)



Start of the program:
2011

End: still running

Note: At first, farmers were not payed. The first partnership between the association and a private company has begun in 2015 with the catering service of the Group Orange.

Participation: In 2019, 617 farmers were engaged in the Eco-Methane program. It represents 16 203 milk analysis and an average mean decreasing rate in GHG emissions of 11,1% per farm, that is 21,5 T CO₂eq. The area involved is the metropolitan France. The Bleu-Blanc-Coeur association that initiated and coordinates the Eco-Methane program is based in the region Brittany. There are also several donators involved (a telephone operator, a national bank, a feed company, ...).

Involved parties: The farmers targeted by the Eco-Methane approach are dairy farmers. The farmers participate in the Eco-Methane program through the association Bleu-Blanc-Coeur (BBC), founded in 2000. They have to provide their milk analysis and commit not to use synthetic chemical adjuvants such as synthetic fatty acids, formalin, caustic soda and all sources of palm (oil and meal) or copra in the cows feed.

The association Bleu-Blanc-Coeur is the coordinator of the Eco-Methane program. The association gathers various actors of the food chain around a common objective of quality, in terms of animal, environmental and food quality. In order to provide incentive payments to the farmers involved in the Eco-Methane program, the association Bleu-Blanc-Coeur has created another association habilitated to receive donations (partly tax-free) from companies, local authorities or private individuals. Among the donators there are the telephone network operator Orange (through its catering service), the Cr dit Mutuel Arkea (bank company), the Groupe Up, Valorex (animal feed company).

The benefits for the farmers/ for the association: The benefits for farmers is to be involved in a program that rewards their decrease in GHG emissions while not imposing given practices, other than the interdiction of using some components in their animal feed.

One of the benefits for the Bleu-Blanc-Coeur association is to give farmers incentives to change their farming practices towards what is required otherwise in their animal products brand. Actually some of the farmers engaged in the Eco-Methane approach value their milk within the Bleu-Blanc-Coeur marketed products.

Management requirements for farmers: Each farmer participating to the Eco-Methane approach commits individually to provide each month his milk analysis to the association Bleu-Blanc-Coeur. It is also forbidden to use synthetic chemical adjuvants such as synthetic fatty acids, formalin, caustic soda and all sources of palm (oil and meal) or copra in the cows feed. Farmers are encouraged to include in the dairy cows feed ration a fraction of omega-3 throughout the year, mainly provided from grass (grazed or preserved).

Controls/monitoring: The farmers get controlled and certified through the association Bleu-Blanc-Coeur. Each month, farmers individually provide their milk analysis. Three dimensions are observed :

- The quantities of the different components of the feed ration used in the dairy farms involved in the project
- The profile of fatty acids of the milk collected by the dairies and farmers groups
- The milk yield of dairy cows

The emissions of GHG are estimated from the profile of fatty acids and the milk yield, such that:

$$CH_4 \text{ produced} = (FA_{\leq C16} / \text{total FA}) * (a * \text{Milk yield}^b)$$

Where CH_4 are the methane emissions, $FA_{\leq C16} / \text{total FA}$, the fatty acids ratio expressed in % of fatty acids with 16 or less carbon atoms over the total amount of fatty acids, milk yield the milk production in kg per cow and per year and a and b numeric coefficients.

To be involved in the program, farmers have either to be adherents of the association Bleu-Blanc-Coeur, who monitors the controls, or to have a guarantee of their approach, in this case, a technician from a company member of the association Bleu-Blanc-Coeur.

Legal status of the contracting parties: Here, the AECPGs suppliers are single farmers and the buyer is the Bleu-Blanc-Coeur association that receives donations for this purpose from private companies (such as the telephone network operator Orange (through its catering service), the Cr dit Mutuel Arkea (bank company), the Groupe Up, Valorex (animal feed company)) and particulars. The association has a particular convention with each partner. Some partnerships involve local municipalities.

LOCATION

FRANCE



<https://www.bleu-blanc-coeur.org>

Product requirements: Here, the production of the public goods (reduction of methane emissions) is directly correlated with the milk production and its composition in fatty acids, rebalanced by an omega-3 intake in the ration. The ratio of milk fatty acids and the methane emissions deduced from it are compared to a regional reference. However there are no ratio targeted in particular.

Conditions of participation: There are no limitation of participants. The requirements are defined precisely and comprehensibly in terms of feed requirements and dairy milk analysis use. The consequences of non-compliance with the contractual conditions are a non-payment and the termination of the contract, but there is no particular penalty.

Funding/Payments: To provide incentive payments to the farmers involved in the Eco-Methane program, the association Bleu-Blanc-Coeur has created another association habilitated to receive donations (partly tax-free) from companies, collectivities or private individuals. Among the donators there are the telephone network operator Orange (through its catering service), the Crédit Mutel Arkea (bank company), the Groupe Up, Valorex (animal feed company). Each partner has his own convention with the association Bleu-Blanc-Coeur.

To receive the payments, farmers have to commit to several management requirements and they are paid for GHG emissions saved, based on a regional reference (the price is not fixed).

Single farmers receive the payment in the form of vouchers or communication tools. Indeed, the amounts involved are low and more symbolic than representing a proper payment.

Renewal / termination:

- Renewal of the contract : tacit annual renewal,
- Termination: if the farmers do not respect their commitments, they exit the Eco-methane program.

Risk/uncertainties of participants: The main source of risk for participants is to not reach the objective of a reduction of methane emissions based on the historical regional reference. The reference takes into account the characteristics of the production system. However the financial risk is low : there are no penalty in case of non compliance and the payments are quite low as well and do not represent a necessary revenue for farmers.

Links to other contractual relationships: Some farmers engaged in the Eco-Methane program have another contractual relationship with the association Bleu-Blanc-Coeur through their marketed brand that has higher requirements than those of the Eco-Methane program. However this does not condition the participation to the program.



Context features

Landscape and climate: France has a variety of landscape and climatic conditions that are nevertheless suitable to extensive dairy farming (whether in mountainous regions or plains and bocages). This is not a requirement in the Eco-Methane program but grass is a source of omega-3 for animals. Omega-3 can also be added in the animal feed using compound feed rich in omega-3, for instance with extruded linseed. This kind of compound feed is sold by the Valorex feed company which is part of the association Bleu-Blanc-Coeur.

Farm structure: The farming system targeted is dairy cows farming, since the estimation of methane emission is based on the correlation between the composition of dairy milk and methane emissions. Other animal milk production systems are not targeted by this program. There are no other pre-requirements to be part of the Eco-Methane program.

SUCCESS OR FAILURE?

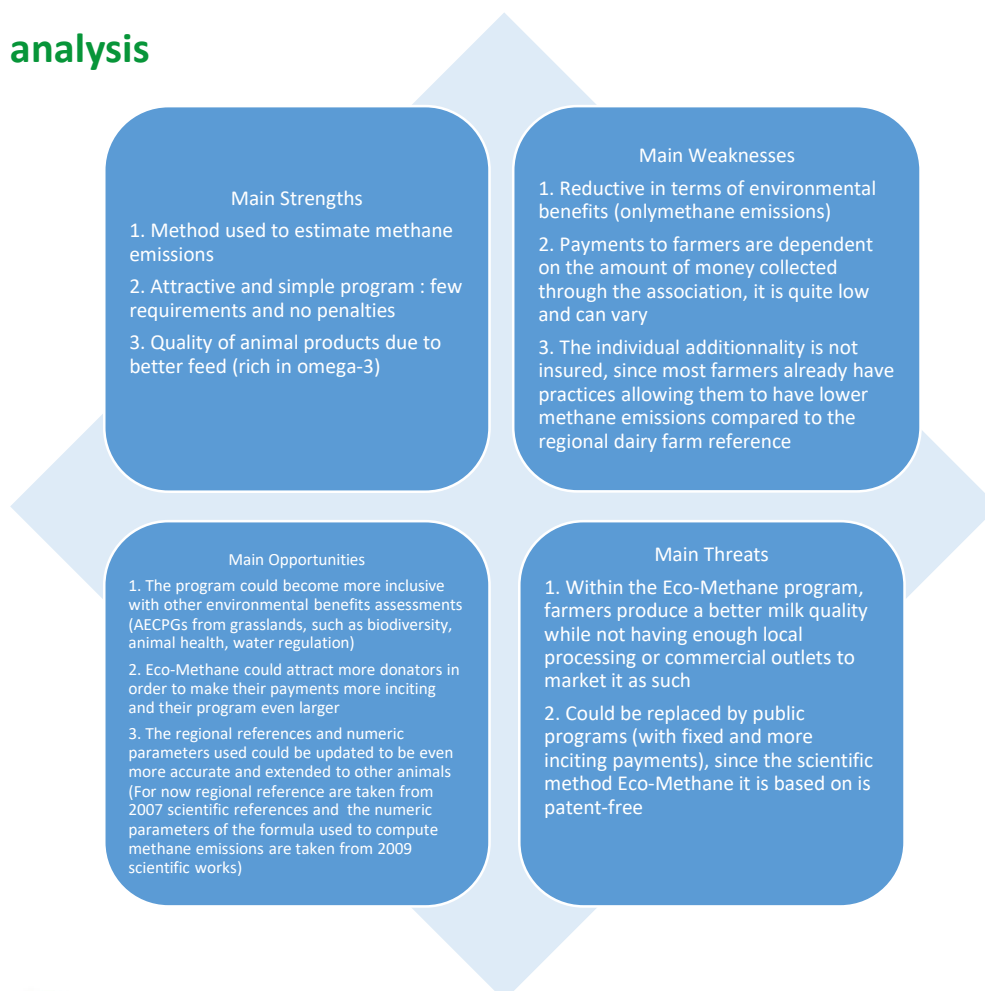


The Eco-Methane is a successful contract solution both in terms of participation and results per farm. Since the beginning, the number of participants has increased : in 2015, 429 farmers were involved in the Eco-Methane program and in 2017, it increased to 745 farmers. In 2019, 617 farmers were involved in the program, and the reduction of methane emissions was estimated to an average of 11.1 % per farms (21.5 t CO₂ eq).

Reasons for success:

- Results-based program, based on a recognized method that is easy to implement (based on milk analysis)
- Few mandatory requirements, most of them already adopted by farmers (easy access to the program) and no pre-requirements (other than dairy milk farming)
- Few risks in case of non-compliance to the requirements
- Important potential of participants within the farmers involved with Association Bleu-Blanc-Coeur

SWOT analysis



HAMSTER – Collective AECM to restore habitats of the European Hamster in Alsace (France)

The collective AECM Hamster_01 is implemented since the 2014-2020 CAP programming period. The association AFSAL (Farmers and Wild Animals in Alsace) is coordinating the cropping systems of about 140 farmers located in three different static protected areas (a total of approximately 8000 hectares), to favour the development of populations of the protected rodent specie *Cricetus cricetus* (European hamster). The association is under a 5-years contract and benefits from a financial envelope from the CAP that is allocated among the farmers engaged in the measure based on their effort. An additional individual result-based payment (bonus) was introduced in 2018.



Summary

The collective AECM Hamster_01 was introduced in 2014 in the territorial Agri-Environment-Climatic Plan (PAEC) “Great Hamster of Alsace” (“Grand Hamster d’Alsace”) to protect the European Hamster in Alsace. Hence, the contract solution aims at encouraging the provision of a public good (remarkable biodiversity) for which the supply is limited to a specific geographical area. Since its implementation, ten territories spread among 3 eligible static protected zones contracted the measure. It represents about 140 farmers and 3000 ha. In addition to farmers, this scheme also involves various key stakeholders: the association AFSAL acting as an intermediary and regulator and in charge of allocating the public financial support among farmers; the Chamber of Agriculture of Alsace; the French Agency for Biodiversity (OFB); the Departmental Directorates of Territories (DDT) of the Bas Rhin and Haut Rhin Departments. The collective payment is conditioned to the implementation of crops and agricultural practices in favour of the survival of the European hamster on at least the targeted percent of the agricultural land of the territory. The individual “burrow premium” is conditioned to the identification of at least one hamster burrow on the agricultural plot.

COLLECTIVE



Departmental Directorates of Territories → financial support transferred to an intermediary (AFSAL) → allocation to the farmers targeting a common objective (collective management)

RESULT-BASED



Since 2018, measures Hamster_01' : Identification of at least one European Hamster burrow on an eligible plot → bonus to the farmer.

The eligibility to the result-based payment is conditioned to participation in the collective measure.

PUBLIC GOODS



Farmland biodiversity



Cultural heritage

Objectives

1. Protect the habitats and populations of European hamster
2. Maintain the good functioning of the entire ecosystem associated with the specie



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Problem description

Cricetus cricetus is an umbrella indicator specie contributing to agricultural soil quality. In France, its presence is limited to a few municipalities in Alsace. Threatened by the development of maize cultivation and its reputation as an agricultural pest, it is classified in the list of endangered species and protected by the Habitats Directive since the early 1990s. Operations aiming at maintaining European Hamster populations were carried out since the late 1990s but failed to meet the objectives. Following a complaint submitted in 2006, the Court of Justice of the European Union convicted France in 2011 for its lack of effective protection. 2 individual agri-environmental measures supporting the implementation of crops and agricultural practices in favour of the European hamster were introduced during the 2007-2013 CAP programming period. However, the lack of spatial coordination of the operations limited their impact. Therefore, the National Hunting and Wildlife Bureau (today part of the French Agency for Biodiversity) and the Chamber of Agriculture of Alsace took the initiative of proposing a collective agri-environment-climate measure (AECM) in the territorial project of the 2014-2020 CAP programming period, in addition to 4 individual AECM. In order to encourage more farmers to get involved in this approach, an individual bonus designed as a “burrow premium” was introduced in 2018 to reward the land managers of the plots on which at least one European hamster burrow was identified.

CONTRACT

Public-private :
government – farmers
association (AFSAL)



Contract conclusion:
Written agreement



Payment mechanism:
incentive payments

**Length of contract in
scheme:**
5 years

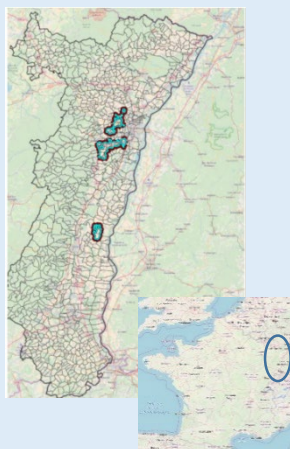


Start of the program:
2013
End: still running

*Note: Farmers can enter
a new AECM contract as
long as a collective
measure targeting the
European hamster is
proposed under the
framework of the CAP*

LOCATION

FRANCE



Protection areas concerned
with the agricultural measures
to restore habitats for the
European Hamster

Source : Alsace Chamber of
Agriculture, Bas-Rhin DDT,
AFSAL, 2020

Data and Facts - Contract

Participation: In 2019, 137 farmers participated in the program, 112 in 2018, 123 between 2013 and 2015. The area of implementation is located in the region Alsace, France. 9 territories signed a 5-years contract between 2013 and 2015. 10 territories were under contract in 2018. The surface areas engaged range between 60 and 520 ha, representing a total of 2560 ha in 2015 and 2700 ha in 2019.

Involved parties: Since 2013, the farmers willing to participate in the collective AECM must join the AFSAL association. Farmers sign a contract with the association in which they commit to implement the requirement specifications and participate in the group meetings planning the cropping systems of the territory. In particular, each farmer commits to dedicate each year a share of their agricultural land to hamster-friendly crops so that the territory reaches its targeted objective. The AFSAL represents the farmers of a territory, applies for the financial aid and commits that the requirement specifications of the AECM will be fulfilled at the territorial level. The Departmental Directorates of Territories (DDT) monitors compliance and transfers the money to the association.

The benefits for the farmers/ for the association:

The collective contract solution presents several advantages for farmers :

- They receive a financial compensation for implementing new agricultural practices.
- The economic incentive is even greater since the introduction of the burrow premium.
- The risk is shared within the group of farmers.

For the AFSAL association, acting as an intermediary, it offers the opportunities of attracting more farmers (transaction costs are transferred from the farmers to the association), communicating and supporting in a more efficient way, and increasing environmental results through more spatially coordinated operations. Moreover, their good knowledge of the local context allows for a better targeting of actions and payments (proportional to individual efforts), and thus increases the efficiency of the scheme.

The benefits for the Departmental Directorates of Territories (DDT): This type of AECM is beneficial because it diminishes the transaction costs of the public authorities (instead of interacting with 140 farmers, the institution only deals with one intermediary).

Management requirements for farmers for the collective payment:

- At least 26% of the total utilised agricultural area (UAA) of the collective zone declared must be dedicated to crops favourable to the European Hamster (winter cereals, alfalfa)
- A cover crop comprising a mix favourable to the European Hamster (sunflower, at least one legume and one grass or polygonacea) is implemented after a winter cereal harvest before the 1st of August on at least 50% of the total area dedicated to winter cereals.
- The harvest of plots of alfalfa larger than 0,5ha rotates from July 1st to October 15th on at least 50% of each plot, such that there is a continuous cover of 30 cm high.
- The UAA under alfalfa must not exceed 30% of the area dedicated to winter cereals. The collective organisation ensures that the repartition of the crops favourable to the European Hamster is made so that there is surface ratio of approximately 1 alfalfa for 5 winter cereals.
- The plots cannot be dedicated to alfalfa for more than 4 successive years.
- Cereal strips and unharvested alfalfa surfaces are in close proximity of 50% of the production blocks containing identified European Hamster burrows.

Management requirements for farmers for the individual bonus: The plot contains at least 1 European hamster burrow assessed during the yearly counting campaign.

Controls/monitoring: The DDT monitors the surfaces under hamster-friendly crops using the farmers yearly statements necessary to receive CAP aids, and communicates those elements to the Chamber of Agriculture of Alsace and the AFSAL.

In addition, there are periodic field inspections (random checks) in accordance with the usual monitoring operations of the CAP. Farmers are monitored individually based on their annual management plan that is transferred to the DDT. The administration can then check the repartition of the actions within a group of farmers. Before allocating the "burrow bonus" payments, the DDT undertakes an administrative control followed by a field check.



Conditions of participation: The AECM is implemented in priority in the territory of the Agri-Environmental Plan « Great Hamster in Alsace » (the 3 static protected zones and their associated support zones). The integration of plots of the support zones is possible if they are continuous to others already under the measure, and if most of the plots of the territory under contract is in a static protected zone. Moreover, it is required that local representatives agree for the undertaking of release operations of hamster individuals if necessary. Regarding territories where the European hamster is absent, the measure can still be implemented if release operations are organised and accepted by local representatives. Moreover, once a farmer subscribes to the collective AECM, he can no longer contract other compensatory measures specific to the European hamster protection (cumulating public measures or public and private measures is impossible).

Funding/Payments: The financial envelope comes from the national funds (top-up) of the French Ministry of Agriculture and Food (MAA) with 35% of co-funding from the EU. The 5-years budget depends on the percentage of favourable crops targeted by each group of farmers. The minimum corresponds to 452€/ha/year for the territory for a target of 26%, and the maximum to 520 €/ha/year for a target of 40%. Moreover, farmers are compensated for participating in planning and information meetings (132€/year/farmer). The burrow bonus corresponds to 255,67€/plot with at least one burrow. The AECM animation is funded by the National Action Plan.

Risk/uncertainties of participants: The main uncertainty for farmers is the variation of opportunity costs (in particular the price volatility of maize, winter cereals and alfalfa). There are also uncertainties regarding compliance of the management requirements by all farmers and the environmental impacts of the operations (in particular whether or not farmers will be eligible for a burrow bonus).

Links to other contractual relationships: It is not possible to enter the collective AECM while being still under another (private or public) contract targeting the European hamster protection.



Context features

Landscape and climate: The Alsace region is dominated by urban areas that were particularly expanded in the 90s. While the agricultural sector contributes relatively little to the economy, it is known for presenting a high performance. Alsace is particularly famous for its wine industry and is also a significant producer of cereals (10% of French cereals). The region benefits from strategic geographical assets favouring exportations: the Rhine river and its central location relative to the European market. The territories eligible to the collective AECM Hamster_01 are located in the Alsace plain, characterized by homogeneous landscapes with large open fields and a relatively flat topography. The largest European water table feeds numerous rivers and streams that contribute to maintain a few humid and wooded areas. An important development of road infrastructures fragmented landscapes and had negative impacts on biodiversity and the survival of some naturally occurring species. The climate is semi-continental, characterized by cold and dry winters, and hot and sunny summers. The average temperature is 11°C. The Vosges mountains generate a Foehn wind from west to east resulting in low precipitation levels. The Alsace region presents a high diversity of soil types.

Farm structure: The average farm size of the territories of the case study is around 48ha. The plots are relatively small and fragmented in the northern and central areas (1.25 ha on average). In the southern area, the average plot size is larger (2.7 ha). Most farms grow field crops and their cropping systems are dominated by maize (it corresponded to 60 to 65% of the territory UAA in 2013). There are also some mixed crops and livestock farms. The agronomic quality of soils is considered good. Agricultural practices have significantly evolved in the last 40 years with negative consequences for the European hamster survival. A special feature of this territory is that farms commonly exchange plots on a yearly basis, what limits incentives for contracting individual AEM during 5-years.

SUCCESS OR FAILURE?

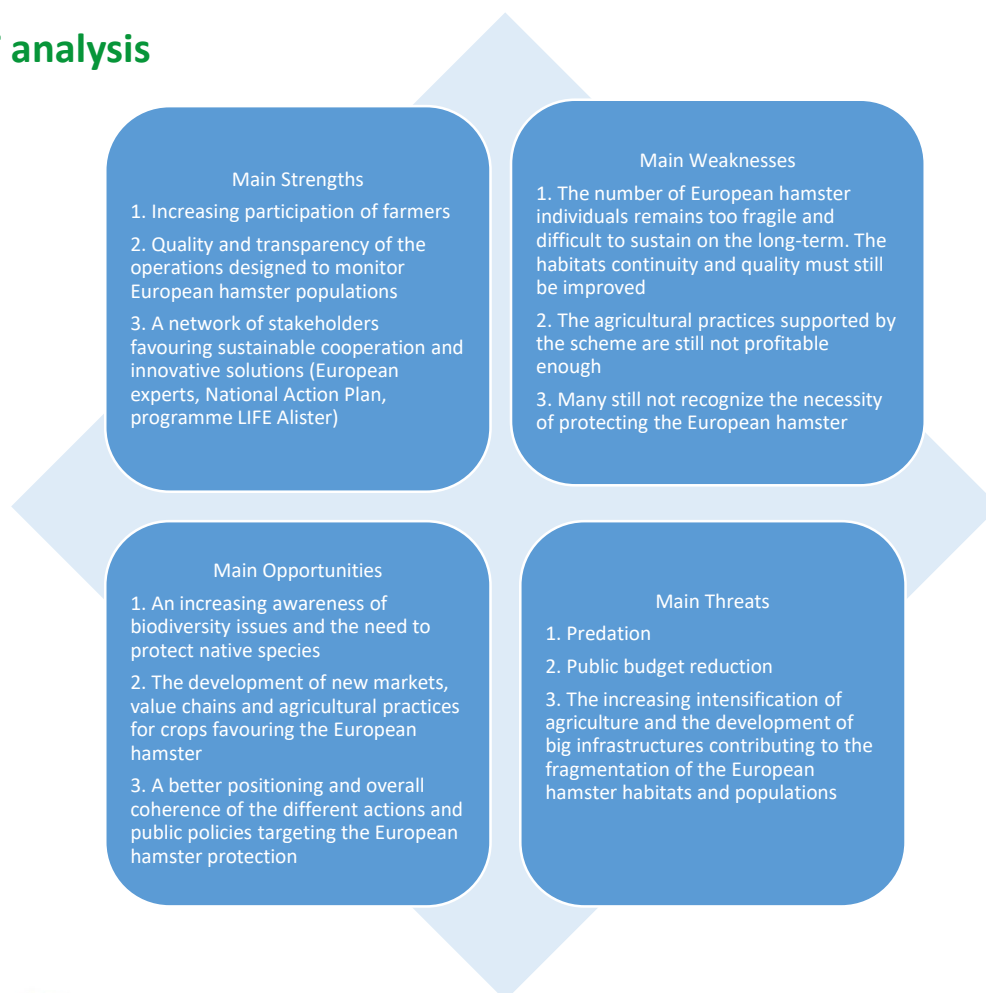


The contract solution can be considered as successful as the number of European hamster individuals kept increasing since 2014 and farmers maintain their participation. There were 123 farmers involved in the program between 2013-2015, 112 farmers in 2018 and 137 farmers in 2019. The surface of the three areas engaged range between 60 and 520 ha, representing a total of 2560 ha in 2015 and 2700 ha in 2019.

Reasons for success:

- Economic incentives high enough
- Significant involvement of local actors and institutions
- Spatial coherence of the operations

SWOT analysis



BurrenLife Project

Due to the unique landscape, farmers in this region face many environmental challenges which the traditional agri-environmental schemes do not address. This project works with farmers to achieve specific environmental outcomes, rewarded by payments, and also makes funds available for farmers to invest in self-selected, but pre-approved, conservation projects. Environmental targets are set and monitored by farm advisors, performance is scored and payments are made based on the scoring system.



Summary

The Burren project is described by Dunford, the project leader, as a hybrid' approach whereby participating farmers are rewarded annually for their environmental performance while also having access to a fund to carry out self-nominated 'conservation support actions' to help improve this performance over time. The typical 'action-led' approach to agri-environmental schemes is enhanced to encourage farmers to undertake conservation actions specifically designed to improve the environmental health of their farm, and to enhance their income through the new, complementary, results-based payment. 5-year contracts are offered to all participating farmers, with the last of the contracts set to expire in December 2022. The project has an outline budget of up to €15m supporting 328 farmers and 23,000 hectares of target habitat. Farmers sign a five-year plan and are afforded flexibility in undertaking conservation actions.

Objectives

1. To ensure the sustainable agricultural management of HNV farmland in the Burren, improving water quality and usage, and supporting the landscape and cultural heritage of the region.
2. To preserve the culture and heritage of the region
3. To support the economic and social sustainability of farmers

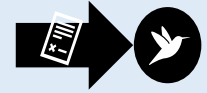


The Burren Farming and the Burren

Problem description

The Burren extends over an estimated 72,000 ha of land in Counties Clare and Galway (Ireland). It is defined by the presence of exposed limestone, the calcium-rich skeletal remains of marine organisms that populated the seas over 340m years ago. The Burren has recently been recognised through UNESCO Geopark Status, over 30,000 ha of the Burren is designated as Special Area of Conservation (SAC) and an additional 2,000 ha designated as Special Protection Area under the Birds Directive (79/409/EEC). A study by Dunford (2001) estimated that stocking levels in the Burren increased from 0.38LU/ha in 1970 to 0.66LU/ha in 2000, a 73% increase. During this time, it is estimated that approximately 30% of the Burren's archaeological sites were lost due to land reclamation. Silage gradually replaced the naturally available forage of the winterage pastures, resulting in reduced levels of grazing which contributed to a loss of biodiversity and accelerated levels of scrub encroachment. The initial stimulus for the project came from local farmers who, feeling threatened by SAC designations and environmental programme conditions, decided to engage constructively with researchers and public authorities to find a way forward.

RESULT-BASED



COLLECTIVE



The project operates a 'hybrid' approach whereby farmers are rewarded annually for their environmental performance while also having access to a fund to carry out self-nominated 'conservation support actions' to help improve this performance over time.

PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Soil quality (and health)



Rural viability and vitality



Cultural heritage



Water quality

CONTRACT

Financing party:

Government (with EU-funding)

It is a public-private contract.



Contract conclusion:

Written agreement



Payment mechanism:

Incentive payments



Length of participation in scheme:

5 years

Start of the program:

2005

End: continues today

The project has evolved over an almost 20 year period using various EU funding sources

Data and Facts - Contract

Indirect effects: The programme is closely aligned with a local NGO Burrenbeo which was employed to tell the story of the living Burren. Burrenbeo helped to reshape the narrative around the Burren to one which also celebrated local people, place and tradition. Burrenbeo also helped engage the broader community through monthly walks and talks, volunteering events and festivals, including 'Burren in Bloom' and the 'Burren Winterage Weekend' which are unique celebrations of the rich legacy of pastoral farming in the Burren.

Participation: In the contract solution 328 farmers are involved and 23,000 ha of target habitat.

Involved parties: All Burren programme farmers are offered a simple 5-year contract outlining the baseline situation on the farm and suggested priority actions to improve the farm environment. By signing this 5-year plan the farmer agrees to abide by the Terms and Conditions. A set of procedure manuals translates these T&Cs into detailed procedures to be undertaken by the project team, who are responsible for the successful delivery of the programme, in conjunction with the farmer.

Management requirements for farmers: Environmental targets and an action plan is set by the farm advisor. Farmers must implement this and perform along a scoring system to ensure payment.

Funding/ Payments: The programme is funded by the Irish Department of Agriculture. Each farmer's payment depends on the score they receive on their assessment on a per hectare basis. For example a winterage score of 5 yields €60/ha, 6 yields €72/ha, 8 yields €96/ha,. Higher rates are paid for lowland grasslands (up to €315/ha compared with €180 for winterages) given the higher 'opportunity cost' of not increasing productivity by reclaiming / improving these fields. The payment system contains a number of innovations designed to encourage an improvement in management and thus site condition, rather than settling for the status quo. For example, no payments are issued for scores less than 5, based on the assumption that this basic level of management is already covered under BPS and/or AES measures, and so a greater effort is required for payment under the Burren Programme. The average payment is €2,617 per farmer or €75 per assessable ha.

Controls/monitoring: Farm advisors score performance using an evidence based system while on a site visit.

Renewal / termination: 5 year contracts, some farmers have rolled over since the first programme in 2005.



LOCATION

IRELAND

It is conducted in a specific region. Given the resource intensity it is difficult to judge whether it can be implemented nationally.

Risk/uncertainties of participants: The farmer runs the risk of not scoring highly enough to qualify for payments.

Conditions of participation: Farmers must apply to the scheme, attend an initial induction meeting and then devise a farm plan for environmental improvements with their designated farm advisor. The annual summer assessment conducted by the advisor is the approval process for the performance payments. The environmental health assessment assesses the management of each field in terms of both the actual management, the management that is needed to get it into the best condition for it to function as a species-rich limestone grassland/heath, and the ecological integrity of the grazed habitats present. A scoring system, underpinned by evidence-based information, helps to create a very robust, detailed and objective system. The scoring system is conducted on site by the farm advisor each year, validated by the project team and submitted to the Department of Agriculture for payment.



Context features

Landscape and climate: The Burren extends over an estimated 72,000 ha of land in Counties Clare and Galway (Ireland). It is defined by the presence of exposed limestone, the calcium-rich skeletal remains of marine organisms that populated the seas over 340m years ago. Over time, these remains were compressed and elevated to reveal the massive, fossil-rich limestone terraces which prevail today. The region hosts over 70% of Ireland's native flora and is one of the best surviving areas for bumblebees in Ireland, it is home to at least half of the 570 macro-moths recorded in Ireland and 30 of Ireland's 34 butterfly species. Over 60 species of snail are found in the Burren, as are most of Ireland's native bat species. Ireland's only native reptile, the common lizard (*Zootoca vivipara*) and the introduced slow worm (*Anguis fragilis*) are frequently seen. Farmland birds such as Yellowhammer (*Emberiza citrinella*), Common Cuckoo (*Cuculus canorus*), Red-billed Chough (*Pyrrhocorax pyrrhocorax*), Eurasian Skylark (*Alauda arvensis*) and Common Linnet (*Carduelis cannabina*) are declining elsewhere but can still be found in suitable Burren habitats, as well as birds of prey such as the Peregrine Falcon (*Falco peregrinus*).

Farm structure: Given the rocky nature of the Burren, it is a pastoral landscape, most Burren farmers are specialist producers of suckler beef, with a typical herd size of 30-40 cows, usually composed of a mixture of continental-cross (Charolais, Limousin, Simmental) animals. Typically, farmers sell the weanlings from these cows at local sales in Autumn where generally good prices are made, with many male calves destined for the export market, many of the females sold for breeding. A small number of dairy farms continue to operate in the region, while sheep farming persists mainly in parts of the east Burren.

SUCCESS OR FAILURE?

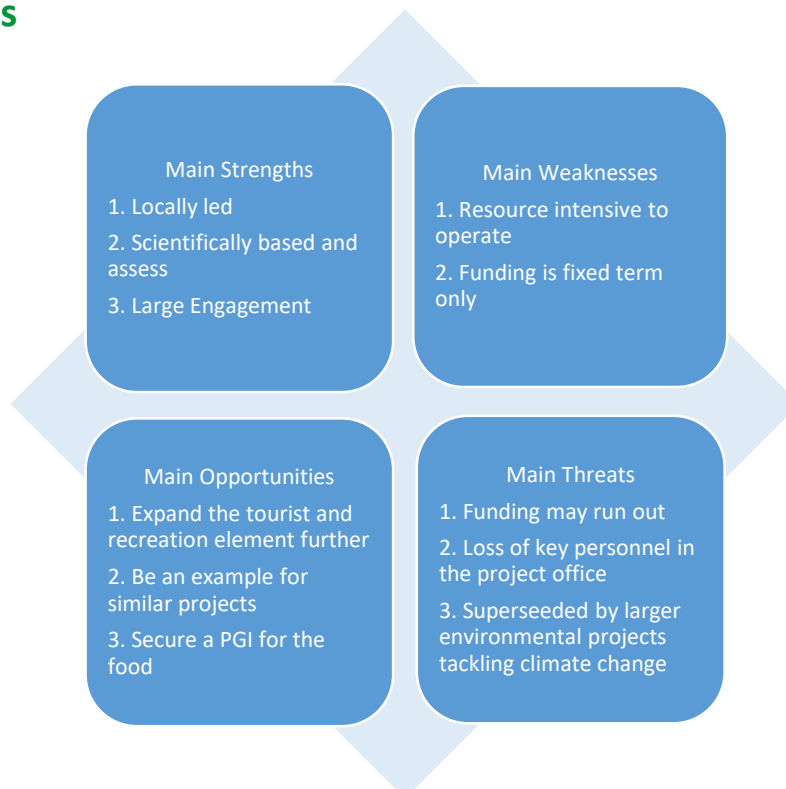


The programme has been a success in that it has engaged and re-engaged many farmers to implement management techniques and make investments that have been beneficial to the environment and economic viability of this unique landscape.

Reasons for success:

Co-creation was an important success factor. Although the programme was born from a PhD project, it respected farmer's ideas and their role in finding solutions. Furthermore, a team of four locally-based staff were appointed to run the project, some with extensive research experience in the Burren, which allowed the team, and the project, to get off on the right foot, with a good level of trust and credibility. 'Learning by doing' was another success factor, the project demonstrated in real-time what 'conservation farming' looked like and proved that it can in fact improve agricultural efficiency and performance (e.g. reducing input costs and/or increasing stocking levels). This was a lesson that surprised some farmers and engaged many more. Although it addresses a complex issue, a key success factor was the ability to keep farmer participation simple and non-onerous. This is reflected, for example, in the simplicity of the farm plans and clarity of the payments (per score and per task) and is enabled by the high level of available support for the farmer from the local programme office and from the trained farm advisors.

SWOT analysis



RBAPS - The Results-based Agri-Environment Payment Scheme (RBAPS) Pilot in Ireland

To test how results-based agri-environment schemes could work over wider areas and in differing landscapes, the EU Commission provided 70% funding for the Results-based Agri-Environment Payment Scheme pilot (called RBAPS Pilot) in Ireland and Spain. Two regions were selected in Ireland. Ecologists worked with 35 participating farmers to improve the biodiversity status of their farms. Farmers were paid on a per hectare basis conditional on a score achieved on a 1 to 10 scale.



Summary

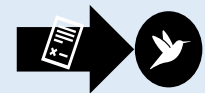
The project is operated on 35 farms in two pilot regions. The first step in the scheme design involved selection of the biodiversity targets, i.e. the ecological benefit for which farmers are incentivised to manage their farmland. Locally applicable biodiversity targets in the pilot regions were selected to reflect legislative requirements and conservation concerns.



Problem description

Two pilot areas were selected to test the success and potential scalability of results based schemes. County Leitrim was selected as a range of grassland quality and conservation value is present, supporting a variety of biodiversity, this broad species-rich grassland target was selected for measure development and testing. Such a target would also be more widely applicable within wider high nature value farmland settings. County Leitrim is a stronghold for the marsh fritillary butterfly and this invertebrate species is associated with extensive farming practices on wet ground. The second pilot area the Shannon Callows has by far the largest area of lowland semi-natural grassland and associated aquatic habitats in Ireland, and one in which there is least disturbance of natural wetland processes. The River Shannon Callows was selected as a pilot area as it has a dual Natura designation, including the River Shannon Callows Special Area of Conservation (SAC) and the Middle Shannon Callows Special Protection Area (SPA), and extensive areas of farmed land supporting a range of habitats and species of conservation importance. Although the focus for biodiversity targets in the callows was on the qualifying special conservation interests (SCI) of the Natura 2000 sites, consideration was taken of their ability to be delivered through a results-based approach.

RESULT-BASED



Farmers apply to participate in the scheme. Their farm is assessed and they are assigned specific and appropriate biodiversity targets. Their performance is scored on a scale of 1 to 10 by the team of ecologists and the farmers are paid accordingly along a sliding scale.

PUBLIC GOODS



(Farmland) biodiversity



Landscape and scenery



Rural viability and vitality

CONTRACT

Financing party:

Government (with EU-funding)

It is a public-private contract.



Contract conclusion:

Written agreement



Payment mechanism:

Incentive payments



Length of contract:

Max of 2 years

Start of the program:

2015

End: 2018

Length of project funding.

LOCATION

IRELAND

Objectives

The specific objectives of the RBAPS Pilot project were to:

- Promote the design, development and use in rural areas of results-based remuneration schemes to conserve and enhance biodiversity;
- Increase the understanding of factors that contribute to the success or failure of such schemes;
- Identify opportunities and conditions for increasing the use of such schemes in the EU and in particular in the context of the Common Agricultural Policy (CAP);
- Explore the potential for such schemes to be applied widely in the rural countryside and beyond grasslands, e.g. for the protection and enhancement of pollinators, soil biodiversity;
- Demonstrate the potential of these schemes to have positive ecological outcomes by developing, testing and using widely applicable monitoring approaches;
- Promote and increase awareness and better understanding of the benefits of results-based remuneration schemes particularly within the rural community.

Data and Facts - Contract

Indirect effects: Importantly, the pilot has fed into emerging results-based approaches in Ireland and throughout Europe. Members of the RBAPS Pilot team have assisted European Environmental Innovation Partnership (EIP) Operational Groups in Ireland with results-based elements. The County Leitrim species-rich grassland scoring assessment has formed the basis for grassland scoring assessments that have been included in the Hen Harrier and Freshwater Pearl Mussel EIPs, which between them aim to enroll >1,500 farmers by the end of 2019.

Participation: A total of 35 farmers participated in the scheme in Ireland in 2017, entering over 260 hectares of land across 143 fields (including enclosed fields and unenclosed plots (see Table 6.8). Participant farmers represented the wider farmer demographic, with a mixture of ages, part and full-time farmers and farming enterprises commonly found in the surrounding landscape. For most of the measures being trialed, land parcels with a broad range of scores were included in the pilot.

Involved parties: Team of ecologists/researchers funded by the EU through research funding and 35 farmers based in two regions of Ireland.

Management requirements for farmers: Annual training was offered by the project team to participating farmers over the two years of farmer contracts. A half-day classroom setting was used to present the scheme concept, its comparison with more familiar management-based schemes and the RBAPS Pilot scheme aims. The classroom session was followed by a half-day of field-training (preferred by farmers) for each measure which focused on the use and understanding of the applicable scoring assessment, the rationale for the results indicators and discussion on optimal management to achieve the best possible outcome (and payment). Most farmers participated willingly at the farmer training events, with some requesting additional training as they found it both helpful and enjoyable.

Funding/ Payments: To establish payment rates, the principal threats to the biodiversity targets were considered and the associated cost (including income foregone and additional costs) of achieving the biodiversity target was calculated in line Common Agricultural Policy regulations. Up to 10% transaction costs were also included under each measure. The payment structure aimed to achieve a balance between incentivising farmers to deliver the highest possible score in their particular farm setting, while giving a clear signal that the delivery of higher quality also results in a higher reward. Payment rates for the low-medium quality scores were set at a level sufficient to cover costs of farmers' participation in the scheme, while creating payment increments to incentivise further progression towards delivery of higher quality outputs. Tiered payment levels provide a financial incentive to the farmer to deliver the highest quality environmental product in their particular farm setting. Payments for good performance (6-7 out of 10) ranged from €170 to 330 per hectare depending on the species richness of the farm. While payments for those scoring 10 out of 10 ranged from €350 to €450 per hectare

Controls/monitoring: To facilitate testing of the developed measures, farmer contracts were implemented for two years in each pilot region, with associated advice and supports from the RBAPS Pilot teams. Payments to farmers were conditional on achieving biodiversity targets.

In the Shannon Callows capital works were also included in the available measures to incentivise farmers in undertaking works which would lead to improvements in the biodiversity target. A common design approach was used to quantify the assessment of ecological quality across the two regions and five measures. The assessments relied on the use of results indicators which are proxies employed to quantify the quality of the biodiversity target. Measure specific result indicators were identified and trialed for their fairness, robustness and reliability in assessing the quality of the farmland for the measure they were most suited to provide and to indicate general environmental condition. It was extremely important that the results indicators were both linked to the biodiversity target and feasible for the farmer to deliver. The RBAPS Pilot scores were designed to reflect the variation in the quality of the selected biodiversity target which was assessed by totaling the points awarded for result indicators and translating into a scoring scale from 0 (very low) through to 10 (very high) (Table 6.2.) All RBAPS Pilot scorecards are available at www.rbaps.eu. The monitoring stage had two main objectives. First, it served to assess the relationship between the RBAPS Pilot quality score and the associated result indicators, i.e. was there a significant positive correlation between the quality score and the chosen biodiversity target. Secondly, it assessed the impacts of the scheme on the biodiversity targets and in reaching the scheme objectives, although in the pilot project, this was constrained by the very short timeframe over which farmer contracts operated.

Renewal / termination: 3 year project only.

Risk/uncertainties of participants: There is a risk that the cost of participating is less than the payment received, although the researchers aim to design the scheme so that this does not happen.

Conditions of participation: A call for participant farmers was made through various media sources in selected areas where selected biodiversity targets were confidently expected to occur. Applicant farms were checked for suitability and for potential double payments with other agri-environment schemes (lands entered to other agri-environment schemes were excluded from entering the RBAPS Pilot). For the scheme, all participant farmers were required to be in receipt of Basic Payment.



Context features

Landscape and climate: The pilot regions were chosen in High Nature Value (HNV) farmland, and offered contrasting farming methods, climate and physical challenges. Each region focused on different biodiversity targets associated with grassland and perennial cropland, with the teams testing, monitoring and evaluating the developed scoring assessments (score cards, guidance and methodologies) across the full spectrum of quality. The scoring assessments were also tested by the participating farmers, farm advisors and with the agricultural ministry.

Farm structure: Small scale, low intensity beef cattle and sheep farming is targeted in these two regions.

Location: The two pilot regions are in Ireland; County Leitrim and the Shannon Callows. County Leitrim is dominated by small, extensive, low-income family farms. Farm habitats encompass primarily grasslands with field boundaries, wetlands, scrub and woodland and upland habitats, mainly peatlands. Designated sites tend to be concentrated in uplands meaning much of the lowlands, including extensive areas of semi-natural grassland, fall outside of Natura 2000 protection. As a range of grassland quality and conservation value is present, supporting a variety of biodiversity, this broad species-rich grassland target was selected for measure development and testing. County Leitrim is a stronghold for the marsh fritillary butterfly and this invertebrate species is associated with extensive farming practices on wet ground. The Shannon Callows has by far the largest area of lowland semi-natural grassland and associated aquatic habitats in Ireland, and one in which there is least disturbance of natural wetland processes. The River Shannon Callows was selected as a pilot area as it has a dual Natura designation, including the River Shannon Callows Special Area of Conservation (SAC) and the Middle Shannon Callows Special Protection Area (SPA), and extensive areas of farmed land supporting a range of habitats and species of conservation importance.

SUCCESS OR FAILURE?

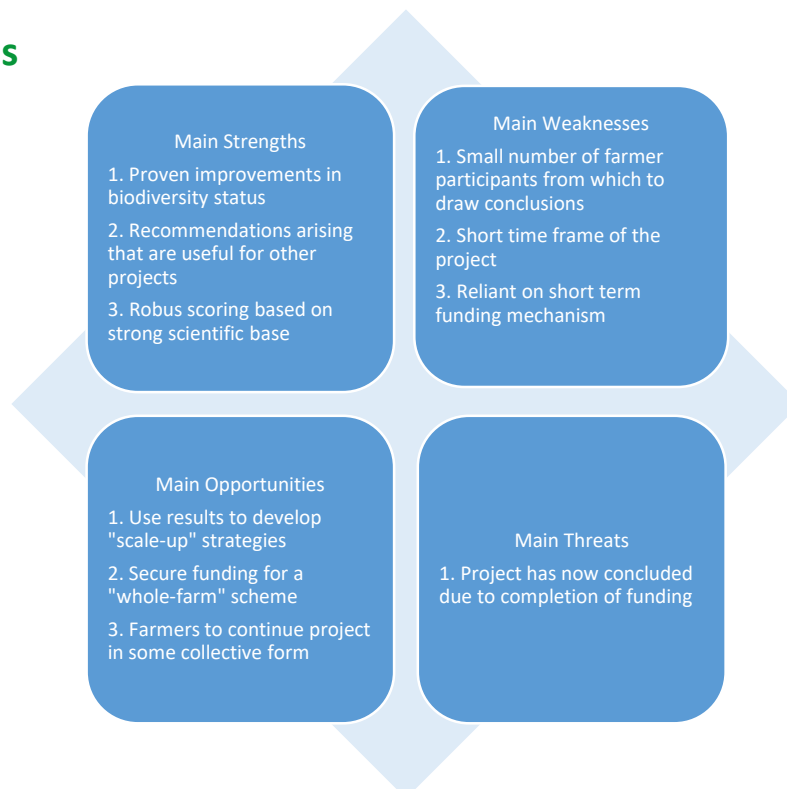


The project was a success as in all regions, positive correlations were found between the RBAPS Pilot quality score and the biodiversity target. The proven strength of relationship between the scoring assessment and biodiversity target gives confidence in the scoring system. Using such a system makes it possible to reduce the requirement for more detailed ecological monitoring making results-based payment schemes easier to monitor compared to prescription-based measures. Monitoring also showed that the scheme did have positive impacts on certain biodiversity targets compared to non-participant (control) farms, although caution is required in the interpretation due to the small sampling sizes available.

Reasons for success:

The farmer training, both in class and in field, was a success factor. Farmers were asked to score their own fields and this gave them confidence with the scoring system. The social aspect of the training days was also a contributing success factor. Farmers' attitudes, understanding and criticisms of the approach were explored through a series of systematic questionnaires and interviews, providing valuable insight into how results-based approaches could appeal to the wider farming community, thus informing better design of future programmes. The results showed that tiered payment structures that link the quality to the payment rate can incentivise change in farmer attitudes and management and bring about benefits for biodiversity targets. A key success factor was that payment rates were designed to reflect the value of the biodiversity being produced, the effort required to produce it and also the prevailing market concerns.

SWOT analysis



BRIDE - Biodiversity Regeneration in a Dairying Environment



BRIDE is a results-based biodiversity project based in low-land intensively managed farmland. Farmers agree to a biodiversity management plan for their farm, where they agree to carry out up to 10 biodiversity measures. Payment is linked to their performance on these agreed measures.

Summary

BRIDE is a results-based landscape biodiversity project in a low-land intensive farming region, where farmers agree to improve the quality of the habitats on their farms. The BRIDE project involves 44 farmers working together to improve landscape biodiversity in the Bride River Valley Region. It is an EIP-Agri project which has been funded for the period 2018 to 2023. The project has designed, and is implementing, a results-based approach to conserve, enhance and restore habitats in low-land intensive farming. A results-based payment scheme is applied whereby farmers are assessed and scored, with higher quality habitats gaining higher payments. The farmers are geographically clustered enabling a landscape approach, a critical element in effective landscape biodiversity and in the creation of a well-functioning bio-district. BRIDE is locally-led and farmer driven. It also incorporates knowledge transfer opportunities for farmers to learn how to manage habitats and improve farm-level biodiversity.



BRIDE Project

Farming with Nature

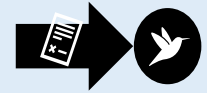
Objectives

1. Explore an innovative implementation of a results-based approach for wildlife on intensively managed farmland.
2. Develop, implement and assess innovative options to restore, preserve and enhance farmland habitats.
3. Improve communication and dissemination about the contribution of Irish farmland to the conservation of biodiversity, especially in intensively managed dairy grasslands.
4. Facilitate the creation of a market-based demand by the agri-food industry for supply of ecosystem services from farmers.



The practice-based payment is conditional on achieving performance on key agreed biodiversity measures. The performance is scored by the BRIDE project ecologist.

RESULT-BASED



Payments based on results

COLLECTIVE



44 locally based farmers; has encouraged the collaboration of farmers from different sectors and levels of intensity

PUBLIC GOODS



Landscape and scenery -
Annual biodiversity plot, field margin, hedgerow (new), invasive species control, native woodland, tree line

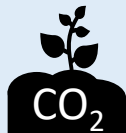


Farmland biodiversity -
Annual biodiversity plot, field margin, bat boxes, species specific bird boxes, rodenticide alternative, invasive species control, multi-species grassland, nettle patch, native woodland, pollinator plot, introduction of ponds, riparian buffer strip creation, tree line, farmer suggested measure

Data and Facts - Contract



Soil quality (and health)
multi-species grassland



Climate regulation - carbon storage -
field margin, hedgerow (new), multi-species grassland, native woodland, riparian buffer strip creation, tree line, farmer suggested measure.



Water quality –
Hedgerow (new), invasive species control, multi-species grassland, native woodland, pond, riparian buffer strip creation, tree line, farmer suggested measure.

CONTRACT

Financing party:
Government (with EU-funding)



Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments (containing



Length of participation in scheme:
5 years

Start of the program:
2018

End: 2023

The team is actively exploring funding beyond 2023

Participation: There are 44 farmers participating in this project, of which almost one half are in dairy, one third in beef and the remainder in equine, tillage and sheep. The area of implementation is the Bride River Valley catchment area which incorporates north-east Cork and West Waterford in Ireland. The area covers 600 km². Other stakeholders involved in the project are representatives from the business, environmental and state sectors, which perform an advisory role for the project.

Involved parties: Contracting Parties Participating Farmer - the farmer is required to monitor and record biodiversity improvements on their farm. BRIDE map, monitor and score the Biodiversity Managed Area (BMA) of participating farms and decide on payments in relation to performance on same. Involved Parties include the wider community which now resides in an area with an improved biodiversity profile and other farmers who now have a model to draw on for the management of biodiversity on farmland.

Management requirements for farmers: A Biodiversity Management Plan (BMP) is drawn up by the project ecologist for each farm in consultation with each farmer. The farmers must carry out 3 habitat related actions in areas such as hedgerow management, field margins, skylark plots, creation of a permanent pond, native woodlands, winter stubble, nest boxes and bat boxes, annual biodiversity plot, invasive species control, multi-species grassland, riparian buffer strip creation, tree lines and so on. A farmer will receive a once-off capital payment for work carried out, e.g., fencing a hedgerow or excavating a pond, but annual payments will be made on the biodiversity quality of the habitats on the farm. All of the habitats included in the BMA will be scored and a quality mark given accordingly. An independent ecologist is also available to give a second opinion if a farmer wishes to appeal the result.



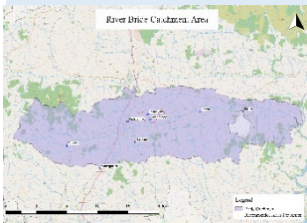
Controls/monitoring: The monitoring of this project is carried out, firstly, by the farmers themselves (through recording of the data on their farms) and, secondly, by the Bride project ecologist on an annual basis. Each farmer will have agreed to up to 10 biodiversity measures. The ecologist monitors the quality and improvements in these measures, issuing a score. Payment is then based on this score.

Renewal / termination: The contract ceases on termination in 2023. However, the BRIDE team is actively exploring funding beyond 2023.

Conditions of participation: At the outset, the project had intended to cater for 27 farmers only. However, the project was over-subscribed and 44 farmers were included. There was consensus among the original smaller group of farmers to accept a larger number into the project, notwithstanding the fact that this would lower the payments to each farmer. There is a general consensus among the farmers that the measures and the development of biodiversity on the farm is of more importance than the monetary incentives to the individual farmers. The only consequence of non-compliance is non-payment.

LOCATION

IRELAND



BRIDE is based on a specific region rather than whole country. The region is Bride River Valley catchment area which incorporates north-east Cork and West Waterford. The area covers 600km². NUTS 2: IE05 NUTS 3: Parts of IE052 and IE053

Risk/uncertainties of participants: A possible risk is that other regions may claim a biodiversity contribution without having an official monitoring framework in place to ensure long-term biodiversity improvements. This dilutes the role of BRIDE in advancing real biodiversity improvements which require a framework of measurement, monitoring and constant enhancement rather than general statements or aspirations.

Funding/ Payments: The project is funded by an EIP Agri-Environment Scheme. This is jointly funded by the Irish Government and EU. Farmers receive a once-off capital payment which is deemed necessary for the introduction of biodiversity measures, capped at €2,000. Depending on the performance on the agreed biodiversity measures, the farmer receives up to €3,000 per annum.



Problem description

The BRIDE Project directly addresses three key drivers of habitat reduction on intensively managed farmland by firstly, incentivising farmer action to maintain and enhance biodiversity; secondly, increasing awareness of biodiversity on such farms; and, thirdly, stimulating a market-based signal that values such biodiversity. The conditions that led to the project were a recognition that biodiversity, particularly on intensive farms, was reducing, coupled with a more general concern with the perceived ineffectiveness of the agri-environmental schemes which were designed on a national basis, input-based and usually regulatory (and sometimes punitive) in nature. A team of local farmers initiated the project, having recognised that a results-based scheme which gave autonomy and flexibility to the farmer would be more effective. They also recognised the need for agri-environmental schemes to engage with the more intensive farmers, and at a more local level, if there was to be a transition to sustainable agriculture in Ireland.

Context features

Landscape and climate: The region is primarily undulating low-land farmland, incorporating the Nagle Mountain range (rising to 230m) and the Bride River valley. The climate in the region is temperate oceanic climate with warm summers and cool winters. Parts of the region are prone to flooding in the winter.

Farm structure: BRIDE is open to all farms based in the Bride River Valley catchment area which have reached a minimum 5 percent BMA. The project includes farms which operate in different sectors (dairying, beef, equine, tillage, sheep) and at different levels of intensity (ranging from intensive to extensive farming systems) and of different sizes. It is also open to both part time and full time farmers.

SUCCESS OR FAILURE?

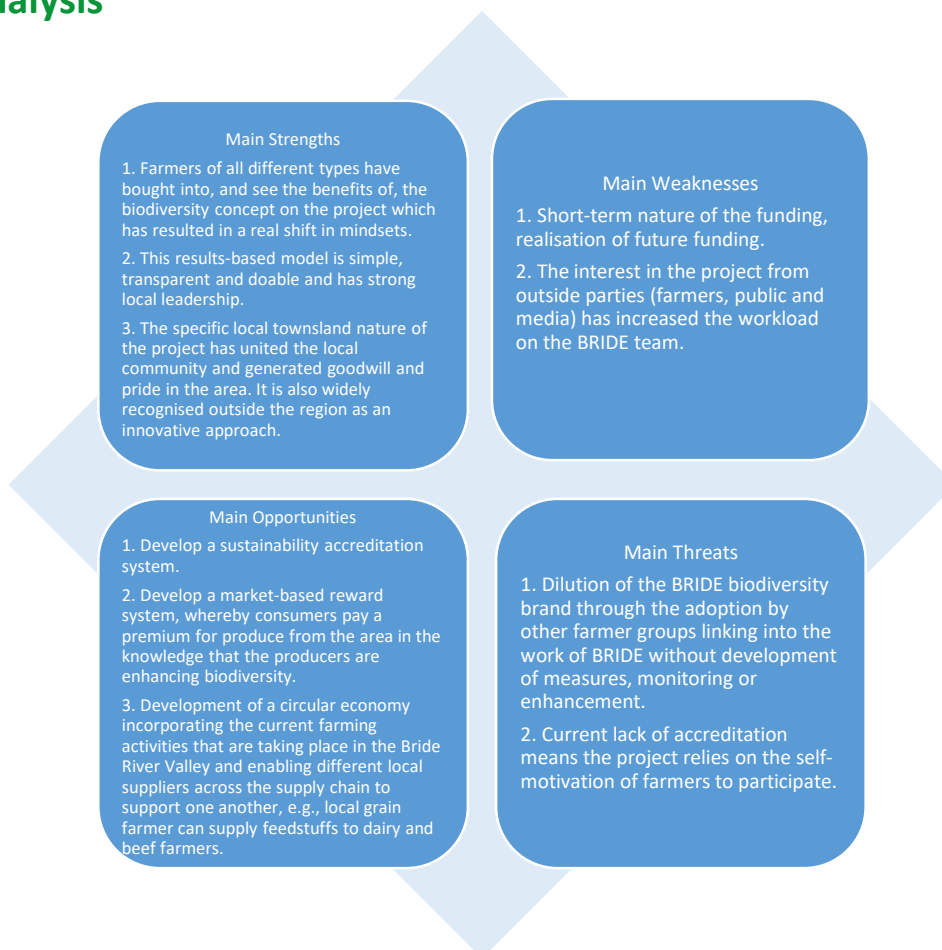


While BRIDE is only in its first year, it can be deemed environmentally successful in that the project was over-subscribed with very significant engagement.

Reasons for success:

- The project is locally based on a simple model that is understandable and is achievable and has achieved strong engagement from the farmers.
- The project has strong farmer leadership that is local and has arisen out of the intensive dairy sector. This gives the project credibility to both intensive and less intensive farmers.
- The project has shown that the introduction of biodiversity measures makes sense and contributes to tangible environmental, economic and social benefits.

SWOT analysis



Carbery Greener Dairy Farms™ CGDF

Carbery Greener Dairy Farms™ is a dairy efficiency programme designed to measure, monitor and optimise resource allocation and best practice in environmental sustainability on the dairy farm. The programme involves 62 dairy farmers in West Cork, each of whom are members of agricultural co-operatives, which in turn, own the Carbery Group. Each farmer carries out and monitors various environmental efficiency measures in order to improve the carbon dairy footprint of their farms and achieve greater efficiencies. Learnings are disseminated beyond the initiative through farm walks, workshops and discussion groups.



Summary

Greener Dairy Farms™ is a dairy efficiency contract solution introduced by Carbery Group (a global leader in food ingredients, flavours and cheese) and Teagasc (state body which provides research, advisory and training to the agricultural and food sector in Ireland) to measure, monitor and optimise resource allocation and best practice in environmental sustainability on the dairy farm. The programme was set up in 2012, starting with 12 dairy farmers and now extends to 62 dairy farmers, all of whom are members of the co-operatives that own Carbery. Each farm has been assessed for carbon footprint, water and energy usage and soil fertility and a baseline created. Based on this assessment, various environmental efficiency measures have been introduced to improve performance and achieve financial savings. The programme was based on a previous European project called the Dairyman Project, where 120 dairy farmers in 10 regions of North West Europe which focused on farm resource efficiencies and management. Carbery was the first to start such an endeavour in Ireland. While all the farms are not adjacent to each other, they are all located within a relatively small territorial area.



Problem description

Carbery Greener Dairy Farms™ was initiated by the sustainability department of Carbery Group Ltd in 2012. There was recognition that environmental pressures were going to increase in conjunction with the planned growth in herd sizes in response to the removal of the EU milk quota in 2015. The sustainability team recognised that there was a need to balance this growth with on-farm sustainability measures. In conjunction with Teagasc (the state body for research, advisory and training services to the agricultural and food sector), the programme was developed. While based on the Dairyman Project in Europe, which focused on strengthening rural communities by improving farm resource management in a profitable way, Carbery was the first to initiate such a project in the dairy sector in Ireland.

OTHERS

Savings through environmental efficiencies and capital grants

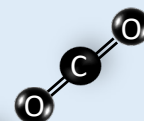
PUBLIC GOODS



Trees supplied to Carbery Farmers (including the CGDF participants), initial biodiversity assessments



Acidic soil with sub-optimal nutrient uptake from fertilizer inputs - spreading of lime help to create pH balance, reducing fertilizer inputs and costs. Analysis of the Nutrient Budgets showed an average N balance of 258 kg N/ha and an average P balance of 8kg n/Ha.



Carbon Footprint was reduced on average across the farms from 124kg to 104 kg/CO2 equivalent/Kg of energy corrected milk from 2012 to 2017.



CGDF farmers strive to increase number of days of pasture grazing.

PUBLIC GOODS



The average energy consumption was 0.5 cent per litre of milk produced. Measures have been introduced to reduce leaks and for the storage and reuse of water.

PROFITABILITY

Through environmental efficiencies.

CONTRACT

It is a market sector-oriented contract solution. The contract partnership is private-private.



Contract conclusion:
Verbal agreement / handshake



Payment mechanism:
Savings are used as a payment mechanism.



Length of participation in scheme:
Open end

Start of the program:
2012
End: on going

Indirect effects: Carbery also highlights the improvements in product quality which have value chain benefits. The public goods from this project are: improved carbon footprint of the farms; viability of farms through greater efficiencies; evolving ecological mind-set of farmers; self-esteem of the farmers; and spill-over into the wider community (educational events, employee sustainability commitments, carbon footprint, water retention).

Data and Facts - Contract

Participation: In the Greener Dairy Farms™ program, the 62 participating farmers, whose herd size ranges from 80 to 350 cows, are all full-time farmers. The area involved is the West Cork region in Ireland which covers approximately 1,900 Km2.

Involved parties: The primary contracting parties are the participating farmers, Carbery Group and Teagasc. This collaboration “utilizes veterinarians, milk quality advisors and discussion groups to advise farmers on how to improve their carbon footprint, as well as optimize water usage and soil nutrient management on the farm” (Origin Green, 2016 Sustainability Report). Bord Bia (the Irish State agency to promote Irish food) has used the model developed by the Greener Dairy Farms™ for their national Sustainable Dairy Assurance Scheme (SDAS). The farmers are also involved in the Teagasc Agricultural Sustainability Support and Advisory Programme (ASSAP) for the improvement of water quality. Carbery staff are supporting this programme through advice and mentoring of farmers. The local university (University College Cork) has partnered with the programme and has given farmer participants on the Greener Dairy Farms™ Recognised Prior Learning (RPL) to complete the Diploma in Environmental and Social Policy.

Management requirements for farmers: The key requirement is that each farmer is required to record relevant operational and environmental data which is compiled in an annual spreadsheet.

Controls/monitoring: CGDF monitors the participating farms in terms of the following: carbon footprint of a litre of milk produced by CGDF farmers; energy consumption on the dairy farms; water usage; financial sustainability of the farms; and soil fertility. These are monitored through the regular recording of relevant data and the input of Teagasc and Carbery agricultural advisors.



Objectives

The overall purpose of the project is to raise the awareness of sustainable dairy production methods among Carbery suppliers and to highlight areas where gains in terms of productivity could be made by monitoring farms within the catchment. The specific objectives are

- To develop a baseline footprint for carbon, energy and water usage and soil fertility and to carry out an initial biodiversity assessment.
- To establish where efficiencies could be made by devising a management plan with the farmer.
- To disseminate the learnings.

Conditions of participation: There is no minimum or maximum number of participants. One of the key requirements for the participant farmers is the submission of a completed spreadsheet of farm operational data (including water and energy usage, soil measurements, grazing days and so on). Submission of data is a requirement of participation.

Risk/uncertainties of participants: One of the key risks is stagnation of the project. However, discussions are underway on how to enhance the project over time through farmer incentives and the development of a demonstration zero-emission farm.

Funding / Payments: To introduce environmental efficiencies, various capital expenditure was required, such as the introduction of smart meters, plate coolers in milking parlours and water storage tanks. The funding was supplied by Carbery, State grants and, in some instances, the farmers themselves. Softer supports include subsidised training, knowledge exchange visits and hands-on support from agricultural advisors.

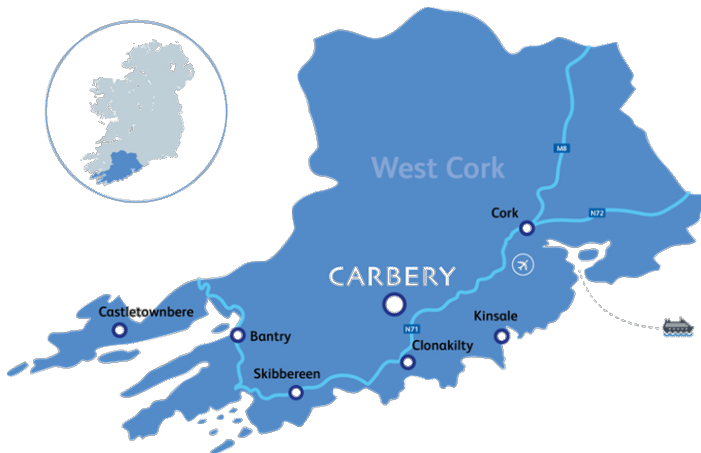
Context features

Landscape and climate: The landscape is very mixed, ranging from very fertile low-land to mountainous peatland. The climate is moderate with cool winters and warm summers.

Farm structure: The participating farmers in Greener Dairy Farms™ are all intensive dairy farmers. The farms range in herd size from 80 to 350 dairy cows. The farms are wholly owned by the farmers and each farmer is a member of a dairy co-operative and, in turn, an owner of Carbery Group. All farmers are full-time.

LOCATION

IRELAND



SUCCESS OR FAILURE?

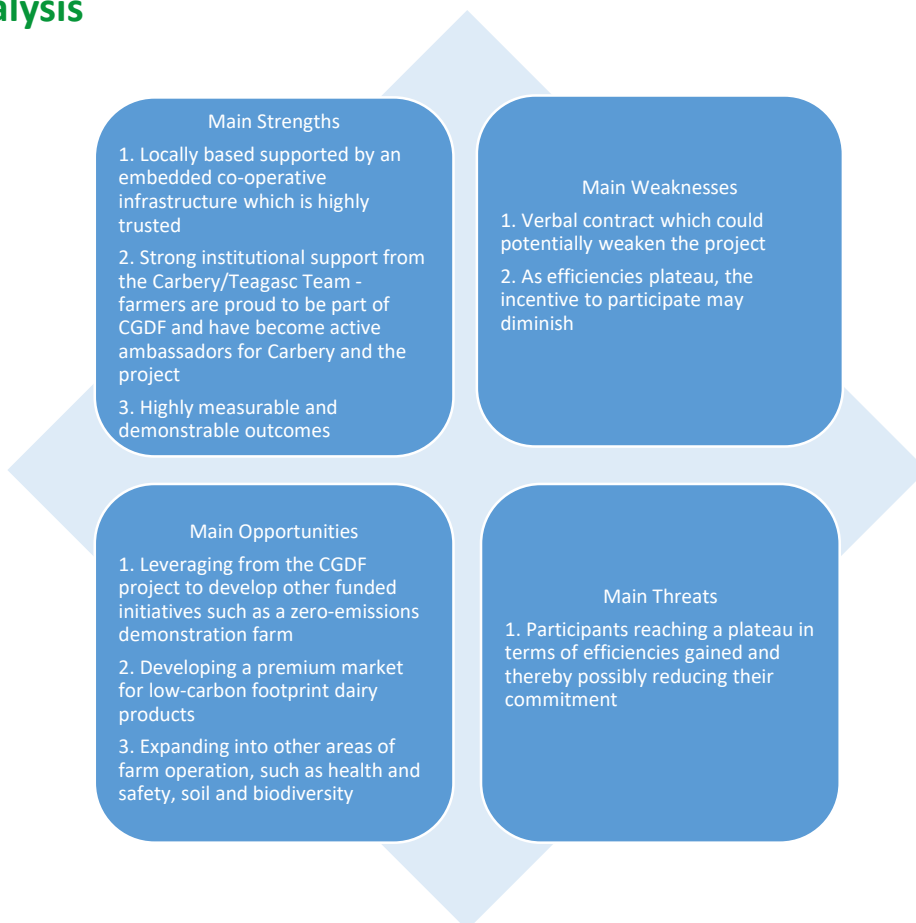


The project can be deemed a successful contract solution because it has reduced carbon emissions, raised awareness on water use, increased farm profitability, reduced energy use, and educated on the importance of sustainable dairy production. Between 2012 and 2019, the contract solution expanded from 12 to 62 participating farmers.

Reasons for success:

- Attitude of participating farmers - very positive attitude, openness and willingness to engage, trust in Carbery.
- Strong Carbery/Teagasc team behind the project - highly motivated and innovative team.
- Clear benefits to the farmers from participation.

SWOT analysis



Incentives for collective reservoirs

A group of farmers builds a water reservoir benefiting of support by the CAP through the Rural Development Plan. The support is conditional on the creation of a consortium composed by a minimum number of farmers.



Summary

The measure has been programmed in the RDP since the 2007 - 2013 and supports the construction of collective small-medium irrigation reservoirs. The objective is two-fold: 1) to ensure a stable water supply for the agricultural sector, and 2) to reduce the pressure on groundwater resources. The support is in the form of partial coverage of construction costs and it is granted if the candidate projects involve a minimum number of farmers and/or water stored (even though the thresholds have changed over the years). In the Ravenna province there is the largest number of measure applicants. In such an area the Consorzio di Bonifica della Romagna Occidentale (Land Reclamation Board of Western Romagna) has proved a key actor in the management of such projects, coordinating farmers demand and providing technical assistances.

Objectives

1. To ensure a stable water supply for the agricultural sector
2. To reduce the pressure on groundwater resources.

Problem description

The measure has the double objective of ensure a stable water supply for the agricultural sector, and at the same time the reduction of groundwater consumption.

Data and Facts - Contract

Participation: In the 2007-2013 there were 249 farmers involved in the Ravenna province, storing a total of 774,000 m³ of water.

Involved parties: Farmers send the application, but the consortium is the real link both between the region and farmers and also among farmers.

The benefits for the farmers: Farmers have two benefits: firstly, the increasing amount of water available; secondly, stabilizing water availability, being no longer vulnerable to precipitation variability. The reservoir acts as a buffer. The water that the single participant can get is bound to the surface of the cultivated area.

Management requirements for farmers: There is a minimum number of farmers involved (in the RDP 2007-2013) and a minimum (100,000 m³) and a maximum (250,000 m³) for the reservoir capacity.

Controls/monitoring: There are no controls.

Risk/uncertainties of participants: Despite the regional funding the cost are high. It is an investment often made but it is risky indeed. The profitability for farmers depends on their production and on the market price.

COLLECTIVE



Water reservoir - consortium

PUBLIC GOODS



Water quantity

INDIRECT EFFECTS

Indirect effects on rural viability and vitality

LOCATION

ITALY



Ravenna province, it's an area of the Consorzio di Bonifica della Romagna Occidentale (Land Reclamation Board of Western Romagna).

PARTICIPATION

249 farmers are involved in this contract solution

CONTRACT

Public- private contract



Contract conclusion:
Written agreement



Payment mechanism:
Investment support



Length of participation in scheme:
one-shot, it's an investment.

Start of the program:
2007

Financing party:
Government (with EU-funding)



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Context features

Landscape and climate: The mountain and hilly area of western Romagna has semi-arid climatic conditions. The reservoirs were built in this area which implied more complicated works, in order to overcome the height differences from the water supply to the farm. 7% of the irrigated area in the case study region is served by reservoirs, which is considerably higher than the average share served by reservoirs in the hilly areas of E-R (2%) (ISTAT 2010). The importance of irrigation in the case study area is suggested by observing how, in the period 1982–2010, the share of irrigated areas over the total utilised agricultural area has remained steady at the regional level (around 10%), but has increased markedly from 2% to 16% in the hilly part of the Province of Ravenna (ISTAT 2010). Fruit production is the main farm specialization.

Funding and Payments: EU is the funding organization through the regional (in Italy) Rural Development Plans.

Targets to receive the payments:

- construction / expansion of irrigation reservoirs,
- works for water distribution,
- other adjustments such as gates, ladders, signs, etc,
- improvement of a water network systems for water distribution;
- intangible investments such as software to help the logistic part (maximum 10% of the investment).

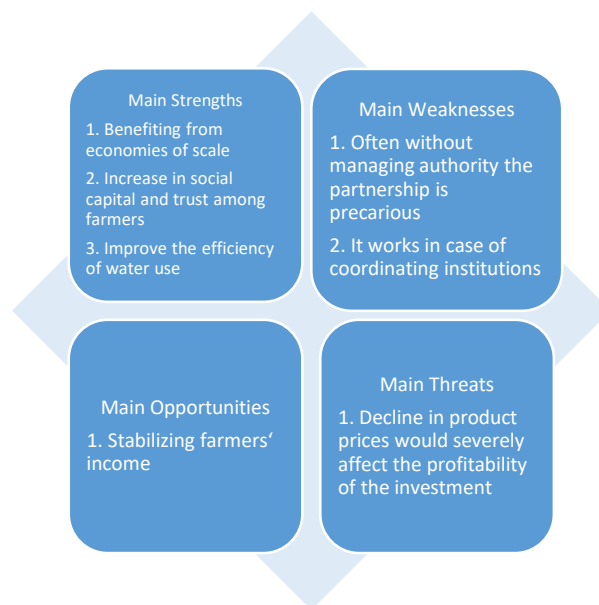
Farmers will receive the payment directly. The support is the 60% of the project, from a minimum of 100.000€ to a maximum of 1.200.000€.

SUCCESS OR FAILURE?



It is a success, high adhesion rate, and it helps the farmers on having more stability on the water issue.

SWOT analysis



Cooperation in Natura 2000 area benefiting biodiversity (Measure 16.5)

The measure incentivises the local coordination and collaboration of public and private actors in projects aimed at the conservation of biodiversity.



Summary

This operation targets effective interventions for biodiversity protection in areas with Natura 2000. These environmental efforts require synergic and coordinated actions to protect biodiversity, primarily removing any critical issues that may exist in the Natura 2000 areas (coming from the implementation of measures by the Habitats and Birds directives). The cooperative approach allows to reach specific objectives not effectively achieved with individual interventions. This method starts with a “mutual agreement” phase, where the involvement of the largest number of beneficiaries is required. It evolves in the creation of a “local cooperation agreement”, approved by the local competent authority for biodiversity.

Objectives

- Safeguarding, restoring and improving biodiversity in Natura 2000 areas.



Problem description

The driving force of this measure is "Safeguarding, restoring and improving biodiversity, in Natura 2000 areas and in areas subject to natural or specific obligations". The RDP and therefore the political region has supported during the last three Rural Development Programs (from 2000 to 2019) measures that push towards a more careful approach toward protected area.

It is important, for the purpose of maintaining a sustainable management and moreover for the restoration of forest, agricultural ecosystems and natural/semi-natural habitats, to financially support farmers who actually have a low-income due to the protection of natural areas.

Data and Facts - Contract

Participation: The cooperation activity is carried out by the public body that proposes the local cooperation agreement, in order to reach the involvement of the largest number of beneficiaries.

Involved parties: The following types of beneficiaries can take advantage of the aid provided:

- single and associated agricultural enterprises;
- other land managers including environmental NGOs, public bodies, collective properties.

The benefits for the farmers and for the organization: Farmers receive a financial support for covering some of the costs that are due to the implementation of Natura 2000 constraints. The advantage of the financial body is a maintenance in biodiversity levels of the area and on the other hand the solution of the critical issues coming from the conservation rules.

Management requirements for farmers: It depends on the specific objectives described in the RDPs.

Legal notice: The compilation of the information provided in the factsheets has been done to our best knowledge and is subject to further analysis. Neither the authors nor the contact persons of the presented cases may be held responsible for the use which may be made of the information contained therein.

COLLECTIVE



local cooperation –
public body - Natura
2000 areas

PUBLIC GOODS



Biodiversity

INDIRECT EFFECTS



Landscape and scenery

LOCATION

ITALY



Emilia-Romagna region

CONTRACT

Government (with EU-funding)



Contract conclusion:
Written agreement



Payment mechanism:
incentive payments



Start of the program:
2013
End: 2020

Funding/Payments: In Natura 2000 areas funding can be provided for:

- cooperation activities,
- non-productive investments
- area management activities etc.
- The EU contribution can be up to 100% of the eligible expenditure. The cost of the cooperation project is set at a minimum of 20,000 euros and a maximum of 200,000 euros: up to 5% for cooperation costs and the remaining for project implementation.

SUCCESS OR FAILURE?

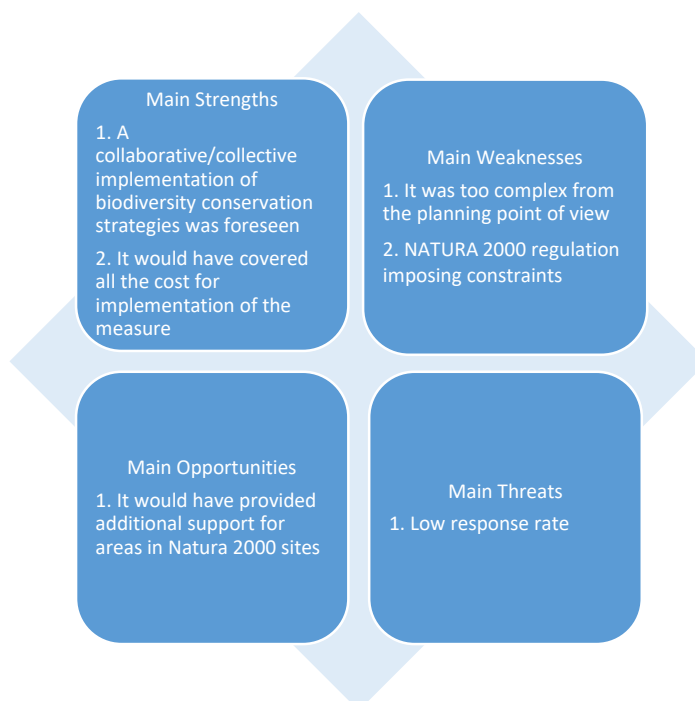


Failure. Only two applications, and both of them were rejected as they were not in compliance with the call requirements.

Reasons for failure:

The measure was highly complex and set a number of constraints and rules that made the realization of the project extremely difficult. Eligible projects should have indicated a target in terms of biodiversity. The same target was aimed to resolve the critical issues for farmers, coming from the restrictions on agricultural practices, imposed by the regulations for the protection of biodiversity in the area where the applicants are located.

SWOT analysis



Emilia-Romagna
Region
ITALY

Rewilding of detention basin in Massa Lombarda

In Massa Lombarda the Consorzio di Bonifica della Romagna Occidentale (CBRO) purchased private land to create a Ripopulation and Capture area that at the same time helps in managing natural hazards. The Project aims to protect and manage this basin in order to control its natural growth, and to collect the excess of water.



Summary

The CBRO purchased an area with the objective of managing both biodiversity and the resilience to natural hazards. The CBRO used EU-funding to finance the ecologically restoration of the area. Despite the financial supports envisioned a 20 years period, the CBRO decided not to change the land use destination of the area after the end of the period. This ensures a longstanding provision of environmental public goods, beyond the fixed policy terms. The case study is a successful example of a land tenure approach to environmental management, carried out by a collective/public association with funding from the EU. It is a small basin representative of the humid environments once present in the Ravenna plain, in an area with farms and factories between canals, after more than a couple of centuries of incessant reclamation. It is located in an interfluvial zone formed by more or less recent alluvial deposits, the site is characterised.

LAND TENURE



Purchase of private land by a public association for environmental and natural hazard management

PUBLIC GOODS



Biodiversity



Resilience to natural hazards



Landscape and scenery

LOCATION

ITALY



Massa Lombarda (RA), Italy.

Objectives

Biodiversity and resilience to natural hazards



Problem description

To conjugate the need of managing natural hazard (flood) around Conselice, and to re-establish many local species that have been driven away from their habitat, the consortium has decided to purchase private land for public objectives and used EU funds to ecologically restore the area.

Data and Facts - Contract

Participation: There is only one contract which is the Land Reclamation Board of Western Romagna (CBRO) and the area of implementation is 21.8 hectares. The area involved is 21.8 hectares with silty and clayey soils. Hunting is forbidden because the retention basin is included in a Repopulation and Capture Zone. The local ornithological community is a specific element of greater naturalistic interest.

CONTRACT

The contract is public – public partnership through the Government (with EU-funding).



Contract conclusion:
Written agreement



Payment mechanism:
Investment

Funding/Payments:
The financing chain begins with Europe, then region Emilia-Romagna, and then the CBRO.



Start: 1999
End: ongoing

The water basin with submerged and amphibious vegetation is spread over 70% of the surface, surrounded by grassy margins and adjacent to arable land. The management of the area is oriented to a naturalistic recovery, with particular attention to the control of water levels and the presence of invasive animal species in the naturalization phase (*Myocastor coypus*, *Procambarus clarkii*, *Trachemys scripta*).

Involved parties: EU is the financing party, which assigns the fund to the winning parties, in this case the Consortium used the support to improve the area.

Advantages of participation: The basin brings back the ecological balance of birds, amphibians and reptiles.

Management requirements for farmers: Mowing is forbidden between February and June

Controls/monitoring: no

Conditions of participation: The duration of the commitment is 20 years.

SUCCESS OR FAILURE?

Success.

Reasons for success:

Mainly two reasons:



- The water basin acts as an actual protection area for local biodiversity
- Helps to manage natural hazards during water flow seasonal peaks
- Purchase of private land for public purposes to ensure a long-standing provision of public goods

SWOT analysis



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“Carta del Mulino” – Barilla

It is a new type of contract solution (agreement and list of requirements) proposed by Barilla to enhance the sustainable future path of its production. Farmers have to comply with ten rules to produce the raw material, in order to be a part of the “Carta del Mulino” agreement.

Summary

With the “Carta del Mulino”-program a value chain contract solution has been introduced for the farmers that supply Barilla’s bakery brand Mulino Bianco with soft wheat. Farmers have to respect ten rules, (defined together with WWF, UNITUSCIA and UNIBO) that affect their way of production. These rules are: ISCC PLUS certification to preserve biodiversity, crop rotation, a minimum percentage of area allocated to flowers, specific variety selection, certified seeds, no use of neonicotinoids, no use of glyphosate, segregation and traceability of the lots, lots’ storage separated from other production, added value distributed along the supply-chain. The contracts are signed by the mills, elevators, farmers and any trader if there are, but Barilla is purchasing only such certified products for the specific production lines described above.

Objectives

- Increase in animal and plant biodiversity, quality products and support of farming communities



Problem description

Consumer preferences have reoriented toward environmentally friendly products, safety, and traceability. To deal with this change, Barilla has implemented a contract solution that links the delivery of soft wheat for the production of bread and flour confectionery (e.g. biscuits) to the provision of agri-environmental public goods.

Data and Facts - Contract

Participation: In 2019, around 500 farms participated and 14 mills. The area of implementation is mostly Italy, but also France.

Involved parties: Barilla designed the contract and the ten rules. The contract in itself is however an agreement between farmers, elevators and mills.

Indirect effects: The rural viability and vitality since farmers receive a price premium for the compliance with the ten rules.

The benefits for Barilla: The main advantages is the possibility to market and to communicate the sustainability of its production.

Information/Contact: www.mulinobianco.it/lacartadelmulino/



VALUE CHAIN

Farmers – elevators -
mills - Barilla



The solution has been initiated and carried out by a private company

PUBLIC GOODS



(Farmland) biodiversity

INDIRECT EFFECTS



Rural viability and vitality

LOCATION

ITALY



CONTRACT

The contract is market sector-oriented. Barilla designed the contract and the ten rules. The contract in itself is however an agreement between farmers and the mills or elevators.

Contract conclusion:
Written agreement



Payment mechanism:
product price



Funding/Payments:
Farmers receive a price premium from the mills or elevators with which they sign a contract. Barilla purchases the products from the mills or elevators.

Length of participation in scheme:
1 season



Start of the program:
2018
End: ongoing

PRODUCT

Soft wheat



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The benefits for the farmers: The main advantages are: optimisation of agronomic inputs, restoration of soil fertility, increase in biodiversity, product sales guarantee and a final premium price, increasingly environmentally friendly farming practices, support farming communities and return good and safe products to consumers.

Management requirements for farmers: The ten rules previously described.

Controls/monitoring: Annual audits by an independent third-party control body to all subscribers to the "Carta del Mulino" project. 30% of total farmers are tested.

Conditions of participation: There are food safety, quality and environmental standards. Barilla is expected to cover the entire purchase of soft wheat through farms that are in compliance with the ten rules.

Renewal of the contract: The renewal of the contract is subject to the implementation of the ten rules. For example, the constraint on crop rotation can limit the renewal for a given period.

Termination of the contract: Termination is due to the non-compliance with the ten rules.

Risk/uncertainties of participants: The main risks for Barilla is the request for greener and greener products. For the farmers the risks are the usual ones of the agricultural production. If the quality of the product is not high enough for the Barilla processing, the price premium is granted in any case to compensate the higher costs incurred by the farmers.

Context features

Farm structure: Arable farming.



SUCCESS OR FAILURE?

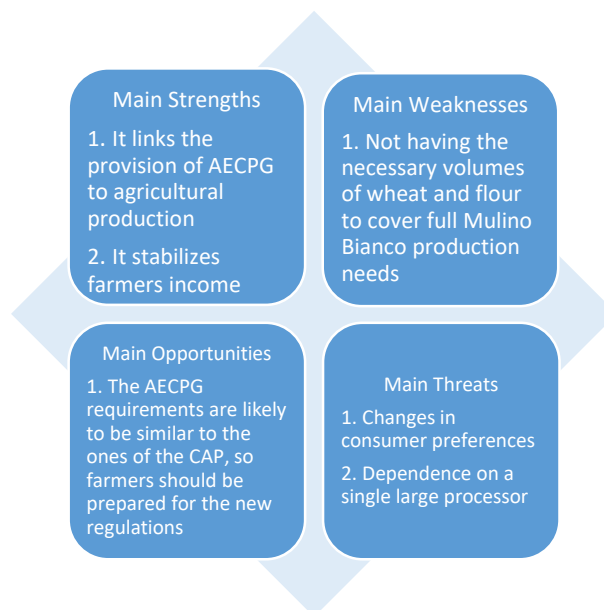


It represents a successful example from the implementation point of view: in 2019 more than 500 farms have applied, implementing for example on more than 450 ha of Utilized Agricultural Areas flowers.

Reasons for success:

The main reasons for the success is the link between agricultural production and agri-environmental public goods. More specifically, the contract that is linked to the provision of AECPGs also stabilises the income of farmers and gives them a premium on the product price.

SWOT analysis



Farmers as Custodian of a Territory

The contract is designed to compensate farmers for monitoring and for interventions to control flood risks and to improve the management of river basins. The contract represents a case of the outsourcing of environmental and public goods services to the farmer. In other words the public agency outsources the control and maintenance of the river basin, the prevention from flood risks and other environmental goods directly to the farmers.



Summary

This type of contract compensates farmers for external activities to their farm production. The contract type has changed over time. However, the structure remained constant, and it includes two main parts: a) a fixed amount (payment) per farm for monitoring a water basin, b) a variable amount to reduce flood risk (and other risks like for example, erosion). The payment is incrementally based on the risk and the action taken to prevent it.

The investigated contract solution is the second one, which was redesigned in accordance with farmers involved and the University of Pisa. The second contract solution reduced drastically the fixed components (previously 6000€) due to the shortage in the budget to compensate direct interventions in case of urgent actions required. The main novelties were the requirement of a monthly report containing the results of monitoring and indicating the most problematic area. In addition, after a weather alert, the farmers could signal the threat to water bodies using a dedicated Web App (IDRAMAP).



Objectives

1. Preservation of the good status of water bodies.
2. Maintenance of agricultural and forestry activities with the preservation of existing hydraulic structures.
3. Support execution of preventing investments to reduce pressure on water bodies.
4. Supporting farmer's viability.
5. Improve the cost-effectiveness of water bodies management.
6. Increase the capability to observe the territory and increase positive attitude towards non-productive investments.

Result-oriented: The second component might belong to the result-oriented category (theoretically). Practically the payment rewards the number of actions. Each action is paid based on the expected cost. In this case, it cannot be different because the public administration cannot pay farmers or other providers based on result, because they need some real documentation (invoice etc.) to justify the public expenditure. Besides, a public authority does not know ex-ante the source of threats (i.e. number of weather alerts and severity of rain). So they need a flexible system to ensure the management of river basins.

Indirect effects:

- An incentive to increase farmer's investments and farmers modernization.
- An incentive to better know the territory as well as to increase the cooperation with the public agency.

RESULT-ORIENTED



The payment rewards the number of actions. Each action is paid based on the expected cost.

PUBLIC GOODS



Resilience to natural hazards
Reduce the territory exposure to flood and extreme events



Water quantity
keep functioning existing hydraulic infrastructure



Rural viability and vitality
support farmers activities by paying for additional services



Landscape and scenery
keeping farmers active on mountain area will improve the landscape quality of the forestry

LOCATION

ITALY



The area enrolled is included into the mountain area of two Tuscany provinces: Lucca IT112 and Pistoia IT12.

Problem description

The mountain area of the Tuscany region is exposed to floods and landslides. This situation has worsened due to the effects of climate change and land abandonment. The Mountain community was in charge of monitoring and avoid water management risks over a territory of 115,000 ha, which includes 1,500 km of water bodies.

One of the three Authorities in charge to manage water risks in mountain areas (the formers Mountain community of Serchio Valley, now converted in Union of Municipalities of Serchio Valley (UMC) took the initiative to face:

- institutional change, due to enlarging of the operated area due to acquisition and merging of the previous institution in charge of water basins management (RIBs) with devolution of competences to UMC;
- needs to improve the efficiency in the management of water bodies, to avoid flood and other damages;
- needs to reduce pressure on the environment by trying to keep farmers on the farm in the marginal area of the Apennine, while putting emphasize on ecosystem services provided by agricultural activities (reduction of soil erosion in the mountain by continuing grazing or correct forest management; maintenance of existing hydraulic structures in the forestry and agricultural areas).



Data and Facts - Contract

Contract features combination: The contract is an agreement between the UC of Serchio Valley and 27 farmers selected on the basis of two criteria: a) proximity to the water bodies and the capability to undertake necessary actions. Formally, there is a public call asking farmers the willingness to be involved in the project. The agreement includes a description of actions to be taken in their area managed as well as the first refusal for further activities when needed. The deal includes a fixed amount for monitoring activities and a variable amount based on agreed actions and new actions (based on the right of first refusal or fiduciary piecework).

The fixed payment is calculated on the basis of 250 € per years = 5 weather alerts per year with a cost of 50€ per each monitoring activity. The beneficiaries must prepare and submit to UM a monthly report containing the outcome of monitoring activities on their management of water bodies. The variable component is based on direct commitment due to a previous agreement. The farmers must respect the foreseen timing. An additional payment for a large intervention can be paid by measure 226 or RDP of Regione Toscana (RT).

Participation: 27 farmers were involved. They cover about 40% of the hydrological bodies area. Currently, there are no reasons to try to extend to another subject (i.e. NGOs, citizens due to lacks in types of equipment to perform the required actions).

Involved parties: Farmers received the payments and in turn, had to ensure both monitoring activities, prevention actions and required additional actions. Citizens and other farmers are less exposed to flood risks, and benefit from effective water management. An additional problem about keeping minimum water level for Massaciuccoli Lake arose in recent years.

The benefits for participating in the contract solution: Farmers have broadened their farm activities and received payments in turn for ecosystem services. In addition, they were able to increase investment and keep farm active. The UM outsourced an activity to actors with higher knowledge of forestry and agricultural condition on the territory.

CONTRACT

The contract was between the UC of Serchio Valley and 27 farmers selected by criteria.

public – private

note RIB is the paying agency and farmers receive the payment.*

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments.
The financing came from Government (with EU-funding)



Funding/Payments:

The paying agency is the Union of Municipalities. The money came from government and from the RDP of RT using measure 226, which allocate to the UM the possibility to pay farmers. The fixed part is 250 € per year, while the variable part depends on the expected activities that have been agreed between the farmers and UM plus some extra payment in case of higher needs. The maximum amount of payment cannot exceed the 50,000 € per single farm and 200,000 € for the other (due to constraints of national regulation of direct commitments).

Length of the contract:

2-3 years



Start of the program:

2011

End: 2014

Continuing with different contractual arrangements due to dismissing of agreement with ICT tools and changes in administrative norms about direct payment to the farmers (procurement code)

Management requirements for farmers: In addition, each contract is differentiated on the basis of preventing activities which are required and are paid with the variable components. These activities include indications for cutting strategies, use of specific sustainable products, grazing management, cleaning of water bodies.

Controls/monitoring:

- Use of ICT and a formal delegation of activities by local technical office.
- Numbers of weather alerts.
- Preparation of a monthly report containing information on the main risk observed.
- Respect the time of the work described in the contractual agreement for the actions.

Conditions of participation: The UM opened a public call for interest in the outsourcing activities. The call allowed to identify interested farms in supporting the public administration on these services. Then after having signed an agreement (convenzione) the UM are allocated them based on proximity to the water bodies and on the effective capability to implement required action. Due to the few farmers interested the UM decided to not apply additional preference criteria. In case of non-compliance, the UM refuses to renew the agreement. Actually, the UM said that all farmers were in compliance with the commitments.

Legal status of the contracting parties: UM is a public association with tasks also on land reclamation and irrigation. The other contracting party are farmers, with no specific legal status requirements.

The contracting area: The contracting area covers water bodies plus specific activities performed on each farm. Hence, in several cases, the farms are in charge to monitor an area outside they operated area. In the previous contract, the fixed payment was proportional to the area monitored, but this linkage was removed in the investigated contract.

Renewal / termination: The UM requires a monthly report containing the results of monitoring activities and one additional report after each weather alert. The additional report contains emerging concerns, not directly observed in the previous report. This report constitutes the basis for asking for direct interventions. The UM was flexible in judging the quality of the monthly report, especially during the earlier phases, but requires a rigid timing for both small and large activities directly committed.

Risk/uncertainties of participants: Payments decoupled by markets, the source of uncertainties are the amount of investment required and the number of weather alerts per year.

Links to other contractual relationships: The only requirement was to respect the law about security of working conditions (i.e. use of specific equipment etc.).

Context features

Landscape and climate: The area investigated is very rainy, mainly in the spring and autumn. The winter is often rainy with snow often above 1500 meters. These conditions combined with the abandonment of grazing activities along the internal area can create spontaneous vegetation and a continuous growing of the unmanaged forest. These conditions, besides quite a steep slope, can create a lot of pressure on water management.

Farm structure: No specific requirement, but enrolled farmers with equipment enable to support action on water bodies.

PRODUCT

Contract decoupled by production. Some indirect effects on supporting forestry production by keeping farmers activities.

SUCCESS OR FAILURE?

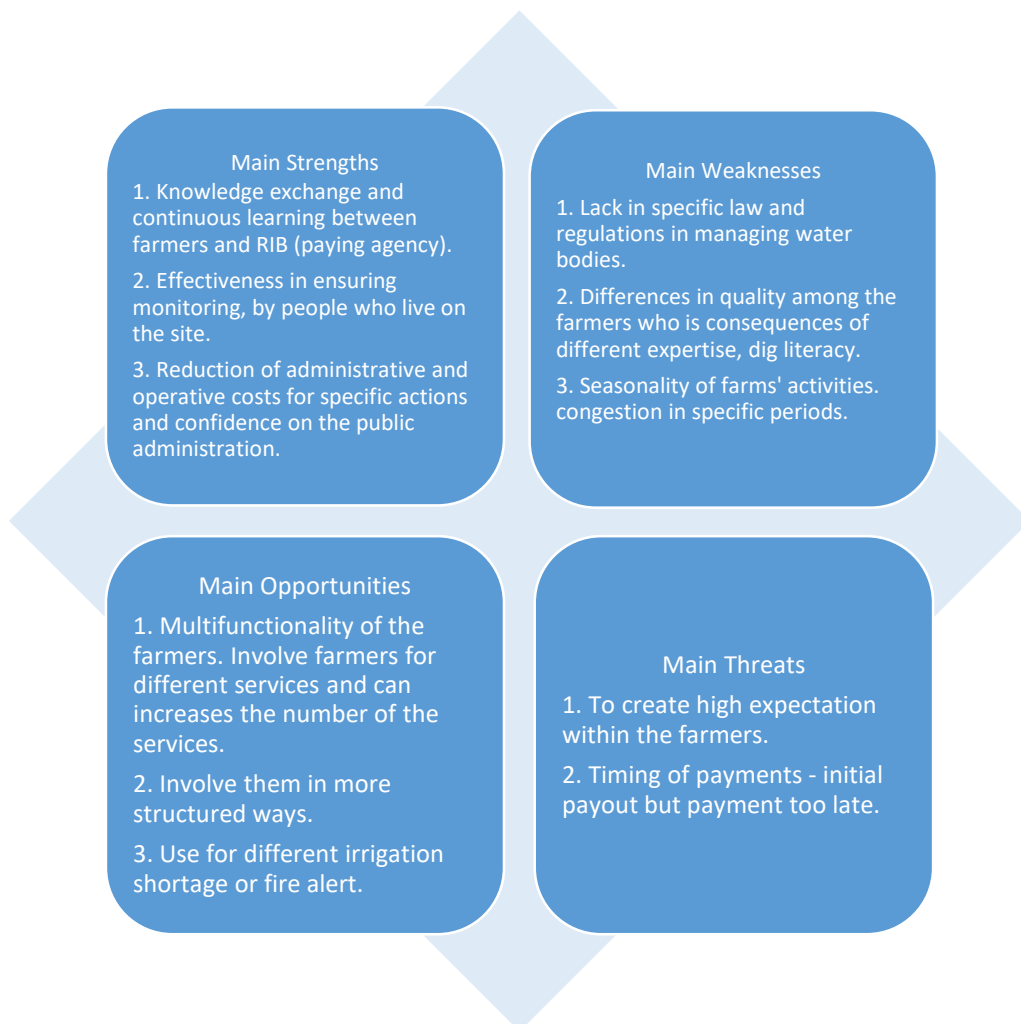


The custodian was a successful contract solution.

Reasons for success:

Bottom-up programming with involving of farmers.

SWOT analysis



INTEGRATED TERRITORIAL PROJECTS - (ITPs) /territorial agreement

The ITP allows a collective implementation and the concentration of RDP non-productive investments aiming at securing environmental assets on some specific areas of the Tuscany Region (vulnerable areas, marginalized etc.).



Summary

The contract is developed within a MULTI-MEASURE CALL of the Tuscan RDP 2014-2020 and aims at the aggregation of public and private subjects to deal - directly and indirectly - with specific environmental problems at a territorial level (hydro-geological risk, soil quality, biodiversity, water retention and landscape enhancement). The contract requires the establishment of a territorial partnership and the development of a territorial development project focused on the main environmental issues of the area under contract. Once approved by the Region, the ITP allows the direct activation and funding from a multiplicity of environmental related sub-measures/operations of the current RDP (i.e. non-productive investments related to agro-climatic-environmental objectives). The individual instances presented under the ITP umbrella gain priority over the other applications for RDP measures for both selection and funding. The contract requires a leading subject to coordinate the management of the proposal. The leader has the task of managing network activities and monitoring the progress of material investments to ensure the implementation of the project and its effectiveness/efficiency. The leading entity is also responsible for guaranteeing compliance. The public agency requires at least 85% of budget with respect to the proposed investments in order to deliver payments. The total budget is up to euros 3 million for projects at least euros 500,000 in non-productive investments (environmental). The territorial agreement is signed by both, those who should realise the investments and those who makes a non-direct contribution to the project. For at least three years, the signatories are linked to each other by contractual constraints which regulate mutual obligations and responsibilities regarding the realization of investments aimed at achieving the territorial objectives set in the project (i.e. the investments). Of the 28 projects received by the Tuscany Region within the current RDP, this case study focuses on the ITP of the Tuscan archipelago (Islands of Elba, Capraia and Giglio) that started in 2016. The leader is the Department of Agri-Food Production and Environmental Sciences of the University of Florence (DISPAA UniFi).

Objectives

1. Activation of a coordinated monitoring and management network to face hydrogeological instability;
2. Increasing the overall resilience of the territory to calamitous events originated by climate change;
3. Improving the state of conservation and functionality of some elements of the historical landscape;
4. Systematic and site-specific dissemination of good agronomic practices to protect the territory;
5. Supporting farmer's viability.
6. Increase the capability to observe the territory and increase positive attitude towards non-productive investments.

Indirect effects:

Increasing the value of the agricultural landscape; Increasing green infrastructure to support fauna; Enhancing the supply local productions.

COLLECTIVE



A territorial partnership agreement within an ITP project

PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Soil quality (and health)



Water retention



Resilience to natural hazards



Rural viability and vitality



Cultural heritage

LOCATION

ITALY



Tuscan Archipelago
(Elba, Capraia, Giglio)



Problem description

The rapid and uncontrolled urban expansion due to tourism has consumed much of the rural and natural areas in the territory of the Tuscan Archipelago. In its major islands (Elba, Capraia, Giglio) serious damage for biodiversity and for the hydrogeological balance of the territories are caused by this intense development. In addition, the recent pressure of the ungulates (wild boar and mouflon in particular, both alien species introduced by man to the island) is causing damage both to crops and to hydraulic and agricultural arrangements and slopes. The Tourism expansion together with the process of agricultural modernization have led to a strong decline in traditional agricultural activities with an increasing land abandonment and the consequent degradation of natural and traditional landscapes. On the other side, the intensification of olive and vine cultivation has led to landscape simplification and to the increase in hydrogeological risk, especially in the hilly systems with the abandonment of the terraces. Such circumstances are amplified by the effect of the ongoing climate change, which is revealed by the increase in heavy rainfall events with a cumulative exceeding 300 mm/d, in the face of a reduction in overall rainfall and the increase in heatwaves. The recurrence of alluvial episodes subjects the territory to the risk of landslides and valley flooding, but also to widespread erosion phenomena.

Data and Facts - Contract

Contract features combination: The contract is an agreement between the Tuscany Region and a territorial partnership subscribed by private and public subjects within a MULTI-MEASURE CALL of the RDP 2014-2020. The ITPs mainly combine with the following set of RDP measures:

4.4.1 – Landscape protection and enhancement of biodiversity; 4.1.4 - Management of water resources; 4.4.2 - Non-productive investments for improving management and protection of water resources; 5.1 - Preventive actions to reduce the effects of natural disasters, adverse weather conditions and catastrophic events; 16.4 - Horizontal and vertical supply chain cooperation for the creation and development of short supply chains and local markets; 16.5 - Joint actions for climate change mitigation;

The first level of compliance corresponds to the execution of the planned interventions (investments), which is fixed at least 85% of the investments proposed. The second concerns the individual instances which must comply with the compliance rules established by the individual measures and sub-measures of the Tuscan RDP. Thus the eligibility of the individual instances is mainly guaranteed by the adherence and the coherence with the ITP proposal.

Participation: With the participation of 36 private and public subjects the contract covers over 4,300 ha, of hilly and semi-flat orography, which winds along the edge and in correspondence with the territory of the National Park, on the islands of Elba, Capraia, and Giglio.

Involved parties: The ITP involves one public leader (DISPAA UniFi), 34 direct private participants (farmers, wineries, wine growers), 5 direct public participants (PNAT, the Tuscany Coastal Reclamation Consortium - CdB, the Union of Municipalities of the Metalliferous Hills - UCCM and the Civic Uses Manager of Capraia Isola - UCCI). The two indirect participants are: Legambiente Arcipelago (environmental stakeholder) and BCC Banca dell'Elba that facilitates the access to credit.

The benefits for leader: Direct management and coordination of this network of innovation;

The benefits for the private direct participants: Environmentally related to the opportunity of upgrading their farming area and activities;

The benefits for the public direct participants: Environmentally related to the opportunity of securing large investments necessary for the development of the territory; growing expertise and local knowledge through the network to manage identified problems;

Funding/payments: Incentive payments within the EU funding scheme for RDP measures. Payments are directed towards those direct participants responsible for the planned interventions with percentages that vary according to the planned intervention. The financing can cover all the costs, as well as only a part of them. For productive investments about 80% is covered by the Region and 20% by the participants, while for sub-measure 4.4.1 the support is set at 100% by the Region.

CONTRACT

The financing party in the contract solution is the Government with EU-funding. The partnership in the contract is public – private and public - private - civil society.



Contract conclusion:
Written agreement
(contract)



Payment mechanism:
Incentive payments

Length of the contract:
5 years

Length of participation:
4 years



Start of the program:
2016

End: 2020-still running

PRODUCT

There is an interest in the development of short-chain productions, but a specific product has not yet been identified.

Resource/investments allocation:

- More than 45% of the ITP costs are allocated for measure 4.4.1 (landscape protection, management of wetland, enhancement of biodiversity and harmonizing the presence of ungulates with agricultural activities);
- More than 50% is allocated for measure 4.1.4 (promoting irrigation efficiency, reducing hydrogeological risks and recovering of landscape elements such as terraces);
- Less than 5% is allocated to measure 16.4/5 (dissemination, promoting horizontal coordination and local products);

Management requirements:

Participants are bound to carry out the planned investments, but not to achieve the desired environmental results (action-based). In the Territorial Agreement, the direct participants, duly informed, undertake all the necessary provisions to guarantee the correct implementation, as well as to carry out the relevant interventions within the timeframe established by the project. The partnership is ensured by the lead partner that bears the burden of damages caused by his own possible defaults acting as guarantor by the other participants in the ITP. Each direct participant is responsible for the interventions for which it is responsible (Art. 6), and for the economic damages, it causes to the partnership for failure to implement them. Indirect participants are only committed to the activities for which they are responsible. If the direct participant cannot fulfill his responsibilities, he has to find a substitute participant who guarantees the same quantitative and qualitative level of his interventions. In case of violations or non-compliance, the contract provides sanctions to the responsible in proportion to the economic damage caused to the project and to the other participants (Art. 18); unilateral withdrawal from the agreement is possible and carried out with communication to the lead partner.

Controls/monitoring: The region requires a final report on the state of execution of the project and can intervene at any time with specific controls.

Conditions of participation: Minimum of 15/max of 100 participants for each ITP proposal; requirements are defined by the region through an open call. Non-compliance determines the exclusion from the payment.

Legal status of the contracting parties: The 29 private subjects are mainly landowners and individual entrepreneurs, 1 is an agricultural cooperative. The payments cover the cost of the planned interventions that can be at territorial level for what concern the intervention planned by public subjects and at farm level for what concern those interventions at that scale.

Renewal / termination: The contract provides for the realization of the planned investments. At the end, the payment is made by the Region. If the interventions do not reach 85% of the allocated budget, no payment is made.

Risk/uncertainties of participants: Since the core of the territorial agreement is the final realization of the ITP, which depends on at least 2/3 of the investments made by participants, the main risk is the failure of the entire project due to the fault of one or some participants. In this case, the project must be re-evaluated by the Region. So the main benefit, as well as the main risks, are related to the strong interdependence between participants.

Context features

Landscape and climate: The contract established with the ITP aims to upgrade the environmental and landscape conditions on the main Tuscan islands (Elba, Giglio and Capraia). Climate change and urban transformations linked to Tourism, the change in agricultural practices have exerted strong pressure on these environments. Key are the maintenance of biodiversity, erosion control, the reduction of hydrogeological risk, the recovery of ancient terraces and traditional and less intensive agricultural practices. The extreme drought, the presence of extraordinary and catastrophic weather events, the presence of invasive animal species represent the main problems. The various agricultural landscapes on the islands, both in the plains and on the hills and especially in the mountains, represent strategic resources for the Tuscan territory. So-called heroic viticulture has gained considerable attention recently. Maintaining these practices and developing and improving these environments is a regional priority. The investments planned through the territorial agreement want to create those conditions for the maintenance and future development of these environments.

Farm structure: Small and medium-sized wineries (from an average 2 to 20 ha of land planted with vines), so-called heroic viticulture. Some who produce organically others who aim to recover the agricultural traditions of the islands, such as production on the terracing. They are mainly full-time agricultural entrepreneurs or family businesses.

SUCCESS OR FAILURE?



The contract solution can be considered successful from the point of view of achieving participation, carrying out interventions and producing environmental benefits at territorial level. From this point of view, however, it is currently difficult to assess the progress of the project and therefore consequently the improvement of the resources or environmental assets subject to investment. In the event that the project is completed as planned, benefits can be observed from the point of view:

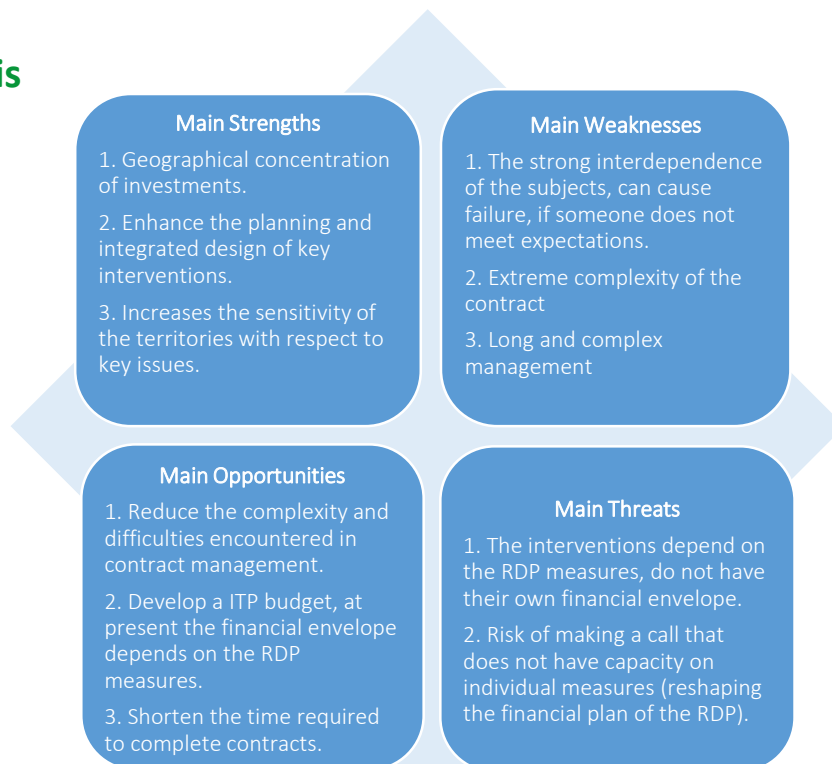
- coordinated monitoring and management of hydrogeological instability;
- increase in the overall resilience of the territory to calamitous events originated by climate change;
- improvement of the state of conservation and functionality of some elements of the historical landscape;
- increase in the widespread aesthetic and perceptive value of the agricultural landscape;
- diffusion of good agronomic practices to protect the territory;
- the overall improvement of some sites with high naturalistic value accompanied by the enhancement of the ecosystem capacity of the green infrastructure to support fauna in the agricultural sector.

Reasons for success:

- Promote active participation;
- Promote the strong link with agricultural supply chain and the territory;
- Realize key investments for the sustainable development of the territory;
- Reach several indirect benefits (creation of a management and control network for the territory, coordination, and promotion of the supply chains at a territorial level, etc.)

The main risks are related to any changes compared to what has been planned, the waiver of some participants, as well as the non-completion of the investments.

SWOT analysis



NUTRINFLOW

Good practice examples of environmentally friendly drainage systems were introduced.



Summary

The project aimed at establishing good practical examples of win-win measures for agricultural producers in water management for the retention of nitrogen and phosphorus. Through working with farmers and landowners, the project promotes and demonstrates with concrete investments the benefits gained from holistic planning and coordinated implementation of water retention and on-farm drainage management measures. To show good practice examples on the Ailes stream a project was developed and contracts with landowners signed. The overall project was lead by Proagria (Finland). Union “Farmers Parliament” (Latvia) was one of the project partners.



COLLECTIVE



All 72 landowners along the Ailes stream were contracted.

PUBLIC GOODS



Water quality – to reduce nutrient inputs in the Baltic Sea and to have increased attractiveness and feasibility of a holistic water management approach for agricultural catchments across the Central Baltic Region.

INDIRECT EFFECTS

Local innovation and action groups stimulating voluntary action and entrepreneurship in water management.

LOCATION

LATVIA



NUTS 3, LV009 (Zemgale)

Regional/Local contract, but could be applied to the whole country

Problem description

The project responded to the common pan-Baltic challenge to implement more effective and acceptable measures to reduce nutrient inflows to the surface waters and the Baltic Sea from agriculture. It is evident from recent history of implementing on-farm agri-environment measures, that they have not yielded the results needed in terms of reduced nutrient losses and that complementary measures in the drainage network and landscape are needed. In part, this is due to the multifaceted hydro-morphological, physical and biochemical processes in the soil and the aquatic environment, which also makes the effect of these individual measures difficult to measure. Through addressing water flow, water storage and retention it is possible to tackle the problem of nutrient losses outside the growing season when there is no uptake by the crops. According to studies and estimates, up to 90% of nutrients are lost outside growing season which indicates great potential for nutrient loss reductions by the above mentioned measures. At the same time, there is great potential to be gained for agricultural production, but also for the production of ecosystem services for the society from measures targeting water flows and retention in the landscape. Through a holistic catchment level management, an optimal combination of measures in the landscape, the stream network and on farm could ensure sustainability and viability of agriculture while reducing the external nutrient loading to the sea. The fact that the project’s partner countries are faced with the need to renovate agricultural drainage infrastructure, provides an ideal ground to introduce new, more sustainable measures to meet the needs of agricultural production and the aquatic environment. Attention to sustainable drainage management is especially critical in the foreseeable climate change with increased precipitation and on the other hand increased summertime water shortages.

CONTRACT

Contracts with landowners for the introduction of the environmentally friendly elements on the drainage systems connected to the Ailes stream.

Landowners agreed that they allow access to the Ailes stream and manage the coastline (buffer zones) of their land near the Ailes stream for construction of pilot (4) elements.



Public – private – civil society contract
State – landowner - NGO

Contract conclusion:
Written agreement

Payment mechanism:
Tender and/or price comparison for the implementation of construction work



Financing party:
Government (with EU-funding), Union “Farmers Parliament” (10% for the design of technical project)

Length of participation in scheme:
2 years



Start of the program:
2016 spring
End: 2018 autumn

Objectives

1. Control and reduce nutrient inputs into natural watercourses and water bodies;
2. Control soil erosion;
3. Enrich oxygen content in water;
4. Promote natural self-purification processes in water;
5. Increase awareness among farmers, advisors and municipal authorities and services on drainage techniques and approaches to integrate field and basic drainage measures while lowering the barriers for the execution of sustainable drainage management and combination of environmental and production benefits.

Data and Facts - Contract

Involved parties: Landowners/managers with agriculture production and their land lying next to the Ailes stream. State Limited Liability Company "Real Estates of Ministry of Agriculture", which are responsible for maintenance of the drainage systems in Latvia. Union Farmers Parliament, with the objective to educate farmers.

Management requirements for farmers: The contract solution was foreseen for collaboration between landowners and the company contracted by Union “Farmers Parliament” to develop the construction plan.

Controls/monitoring: The results are controlled and monitored by State Limited Liability Company "Real Estates of Ministry of Agriculture” staff of the Zemgale Region. They control functionality and physical presence of demo elements (stones, plants etc.) on the spot. For 5 years State Limited Liability Company "Real Estates of Ministry of Agriculture” is responsible for removal of overgrowth, removal of beaver dams, cutting of shrub shoots. The State Rural Support Service is the control authority. In case of compliance, building board implement on site control to prevent illegal construction activities. Fine can be assigned to the landowners in case of law infringement.



- Landowners - 72
- Catchment area- 35,6 km²
- Agriculture land - 90%
- Length of the stream - 14,2 km

Conditions of participation: All 72 landowners along the Ailes stream were contracted. The demonstration areas were chosen on the places where landowners agreed to allow access to the stream with the construction machinery. The protocol (agreement) was developed professionally by the construction plan developer. There are no consequences planned for the landowners at the agreement. State Limited Liability Company "Real Estates of Ministry of Agriculture" staff does the follow up that the drainage systems are managed properly. If requirements are not respected, landowners can be penalized which can lead to reduction of direct payments.

Risk/uncertainties of participants: Financial risks, regarding the management of the environmental elements to be financed in the long term;

Administrative risks - Objects are publicly accessible on a national watercourse, but adjacent areas are privately owned and the question is how the shores will be managed?

Knowledge and understanding of the public so that objects are not destroyed.

Natural Risks – damaged by beaver and other invasive species.

Water Analysis - effectiveness of measures.

Funding/Payments: The demonstration area technical project was financed by Union "Farmers Parliament" (ZSA) partner budget (75% Central Baltic Sea Region programme 2014-2020, 5% Latvian state and 10 % ZSA). ZSA contracted the company for the design of the technical project. The implementation of the construction works was done by the company contracted by State Limited Liability Company "Real Estates of Ministry of Agriculture".



Context features

Farm structure: Traditionally, the most important specialization in Latvia are arable farming (42.6% of the total number of farms), dairy farming (15.1% of the total number of farms), as well as mixed crop and livestock farming (14.8% of the total number of farms). Farms in Latvia are mainly family-owned businesses. In 2016, 69,000 or 98.7% of farms belonged to one natural person, of which 31,400 or 45.5% of the farms were owned by women. Cereal farming is one of the most important agricultural sectors in Latvia - it provides the population with both food and feed in the livestock sector. Almost no livestock sector can survive without grain. Recently, cereal production is increasingly being used in other sectors, such as for energy.

SUCCESS OR FAILURE?

CONSOLE

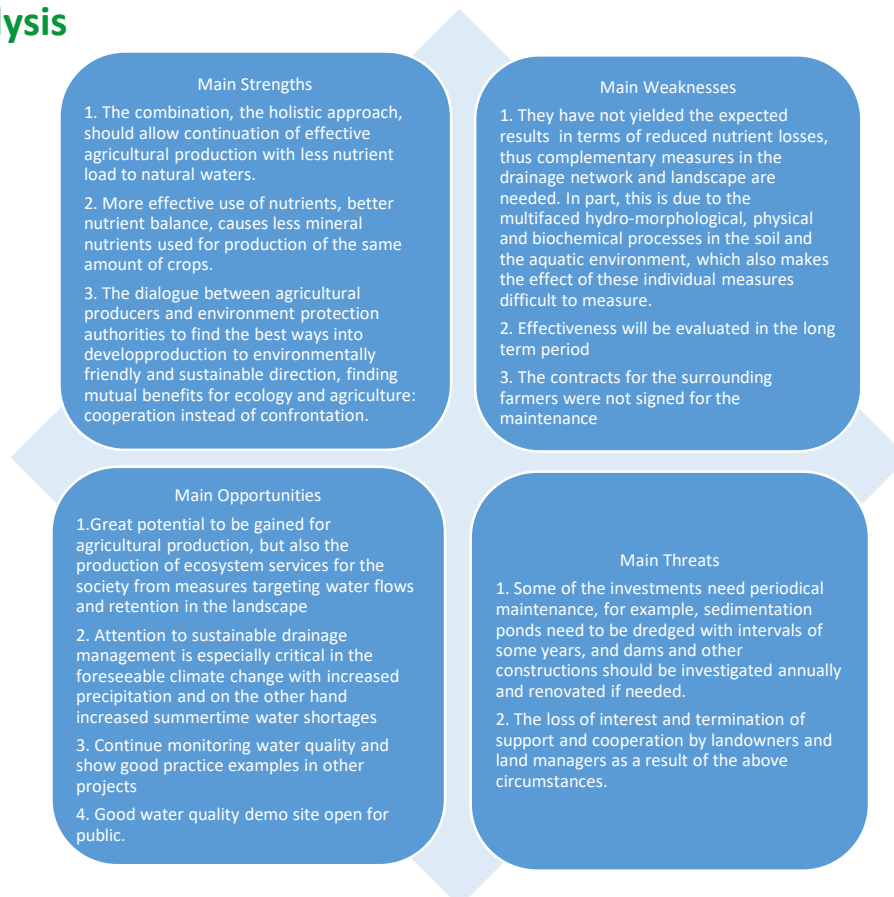


The NUTRINFLOW case is successful in terms of environmental elements demonstration. Good practice examples stated by Latvian Agriculture policy are presented and tested «on the ground». The investments demonstrate a holistic, cooperative approach and lead to reduced nutrient losses from agricultural land to the watershed. The investments will decrease nutrient load to rivers on the pilot territories, and this is a concrete improvement to the water quality of those water bodies and coastal regions, but wider objective is to spread the results to the whole Baltic Sea Region. Reduction of nutrient flows from agricultural lands is a complex issue, and the holistic approach to flow and nutrient management on fields, soils and waters aims to develop and assess the most effective measures and practices for this. To scale up the impact of the project in leading to nutrient loss reduction and nutrient retention measures in other areas, the project communicates actively about the process of designing the measures and their results across the Baltic Sea Region.

Reasons for success:

- The results and experiences are sustained.
- The experiences are shared internationally and the project will transfer the experiences from the practical measures and the planning process across the national advisory service operations
- The efficiency of different agri-environmental measures and in particular sustainable drainage management. The project builds on the knowledge and understanding that measures to improve water quality in the agricultural context have to be integrated with the farm management and field drainage. In particular, it provides a setting to combine both environmental and productive goals, with the possibility of expanding the scope of measures in the adjacent landscape.

SWOT analysis



DVIETE LIFE

Demonstrates and promotes the use of complex Corncrake habitat restoration techniques (e.g. contract solutions) in degraded floodplain meadows, as well as raises the level of knowledge and involvement of landowners and local authorities in the environmentally friendly management of the Dviete floodplain.



Summary

LIFE+ project "Restoration of Corncrake habitats in Dviete floodplain Natura 2000 site " 2010-2015

The Nature Park and Natura 2000 site 'Dviete floodplain' was established in 2004 and covers an area of 4,989 hectares. It is one of the largest and best-preserved functioning river floodplains, and one of the most important breeding areas of the Spotted Crake, Corncrake and Great Snipe in Latvia. It is also a globally important stop-over site for waterfowl during spring migrations. The area and biological quality of Dviete floodplain grasslands have been remarkably decreased by alteration of the hydrological regime during the 20th century. Drained and abandoned grasslands overgrown with bushes, becoming unsuitable for the breeding of the Corncrake and other protected grassland bird species. Some measures have been taken to improve the conservation status of Corncrake (*Crex crex* in Latvia). For example, the straightened section of the river Dviete with a length of about 2 km has been restored in its natural hydrological regime of the flood plain favourable to the corncrake, by preventing overgrowth of the surrounding grassland and to increase the common biodiversity of the flood plain. Shrubs and trees on an area of at least 100 ha were removed in cooperation with the landowners to restore the corncrake's habitats - open floodplain grasslands. By removing shrub barriers, a continuous area of approximately 300 ha of corncrake habitat was restored. The contracts were signed in the project for the restoration of the meadows and grazing of biologically valuable grasslands.



Dviete floodplain landscapes before and after restoration of grasslands (24.05.2011. and 22.10.2015). Photo: E. Račinskis

Objectives

- Restoration of a straightened section of the Dviete River to its natural bed above Lake Skuķu to improve the hydrological conditions of the floodplain and prevent overgrowth of the meadows while restoring the historical floodplain landscape;
- Restoration of floodplain grasslands by cutting shrubs and trees overgrown with them;
- Establishment of grazing areas for cattle and horses in restored floodplain meadows for their subsequent maintenance in a state suitable for meadow birds

LAND TENURE



Land tenure after the implementation of a LIFE+ restoration project.

PUBLIC GOODS



Farmland biodiversity (Corncrake habitat)



Landscape and scenery

Dviete floodplain nature park, restoration of the hydrological regime of the meliorated floodplain.

LOCATION

COUNTRY



Ilukste and Jekabpils counties, Selija region, the south east part of Latvia

CONTRACT

It is a public-private-civil society contract (EU, landowners, Latvian Fund for Nature (LFN), Dviete Valley Parish Association)



Contract conclusion:
Written agreement



Funding/Payments:
The project was co-funded by EC LIFE+ programme and Latvian Environmental Protection Fund



Duration of LIFE+ project
2010 – 2015

Length land lease agreements for maintenance: Initially, the contracts were for a period of 4-5 years, now for 10 years

Problem description

During the 20 century, natural values of the Dviete floodplain suffered from the straightening of watercourses, drainage of wetlands, intensification of agriculture and later also the abandonment of grasslands. Parts of Dviete floodplains of former grasslands are overgrown with shrubs and trees, losing their importance to both grassland birds and migratory waterfowl. Shortly after the creation of the Dviete Floodplain nature park, a nature protection plan for the site was developed in 2005 as part of the LIFE project "Restoration of Latvian floodplain meadows for the conservation of EU priority species and habitats" (LIFE04NAT / LV / 000198; 2004-2008). One of the objectives of the plan was to restore the hydrological regime of the drained floodplain. This included restoring river bends in the floodplain following existing stretches of old riverbeds, and gradual downstream restoration. After the implementation of the project, the area needs to be agriculturally maintained under consideration of environmental aspects.

Data and Facts – Contract

Participation: 27 landowners are involved in this contract solution.

Area of implementation: The Dviete River is located in the southeastern part of Latvia with a total length of 37 km. Most of the river's flow (about 20 km), is located in Dviete ancient valley and Dviete floodplain nature park, and the water level and the area of flooded areas during the floods are determined by the biggest river of Latvia-Daugava.

Involved parties: The confirmation for the technical project by landowners- one of the most difficult stages of a project. This was done the company contracted by the LIFE project coordinator and landowners. The next stage contracts are for the restoration of the along the river.

The grassland restoration contracts between the Latvian Fund for Nature (LFN) and the landowners who carried out the grassland restoration included the requirement to maintain the restored areas. The farmers got reimbursed for their activities. In addition, land lease agreements or agreements on "grazing of biologically valuable grasslands" have been concluded between the Dviete Valley Parish Association and the landowners for grazing management. These contracts cover both grassland areas restored to pasture land within the framework of the LIFE + project DVIETE and areas pastured before the LIFE + project. Currently, contracts cover an area of 371 ha. Land leases have different periods of operation because they are not concurrent. Initially, the contracts were for 4-5 years, now for 10 years. When the cooperation agreement expires, a new contract is negotiated between the owner of the land and Dviete Valley Parish Association (DVPA).

There is an agreement between LFN and DSPA to maintain the results of the LIFE + project DVIETE. Under the agreement, DSPA commits itself organizing and implementing, over the next 20 years (until 30 September 2035), measures to maintain project results in restored grasslands managed by DSPA.

Location: The Dviete River is located in the southeastern part of Latvia, on the left bank of the Daugava (in Augšzeme), in the territories of Ilūkste and Jēkabpils municipalities. It has a total length of 37 km and a fall of 49 m (1.32 m / km; Pastors 1995). Most of the river's flow (about 20 km), from Kaldabruņa to the mouth of the river Daugava, is located in Dviete ancient valley and Dviete floodplain nature park. This part of the valley includes the Dviete and Skuķu lakes, as well as the lower Ilūkste floodplain. Riverbeds in the nature park have been historically regulated several times (Indriksons 2008) during the melioration in the century. Dviete and its riverbed Ilūkste form part of the largest natural floodplain system in Latvia, which affects the Daugava floodplains, their volume and duration (Škute et al. 2008). The hydrological regime of Dviete floodplain, the water level and the area of flooded areas during the floods are determined by the Daugava (Gruberts 2004, 2015). Floodplain floods are mainly due to floodwaters flowing into the river Dviete upstream from the Daugava.

Requirements for farmers: Do not damage or destroy (also by plowing or cultivating) floodplain and terrace meadows, drain wetlands, no reforestation by planting or sowing and afforestation or not allowing natural afforestation of agricultural land, only- restorative mowing and grazing.

Controls/monitoring:

- Corncrake habitats
- Plants monitoring
- Hydrological monitoring

Risk/uncertainties of participants: The project also showed that small and fragmented land properties can make large-scale management difficult. The main disadvantage of the LIFE + DVIETE project in terms of cooperation with landowners was the fact that no written support agreements for the implementation of the project activities were already in place during the project preparation. Instead, the project team made the mistake of relying on the good faith that most of the landowners in the Dviete floodplain were (and will continue to be) supportive to the project's intentions. However, the bitter experience of subsequent events has shown that one landowner who refuses to cooperate may be sufficient to significantly influence the course and outcome of the project.

It is important to note that the technical project for river restoration developed by the LIFE + project DVIETE also includes a separate appendix, which was not renewed due to one landowner. Since the original technical design for the restoration of the river's natural stretch of 2.3 km also included this fragment in full, further efforts to fill this unfinished gap would benefit from the work already done. The main planned restoration work for the alternative route is as follows: length 600 m, excavation of the bed 2263 m³, two/bed embankments (240 m³) and construction of one reinforced beam.



Dviete floodplain landscapes before and after restoration of grasslands (11.11.2011 and 21.03.2012). Photo: E. Račinskis

Context features

Landscape and climate: After the restoration of the Dviete River section above Skuķu Lake, the landscape of the floodplain has changed significantly. The river is partly restored into its historic curves and, together with the open grasslands restored under the LIFE + project DVIETE, and **regained its former shape** when the floodplain was used for traditional agriculture - mowing and grazing.

Farm structure: As a result of the project activities, the landscape of the Dviete floodplain has undergone significant changes, and monitoring of breeding corncrakes indicated that their population in the project area was on the increase. For the restoration of grasslands in similar floodplain areas it is recommended to implement a complex of restoration measures used in the LIFE + project DVIETE - shrub and tree felling, stump milling and grazing, varying the proportion of each operation as necessary.

There are still quite several active farms in the area, mainly on the banks of the Dviete Valley and the Ilukste Valley, which are engaged in livestock farming. The largest livestock herdsmen here are the Zemgale Ltd and Skaidrite cooperative societies in Pilskalnes parish, the Bebrene vocational secondary school in Bebrene and the farm Mežare in Rubene parish. These farms use the Dviete floodplain meadows for both mowing and grazing livestock.

In the Dviete parish's south-eastern part (Sosnovka), on the terrace of the headwaters of the Daugava between the lower reaches of Ilukste and the Daugava there are large fields used for cereal production and attracting large numbers of migrating geese every year. Potatoes, fodder beets, etc. vegetables also are grown in small areas near the villages and farmsteads of Dviete and Bebrene. Elsewhere, floodplain meadows are mainly used for hay mowing.

Although most of the area is privately owned, some of the land is also owned by municipalities. A small part of municipal land is leased to local people for agricultural purposes, but most of it is currently unmanaged.

The experience of the LIFE + project DVIETE has shown that timely information and involvement of landowners in the planning and implementation of nature management activities is crucial. Even with relatively few land properties could happen that cooperation is impossible. At least part of the problem could be solved by the agreements with the landowners already made before the start of the project on the implementation of the measures planned in the project.

SUCCESS OR FAILURE?

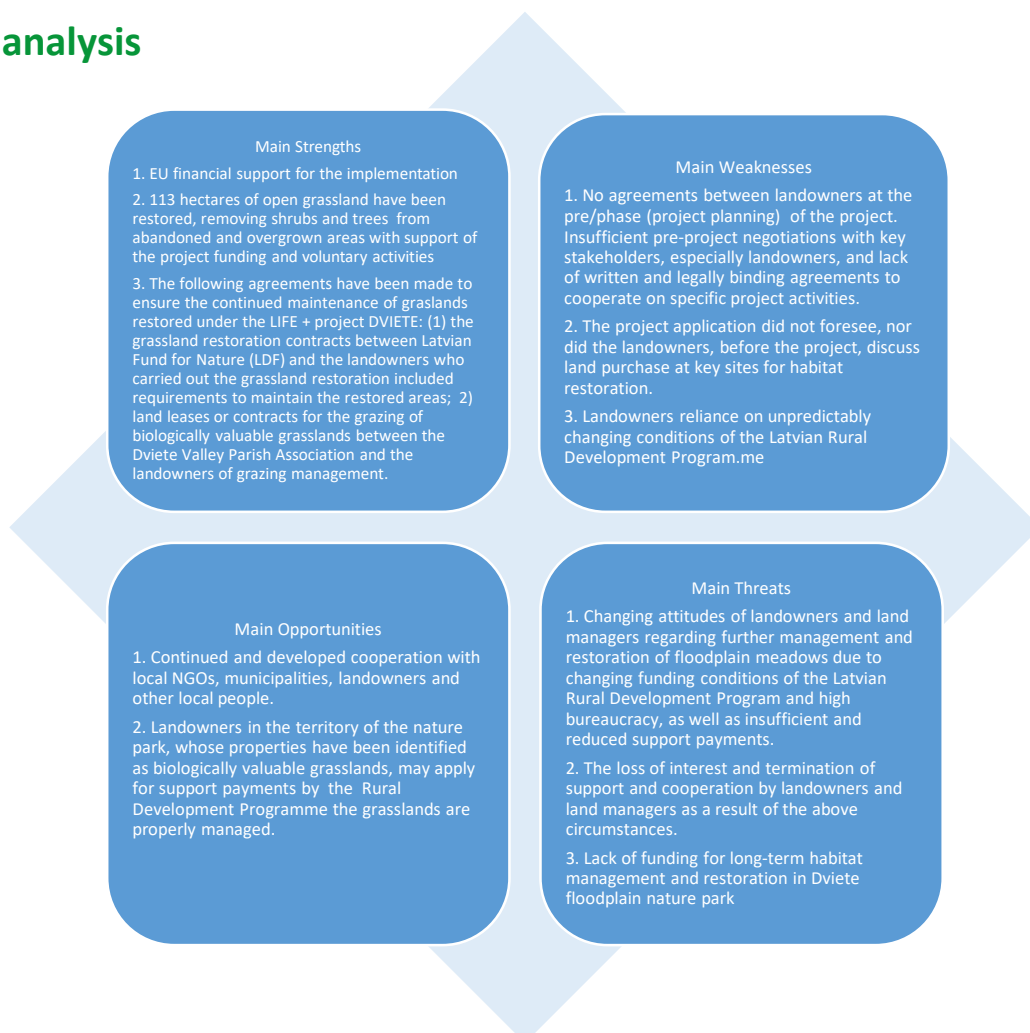


Showcase of success and failure. The future of Dviete floodplain grasslands, as in other parts of Latvia, is largely dependent on the amount of RDP funding available - the amount of the support payment and the conditions for maintaining biodiversity on grasslands along with access to other payments (eg. single area payment), as well as support opportunities for other economic activities (rural tourism, organic farming) that promote the existence of viable farms. Unfortunately, the conditions for these payments and the amount of aid are very variable.

Reasons for success:

The experience of the LIFE + project DVIETE has shown that timely information and involvement of landowners in the planning and implementation of nature management activities is crucial. Even with relatively few landowners could refuse the cooperation. At least part of the problem could be solved by pre-project contracts with landowners to carry out the activities planned in the project.

SWOT analysis



Bauska Nature Park tidy up of territory

A good practice example for the motivation of environmentally friendly activities supported by the local authority.



Summary

Investment in public property of Bauska local municipality adjacent to private person's property is promoted by regulations on real estate tax rebate. The landowners can apply for a reduction of the real estate tax in order to tidy up the bordering territories, to improve sidewalks, construction or reconstruction of streets, children's and sports grounds, water parks, sewerage systems etc. The Bauska County's natural environment is a resource of active recreation and tourism. The Bauska County has several particularly protected areas, and the nature park „Bauska” (NATURA 2000 – EU protected natural area of 892.9 ha) is the most important of them, and there are also several natural monuments and natural restricted areas.

Objectives

1. To bring new ideas and insights to the development of the area, improve the landscape and the environment valuable experience.
2. To promote the formation of the landscape of the local authority and the maintenance of the territory.
3. To stimulate the active participation of landowners in the maintenance of clean and tidy local authority territory and creation of good environment.



Problem description

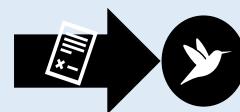
Unfortunately, there are several landscape degradation objects in Bauska - abandoned buildings, ruins, overhead transmission lines. It is desirable to remove objects degrading the environment and to plant rows of trees to cover building and environmentally degradable objects. Potentially landscaped areas where serious work is still needed to improve the landscape and the environment. In this area it is necessary to cut bushes, where it is necessary to level the terrain by removing scraps, preserving and creating ponds. In many places, the landscape is defaced by old ruins of agricultural or industrial structures, as is the case on the right bank of the Ceplis and Jumpravmuiza manor, as well as by shrubs.

Data and Facts – Contract

Participation: The Bauska local authority is located in the central part of Latvia and Zemgale region, bordering the Republic of Lithuania, Iecava, Vecumnieki, Rundāle and, Ozolnieki. The area of the county is 786.7 km², of which 6.14 km² is occupied by the city of Bauska. Forest areas occupy 17837.7 ha, agriculture utilized land 52970.5 ha.

Involved parties: Local authority paying the tidy up of territory.
Landowner - reimbursement for the tidy up of the territory.

RESULT-ORIENTED



Eligibility is a practice - based payment by the result based scheme.

PUBLIC GOODS



Landscape and scenery

INDIRECT EFFECTS

Encourage entrepreneur activities: reduce agriculture unused land, promote tourism. Social effects - the neighbors', when they see the adjacent area being tidied up, are also beginning to pay more attention to the improvement of their area.

LOCATION

COUNTRY



Bauska Nature Park located near the boarder with Lithuania.

CONTRACT

It is a public-private contract between local authority and landowners.

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments

The financing party is the local authority.



Funding/Payments:

The payment is coming from the local authority. When somebody wants to perform tidy up activities on the territory of the local authority, first he needs to agree with the authority staff, then prove the expenses (eg. fuel, excavator costs, etc.) then is coming the delivery-acceptance document and the costs are recovered.



Length of contract:
1 year

Start of the program:
2013

End: ongoing

Management requirements for farmers: The landowners should follow the binding regulations of the Bauska local authority and Nature Protection plan of Nature Park Bauska.

Controls/monitoring: The results are monitored by Bauska local authority.

Risk/uncertainties of participant: Managerial risk- the landowners do not get reimbursement if they have not followed the binding regulations: applied for reimbursement, presented the works justified documents etc.

Environmental – Nature Protection Plan of Bauska Nature park defines the territories in which the work could be done without asking alignment with Nature Conservation Agency and in which territories the activities should have approval from Nature Conservation Agency.



Context features

Landscape and climate: In the junction of Mūsa river and Mēmele river, where the great Lielupe River forms, there are many beautiful castles, and the Nature Park “Bauska” has been established for the protection of natural as well as cultural and historical heritage. It unites the most important outcrops of calcareous earth in Latvia in a single protection complex, preserves wilderness of parts of Mūsa river, Mēmele river, and Lielupe River, includes important spawning grounds of river lampreys and vimba fish and habitats of bats and hermit beetles of deciduous trees. In other words, many unique values can be met here, in the area of a little bit more than 1,000 hectares!

The Nature Park “Bauska” forms not only a natural value, but it also is a very rich territory in terms of cultural and historical value. One of the most beautiful castles near Bauska is Mežotne Castle, which is proud of its special castle mound. It has been made on the left bank of Lielupe River, opposite to Mežotne Castle, and just like in movies, it is protected by an 8-metre tall rampart and a moat. It is believed to be one of the biggest Ancient Semigallians’ fortifications where nowadays Mežotne Castle Mound Festival takes place on the third Saturday of May. A legend says that a Semigallians’ port had been here. Mežotne castle mound and Vine hill are connected by a wooden footbridge going along the bank of the old valley of Lielupe River. From May to October, Mežotne castle mound and Mežotne Castle are connected by a small pontoon bridge across Lielupe River allowing the easier reach of objects in both banks of the river.

The rich world of the Nature Park “Bauska” can be discovered also during a cycle tour that leads cyclists from Bauska along Lielupe River and allows seeing the nearby castles, Bauska Castle, Rundāle Castle, and Mežotne Castle, as well as other objects.

Farm structure: In the area of entrepreneurship, Bauska County is most associated with agriculture for local residents and guests. It must be accepted that the development of the agricultural sector in the region is an essential precondition for the sustainable growth of the territory, however, alongside traditional agriculture, the production, construction, transport, and service, as well as retail companies are successful in the region.

In total, in 2018, there were 2,004 economically active companies currently registered in Bauska local authority, of which 41% are limited liability companies, 38% are farms, 9% are associations, as well as sole proprietorships.

SUCCESS OR FAILURE?



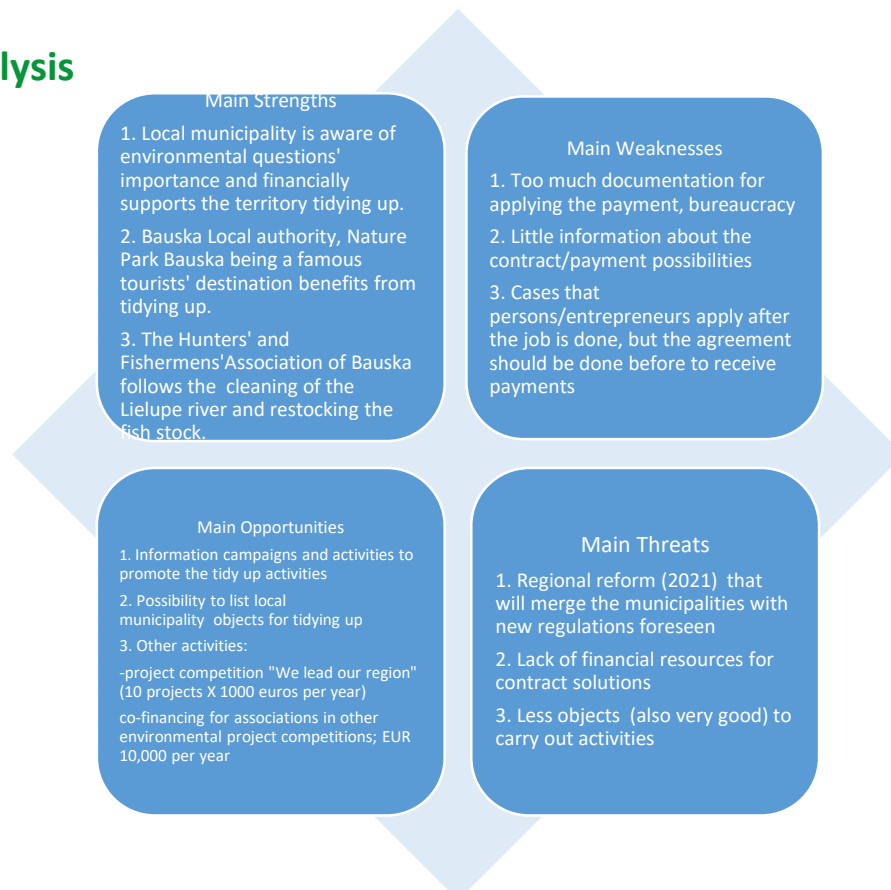
It can be classified as a successful contract solution.

Practically local landowners are hampered to take advantage of this opportunity as they need to prepare a large number of documents before starting work. The municipality, through EU projects, concludes contracts with local businesses (farmers/landowners) to clean up the area. Also, the Hunters' and fishermen's association of Bauska announces tenders for entrepreneurs to clean the Lielupe river bed.

Reasons for success:

- It is innovative support for the tidy up of the territory – stimulation of active participation of landowners in the maintenance of clean and tidy local territory and creation of clean environment.
- The landowners can apply for a reduction of the real estate tax.
- The allowed/restriction activities are clearly defined in nature protection regulations.

SWOT analysis



Forest Management

Contractual agreements (cooperation) are concluded with forest owners on a voluntary basis for the organisation of seminars and practical training for other forest owners, students, etc. Topics of sustainable and environmentally friendly forest management are dealt with.



Summary

The forest management demonstration plots of the Pasaules dabas fonds (associate partner of WWF Latvia) have different owners, but their views on the forest are similar. Here, forest owners work for the benefit of the present values while retaining the ability to exploit the vast forest values of tomorrow. There are three demonstration areas:

- "Kalna Gavnieši" in Skujene parish, Amata municipality of Vidzeme region;
- "Lejas Kleperi" in Launkalne parish, Smiltene municipality of Vidzeme region
- "Pūpoli", the territory forms the farm "Pūpoli" in Kurmene parish, Vecumnieki municipality and the farm "Alksnāji" in Mazzalve parish, Nereta municipality, and the farm "Renderi" in Jaunjelgava parish, Jaunjelgava municipality of Zemgale region

The demonstration areas differ in size, forest stand and natural conditions. Through contractual agreements (cooperation) with forest owners on a voluntary basis, seminars and internships are organized for other forest owners, students, etc. to maintain the forest and not to cut down all trees, to manage the forest in an environmentally friendly way and also to achieve economic benefits. There are about 5-10 events per year with a total number of 200-300 participants.



COOPERATION



PUBLIC GOODS



Biodiversity –
Enhancement of
biodiversity by forest
management
Social collaboration

LOCATION

COUNTRY



Demonstration areas:

1. "Kalna Gavnieši" in Amata municipality of Vidzeme region;
2. "Lejas Kleperi" in Smiltene municipality of Vidzeme region
3. "Pūpoli", the territory forms the farm "Pūpoli" in Vecumnieki municipality and the farm "Alksnāji" Nereta municipality, and the farm "Renderi" in Jaunjelgava municipality of Zemgale region.

Purpose

- To promote responsible and honest management of privately-owned forests in Latvia.

Objective

- To improve the knowledge of forest owners about responsible forest management.
- To ensure the distribution of demonstration territory experience and management practice in private-owned forests.

**Pasaules
Dabas
Fonds**
sadarbībā ar



CONTRACT

Public – private – civil society contract

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments

Financing party:
Government (with EU-funding)



Length of participation in scheme:
No termination



Start of the program:
2011
End: ongoing

PARTICIPATION

- Demonstration areas- 3
- Collaboration experience 10-20 years
- Participation – 300 (annually)
- Area – 1000ha, 87 ha, 23 ha

Problem description

Balancing social and economic needs with nature is a challenge. The effects of climate change need to be reconciled with the characteristics of today's market, the growing demand for wood, the preservation of biodiversity and the necessary green solutions for energy supply. Society's needs for forests are also growing. These - the challenges of the past decade - must be addressed in a multi-purpose forestry program. The education system of the forest owners, the forest workers, shall ensure the acquisition of knowledge about the adaptation of forests as a natural system and economic activity to the processes and characteristics of the natural system. Knowledge of the wide range of forest ecosystem services, public interest and business sector responsibilities. It is from the nature of the natural forest ecosystem and the public interest that the goods and services on which Latvia's forests are based, and on what value, should be derived. Without denying the role of wood as a renewable natural resource in the economy, it is necessary to find a compromise in forest management - balancing social and economic needs with what is happening in nature. It is wrong to regard forests as agricultural crops, thus equating forest management models. The average risk of forest damage is higher in silvicultural forestry than with continuous cover or selective cutting methods in forestry. Types of risk include fungal diseases, malnutrition, strong winds and rodent damage. However, the calculations of the likelihood of risk vary considerably. This is due to the fact that in the clearcut management method, the money invested to create and maintain new stands after clearing will not be recovered until the forest is felled and the timber is sold.

Data and facts - Contract

Participation: Three farms are involved in the forest management project, about 300 people annually participate in the seminars and the area of the farms are 1000ha, 87ha, 23ha respectively. Cooperation is based on a cooperation agreement.

Involved parties: The contracting parties are the Pasaules dabas fonds and the three demonstration farms.

Management requirements: The contract is managerial about the performing activities. Managerial activities lead to environmental solutions.

Controls/monitoring: Self-monitoring of the growth of the wood, trees growing, diseases, insects.

Renewal / termination: no regulations

Conditions of participation:

- Pasaules Dabas Fonds supports establishment of infrastructure and provide facilities for seminars;
- Pasaules Dabas Fonds supports and organizes demonstration territory owner training;
- All forest management activity in the forest is economically justified by the demonstration territory owner and does not receive financial support from Pasaules Dabas Fonds;
- Pasaules Dabas Fonds does not offer owners financial compensation for time spent organising/managing seminars.

Risk/uncertainties of participants: Risks of the long term cooperation, risk that there are too many participants and high interest from target groups in the forest farms.

Funding/Payments: State funding, private funding, EU project support (in collaboration with Latvian Rural Advisory and Training Centre). In some periods, there is no external funding for educational activities in demonstration areas, then the costs are covered by Pasaules Dabas Fonds.

Requirements: Non-clear cutting methods, as opposed to widely used clearcutting, is more environmentally friendly and often more beneficial to the owner than the opportunities and risks of random felling. During the seminar, participants will be able to ask questions and discuss own experiences. The method of avoiding clear cut allows to obtain money from the forest all the time without diminishing its value. Practically, anyone can see the demonstration areas. Interested forest owners will be able to learn about different types of forest growing conditions, and listen to interesting experiences. Examples of good forest management practices to demonstrate adaptive forestry practices that promote forest value are shown. To stop and prevent unsustainable forest management leading to forest degradation, depletion of forest resources in Latvia. Full-time forest owners.



Demonstration area "Kalna Gaviesi"

The area is located in Skujene parish, Amata region of Vidzeme region. The farm is well-developed for firewood trade, pond farming and beekeeping. Forest is about 1000ha, divided into several properties. The demonstration area was established in 2003. In spring 2001, 160 ha of forest were certified according to FSC standard requirements. These 160 ha include areas that have been fully preserved for natural development and where no economic activity is planned, such as broadleaf, spruce forest on the Amata slope, old spruce forest.

Demonstration area "Lejas Kleperi"

The territory is located in the Launkalne parish, Smiltene municipality of Vidzeme region. The farm is owned by a family and has a local history, forest museum. The total area of the farmland is 119,4ha including 86.1ha forests. The demonstration area was established in 2004. Due to the hilly terrain, the farmland is used mainly for grazing and hay production. Inferior agricultural land is gradually being naturally forested. Forest management is carried out, using the equipment from the farm. The area depicts the use of random felling, planning, care felling.

Forestry demonstration area "Pūpoli"

The territory is made up of Kurmene parish farm "Pūpoli" in Vecumnieki municipality, Alksnāji farm in Mazzalve parish in Nereta district and Renderi farm in Jaunjelgava parish in Jaunjelgava municipality. The demonstration area was established in 2012. The total area of participating farms in the demonstration area is 37.6 hectares. Out of these, 23.2 hectares are covered by forest land. Deforestation of overgrown agriculture land is not planned in the future.

Context features

Landscape and climate: Unfortunately, despite the ecological, economic and social benefits that the forest brings to us as human beings, deforestation in the world as a whole continues to progress at a tremendous pace, with 13 million ha of forests being destroyed every year, with irreparable consequences for the climate. The forest ecosystem accounts for one third of the Earth's terrestrial area. In Europe, forests account for more than 44% of the country's continental territory and, apart from traditional timber and other forest products, provide many benefits to European society and the environment, including clean air, clean water, homes, over 80% of terrestrial biodiversity, and nature protection against climate change. Sustainably managed forests not only provide us with environmental benefits, they also maintain sustainable economic development and growth, creating green jobs through climate friendly and renewable raw materials. Forests provide livelihoods for millions of private forest owners as well as budget revenues. Sustainable management of Europe's forests is implemented by the Europe 2020 Strategy: "Innovation for Sustainable Growth: A Bioeconomy for Europe", the latest "Climate and Energy Program 2030" and the "EU Biodiversity Strategy 2020". To manage following the principles of sustainable forest management and to reduce deforestation globally by 2020, all countries were encouraged to take local, national and international measures.

Farm structure: Two farms are located in the central highlands of Vidzeme and one in southern Latvia in the lowlands of Central Latvia. Forests in Latvia have a great variety of natural conditions, which are more pronounced in the alternation of hills and valleys and the diversity of soils. In the central part of Vidzeme spring is a few weeks later than in other parts of Latvia, the rainfall is also higher.

A small proportion of the forests in the demonstration areas exists since 100 years. Most have developed over the past 40 to 70 years. Demonstration areas include both artificially forested grasslands and pastures with coniferous cultures of the same age and natural forests of different tree species at different ages.

SUCCESS OR FAILURE?

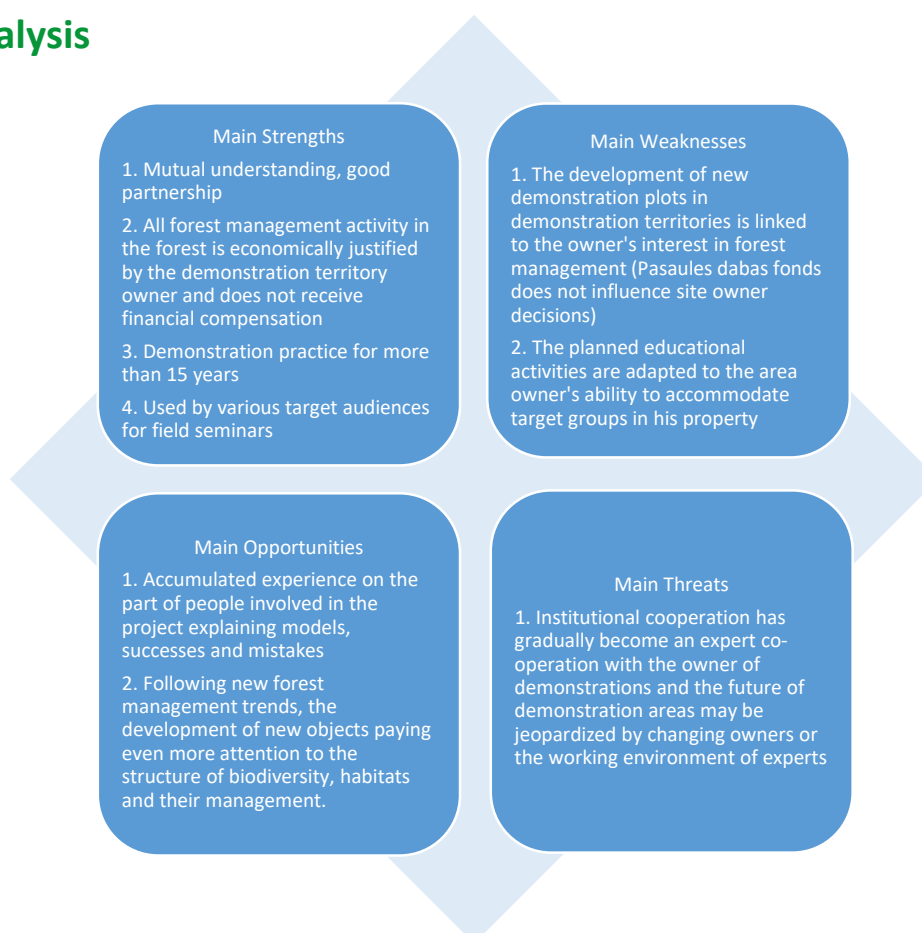


Successful collaboration experience with demonstration site owners 10-20 years, demonstration of practical, environmentally friendly forest management in private forestry.

Reasons for success:

- Formulation and analysis of an idea to a successful goal.
- Evaluation of potential demonstrability.
- Identification of cooperation partners.
- Analysis of target audiences.
- Selection of demonstration areas, incl. applicability of site owners.
- Integration of the results of the demonstration project into a wider goal realization.

SWOT analysis



Kromme Rijn Collective management

In the Netherlands, the implementation of agri-environmental measures and nature conservation measures in farmland is partly arranged collectively, where local cooperatives arrange and execute measures. The Kromme Rijn is a region in the Dutch province of Utrecht, where such a cooperative is active. It executes agri-environmental management and there are a few volunteer groups e.g. involved in pollarding willows.



Summary

Collective implementation of agri-environmental management has been started up throughout the Netherlands since 2016. After individual management had proven to fail to deliver the desired agri-environmental-climate public goods (AECPGs), a larger-scale implementation of agri-environmental management was considered a more feasible and promising solution. In the central Dutch province of Utrecht, a wide variety of AECPGs is required by society and farmers. This includes improvement of water quality, enhancing and emphasizing the landscape diversity that supports recreation, and providing a habitat for species including bats and owls. In the eastern half of the province, the Kromme Rijn region, the “Agrarisch Natuur Collectief Utrecht Oost” (agricultural nature collective Utrecht East) organizes the large-scale nature management. Land owners are members of the collective, which organizes payment for specific nature management actions performed by farmers, monitors, and brokers between land owners and organizations / companies that implement some specific nature management actions, based on a common regional management plan. The collective is certified by the national certification institute for agri-environmental management and has its own quality assurance controllers.

Objectives

Objectives are set by the provinces. In the case of Kromme Rijn, the province of Utrecht defines targets in its annual nature management plan. Defined are targets for nature, landscape, agricultural nature and landscape management. Landscape management targets at fostering landscape diversity. The ANLM aims at maintaining landscape elements: characteristic on the levees are tree lines, small patches of forests, wooded banks, ponds, and small traditional orchards. The lower and wetter part of the region. Langbroekerwetering, contains small patches of wet species-rich grasslands that are extensively managed through mowing, combined with tree lines and small fields. Creating habitat for amphibians, including the great crested newt, for several owls, and several bat species. Creating habitats for threatened species of extensive traditional arable lands.



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Problem description

Agri-environmental management has been introduced in the Netherlands in 1975. 1000 km² were assigned as agriculture-nature area and managed by nature organizations, another 1000 km² included “normal” farmland, on which farmers planned their farmland and management practices in a nature-friendly way. Since the year 2000, it became increasingly apparent that farm-level agri-environmental management was not effective, because target species required a larger mosaic of land use and land cover than can be provided on a single farm. In 2016, agri-environmental management by nature collectives has been introduced by the Dutch government.

COLLECTIVE



PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Soil
quality
(and
health)



Water
quantity



Water
quality



Cultural
heritage



Recreational access /
Improvements to physical
and mental health

CONTRACT

Financing party:

Government (with EU-funding)

It is a public-private contract (government - collective – farmer).

Contract conclusion:



Written agreement

Payment mechanism:



Compensation payments: Measure-based, unit based (per meter or piece)
Basic and premium payments

Length of participation in scheme:

all contracts run until 31 December 2021

Start of the program:

2016

End: ongoing



Advantages of participation

- *Province*: easier subsidy allocation because of dealing with fewer partners; better nature management
- *Farmers and other land owners*: fewer administrative barriers
- *Private nature management companies*: better contracts for nature management

Data and Facts – Contract

Participation: The agricultural nature collective *Utrecht East* has approximately 300 members, who are farmers, estate owners, and other private land owners. The collective manages the Kromme Rijn, Utrechtse Heuvelrug, and the Utrecht part of the Gelderse Vallei regions, altogether approximately 500 km².

Involved parties:

- *Province*: defines the areas eligible for agri-environmental management; sets the goals for nature management
- *Collective*: makes the province level nature management plan operational by specifying management actions for specific areas; brokering with regard to implementation of plans; applies for and distributes funding
- *Farmers and other land owners*: performing part of the management
- *Private nature management companies*: performing part of the management

Management requirements for farmers: There is a catalogue of measures that farmers can or should apply. These are specified as management requirements. For example, using specific seed mixtures for herb rich field boundaries supplied by the collective or the pollarding frequency for willows.



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Funding/ Payments:

- Collectives ask for subsidy at the province, based on a province-level nature management plan and an agri-nature management strategy developed by the collective as a response to the province plan. Provinces set a cap on the subsidy level for different sub-regions and different nature targets and provide the funding to the collective. The collective pays the actor that does the management. In many cases, that will be the farmer, but in other cases this is a private company that e.g. cleans ditches in an environmentally friendly way.
- The province level cap to the Utrecht Oost region is 833 k€, split up into 675 k€ for grassland and small natural elements, and 158 k€ for water.
- Payments are vary for different nature elements and for different implementation levels.
 - For part of the measures, payment is area based. This e.g. applies for meadow bird friendly management, botanically special grassland, bird feed croplands, or herb rich croplands. Payment ranges from 115.55 €/ha for the application of dry animal manure, to 2527.39 €/ha for establishment of species/herb-rich cropland field margins with a special seed mix on clay soils.
 - Another part of the measures is payed for per meter. This applies e.g. to ditches, hedgerows, and tree lanes. Payments vary between €0.10 per meter for ecological ditch cleaning to €5490.48 per hectar and year for hedgerow management.
 - Some measures are paid per piece. E.g. small pools or individual trees. Payment ranges between €2.52 for a <20 cm diameter tree to €105.85 for a large pool / pond.
- Some of the measures have basic and premium levels. Depending on the tree age, or the frequency of growing cereals on croplands, or the tree coverage, payments can vary up to a factor 3 between the basic and premium levels.
- Payment modalities: The collective receives payment from the Netherlands Enterprise Agency. This needs to be requested before May 15 and is paid annually, through a bank transfer.

LOCATION

NETHERLAND

The specific collective in focus, Utrecht Oost, is active in the eastern two-thirds of the Utrecht province, NUTS2 region NL31. The contract solution is implemented in the whole country by 40 different collectives that deal with province-specific nature development plans.

Data and Facts – Contract

Contract feature combination: Subsidies for a few specific agri-environmental measures are result-based. For example, subsidies for botanical grasslands are only provided upon the presence of 4 (out of 72) indicator species.

Risk/uncertainties of participants: A few of the measures are monitored based on results, meaning that a risk of not reaching the objectives can emerge.

Indirect effects: The management packages of which the collective is in charge do not aim at carbon sequestration and reduction of greenhouse gas emission, but this is a side effect. Furthermore, resilience against floods might be improved by setting aside land for water storage or maintaining or establishing small landscape elements. Finally, farm animal health might benefit from an increased density of shade trees in grazing lands.

Controls/monitoring: Provinces and national government are in charge of monitoring the ecological effects of agri-environmental management. This is delegated to NGOs that do regular species monitoring and provide data to the National Flora and Fauna Database. Monitoring is performed by trained volunteers. Indicators used are trends of target species in comparison between areas with and without agri-environmental management. Collectives themselves monitor if the agri-environmental management that has been agreed on is implemented. A special committee is in charge of this monitoring. Indicators used are binary; assessing if the measures are implemented or not. The Dutch Food Safety Authority (Nederlandse Voedsel- en Warenautoriteit, NVWA) inspects at least 5% of the agri-environmental management in the field.

Renewal / termination: The contract can be terminated during the term through a registered letter. This can be done if both parties agree, by the collective in case of non-performance (either quantified result-based or effort based) or if the participant in the collective receives subsidy elsewhere for the same measures as specified through the collective, or by the participant if the collective fails to commit to its payment duties.

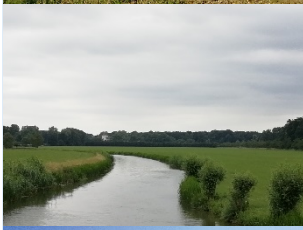
Conditions of participation: All farmers in a specific area can join the collective and a collective exists of a minimum of two farmers. There is a detailed catalogue that describes the different management actions that can be performed. Some are specified result-based, some are specified action-based. There is a monitoring scheme. Non-compliance can lead to termination of the contract.

Links to other contractual relationships: The package of measures consists of the basic AEMs, but contains a considerable province level top-up. Province funding in some cases is compensated by a decrease of CAP greening funding.

Context features

Landscape and climate: The regions included in the collective management include (1) Kromme Rijn; (2) Gelderse Vallei; (3) Noorderpark, and (4) Soest. 1, 3, and 4 are peri-urban areas while 2 is a more remote agricultural area. Utrecht province is characterized by a temperate climate with mild winters and summers, and approx. 800mm of precipitation annually. Soils are sandy in Gelderse Vallei en Soest but also clay soils are common. Kromme Rijn region is characterized by a small tributary of the Rhine river. Gelderse Vallei, Noorderpark, and Soest are dominated by grassland with a relatively high density of tree lines. This also applies to most of Kromme Rijn, where 18th and 19th century estates have created a varied landscape. The river levees are in use as fruit orchards.

Farm structure: All farmers and private land owners can join the collective. The region is characterized by a mix of livestock farmers who almost exclusively focus on dairy, and fruit farmers. A few pig farmers and arable farmers are present as well. Dairy farms are on average 40 ha, fruit farms 12 ha. 6% of farms is organic. Farms are very intensively managed. Most farmers are fulltime farmers.



SUCCESS OR FAILURE?



The collective agri-environmental management solution can be considered being successful because of the high participation in collectives. Nevertheless, many environmental and landscape problems still are apparent, and because of the short runtime, it isn't obvious yet if this solution will yield results in terms of species abundance or landscape quality. The contract solution allows for a targeted portfolio of measures that enable optimal solutions for each farm, and the 5-year term allows for real improvement of the situation.

Reasons for success:

The contract solution matches the scale of public good delivery. In previous contract solutions for nature management in agricultural land, it was observed that farm scale implementation doesn't deliver the expected results because of the fragmented implementation. The collective implementation takes away administrative burden.

SWOT analysis



Green Deal Dutch Soy

Parties in the Green Deal Dutch Soy aim to explore the suitability of soy varieties for soy production in the Netherlands. They strive for a viable soy production sector in the Netherlands and target at expanding the harvested area of soy to 10 000 ha per year.

Summary

The Green Deal Dutch Soy is a contract between national government, regional governments, a soy processor / feed producer, and farmers. They aim at establishing a viable production chain for soy in the Netherlands, by identifying the most suitable varieties and ensuring a solid soy production volume that allows a viable chain, with fair prices for soy farmers. Being a legume crop, soy can sequester nitrogen in the soil, with that reducing the need for fertilizers in the follow up crop and benefiting soil quality in the long run. Furthermore, increasing the soy area in the Netherlands can have a positive impact on biodiversity. The Green Deal Dutch Soy is a set of non-binding commitments. .

Objectives

The Green Deal Dutch Soy aims to realise 10 000 ha/year harvested area and an average yield of at least 3500 kg/ha.



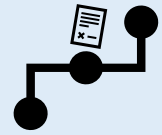
Problem description

Green deals have been established in the Netherlands to stimulate entrepreneurship and to enable entrepreneurs and societal partners to test and implement green solutions in a bottom-up, solid, quick, but robust way. They aim to overcome bureaucratic and related time consumption barriers that normally hamper innovation. The specific Green Deal Dutch Soy specifically responds to the unsustainable soy production standards in the current Dutch trade partners for this crop.

Data and Facts - Contract

Participation: The Green Deal Dutch Soy is a contract between the national government (ministries of Economic Affairs, and Infrastructure and Environment), the province level governments (Friesland, Groningen, Drenthe), and a feed company (Agrifirm) that has contracts with soy producing farmers. In 2018, 91 farmers harvested 475 ha of soy.

VALUE CHAIN COLLECTIVE



PUBLIC GOODS



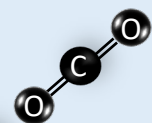
(Farmland) biodiversity



Soil quality (and health)



Climate regulation - carbon storage



Climate regulation- greenhouse gas emissions



Quality and security of products

CONTRACT

Financing party:

It is a market sector-oriented contract solution.

It is a public-private contract.



Contract conclusion:

Written agreement



Payment mechanism:

Product price



Length of participation in scheme:

1 year

Start of the program:

2016

End of the program:

2019

LOCATION

NETHERLAND

Throughout the Netherlands

Data and Facts - Contract

Involved parties:

- *Governments, national and regional:* are key discussion partners for legislative and regulation issues. In this contract, dedicated administrators are in close contact and provide easy access for the other partners.
- *Soy processor:* is the key partner in setting up value chains, and in experimenting with specific processor – farmer contracts. They provide support to farmers through establishing knowledge exchange with regard to soy and provide practical support through brokering for seeds, inoculation, and management tools.
- *Farmers:* shifting to soy and expanding their soy production leading to crop diversification.

Advantages of participating:

- *National government:* increasing independence with regard to fulfilling soy demands
- *Regional government:* increasing rural viability
- *Soy processor:* increasing independence with regard to fulfilling soy demands, higher quality soy, decreasing transport costs, more reliable soy chains
- *Farmers:* increasing soil quality, more stable sales, higher income

Management requirements for farmers: The farmers need to use non-GMO seed, and have to comply with hygiene related conditions.

Funding/ Payments:

The relation between governmental parties and the market party is one of non-binding, non financial agreements. Additionally, the soy processor has established contracts with soy growers. This is done through a “soy pool”, framed as a collective contract. At the start of the growing season, a contract between Agrifirm and the farmers is established, where price is set based on global market prices. A premium for non-GMO soy is given. The pool price is €500-550 / ton dry beans.

Controls/monitoring: The processor controls the end product.

Risk/uncertainties of participants: The processor and the farmers agree on an area sown with soy and on a price per ton. Yields are of course uncertain, which makes costs and income uncertain for processor and farmers.

Conditions of participation: No minimum and maximum number of participants was defined. A clear list of requirements with regard to the soy bean quality is established. Consequences of non-compliance are not outlined, but there is a disputes committee.

Context features

Farm structure: Soy can be included in several arable rotations. The contract solution is therefore open to arable farmers. These currently use rotations dominated by wheat-sugar beet – maize – grass. There is no data available on the number of organic farmers, but anecdotal evidence suggests that pesticide control requires non-organic practices. The farms currently included in the contracts are on average 5.2 hectares.



SUCCESS OR FAILURE?



The contract solution targeted at 10 000 ha of soy by the end of the Green Deal Dutch Soy. This target has by far not been met. The contract also targeted at 2020 kg protein produced per ha. In 2019, the top 25% farmers achieved 1376 kg protein. The contract solution can therefore be considered as not fully successful. However, there's an increasing trend in the area and the number of farmers participating, and apart from a low yield in the extremely dry year of 2018 trends in yields are also positive.

Reasons for failure:

1. Lack of insight in what the best soy cultivars are
2. Lack of insight in the best management practices
3. Despite the commitment of government in providing experimenting space, regulatory barriers with regard to including a novel crop are still considered high.

SWOT analysis



Biodiversity monitor for DAIRY farming



The Biodiversity Monitor is a results-based methodology to measure and reward the performance for biodiversity (including soil, landscape, environment and climate) per dairy farm in the Netherlands. The scores per farm on biodiversity-stimulating key performance indicators (KPIs) can be used as the basis for new revenue models. In this way, ecosystem-based dairy farming can be stimulated.

Summary

The Biodiversity Monitor for dairy farming is a result-based methodology, with a primary focus on the public good biodiversity (including strong links with soils, landscape, environment and climate). The aim of the methodology is to make biodiversity-enhancing performance per dairy farm measurable. In this way we can benchmark farms and allow multiple stakeholders to reward positive biodiversity performance. These stacked financial rewards should lead to new revenue models for ecosystem-based dairy farming. As a consequence, it will stimulate farmers towards more sustainable production practices. The methodology is developed by WWF-NL, Rabobank and Duurzame Zuivelketen (sustainable dairy initiative); in collaboration with scientists, experts, and stakeholders. FrieslandCampina is an important stakeholder, which was involved in the prototype development, and has used the methodology since 2018 to reward farmers.

The biodiversity-enhancing performance per dairy farm is measured with an integrated set of seven Key Performance Indicators (KPIs): permanent grassland (%), protein from own farm/region (%), soil nitrogen surplus (kg/ha), ammonia emissions (kg/ha), greenhouse gas emissions (kg/ha and kg/kg milk), herb-rich grassland (%) and nature conservation management & landscape elements (%). These KPIs are selected based on multiple criteria, including their scientifically proven relation with biodiversity, and that performance can be influenced in the short term by taking measures on the farm. For all KPIs, scientists determine threshold- and target values based on existing legislation and policies, and best available scientific knowledge. Good performance on the integrated set of KPIs can be linked with financial rewards from multiple stakeholders. Note that the Biodiversity Monitor provides a scientifically substantiated methodology to measure biodiversity-enhancing performance per farm, while contracting parties who use this data are free to decide how they reward the farmer.

Currently, the Biodiversity Monitor is used in 2 private-private contract mechanisms (by FrieslandCampina and Rabobank) and 1 private-public contract mechanism (by province Drenthe) to reward and stimulate ecosystem-based dairy farming. FrieslandCampina incorporated the integrated set of KPIs in their sustainability monitoring program, Foqus planet. All farmers can be rewarded for KPI performance improvements over time; and the best performing dairy farmers who comply with the certification standards of 'On the way to PlanetProof dairy' (which includes the KPIs), receive a higher milk price. Rabobank is piloting with green financing funding to reward farmers with a loan interest discount. Drenthe runs a program which grants financial rewards to good performing local farmers. The methodology can be used in multiple other contracts, and there is much potential for integrating it in the new Common Agricultural Policy (CAP). The aim is to involve more rewarding parties (e.g. businesses, banks, land leaseholders, water boards, governments) to use the biodiversity monitor to reward ecosystem-based dairy production.

Objectives

The objective of the Biodiversity Monitor is to make biodiversity-enhancing performances per dairy farm measurable. This allows multiple stakeholders to financially reward positive biodiversity impacts based on unambiguous scientifically relevant results. The stacked financial rewards from multiple stakeholders, based on the same KPIs, stimulates farmer incentive for ecosystem-based dairy farming. In this way, the Biodiversity Monitor stimulates the transition towards more sustainable production while enhancing biodiversity recovery, additional farmer income, and a future perspective for the dairy sector.

RESULT-BASED



The Biodiversity Monitor measures per dairy farm the performance on seven biodiversity-enhancing Key Performance Indicators (KPIs). Following, these results can be linked with financial rewards from supply chain stakeholders – this is the contract solution. Stacked rewards from multiple stakeholders can form the new revenue model for ecosystem-based dairy farming.

VALUE CHAIN



Applied:

- A) Farmer – buyer – certification – store – consumer (milk price)
- B) Farmer – bank – (interest discount)
- C) Farmer – province (subsidy)

Potential, not yet applied:

- A) Farmer – water board (tax rate)
- B) Farmer – government (e.g. CAP reward)
- C) Etc.

LAND TENURE



Potential, not yet applied:

- A) Farmer – land leaseholder (favorable lease conditions)

COMBINATIONS

Farms can have different contracts with multiple parties. For example, a farm can have a contract with the product buyer, bank, and government - which all sent financial rewards for good performance on the same set of KPIs.

PUBLIC GOODS



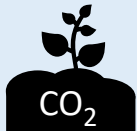
(Farmland) biodiversity



Landscape and scenery



Soil quality (and health)



Climate regulation - carbon storage and greenhouse gas emissions

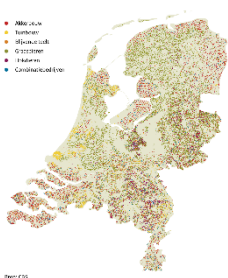


Water quality

LOCATION

NETHERLANDS

Spreiding land- en tuinbouwbedrijven naar hoofdbedrijfstype, 2018



The Biodiversity Monitor can be applied on all ~18k dairy farms in the Netherlands (green dots on map). Source: CBS, 2019.



Problem description

The Netherlands are among the worst performers in Europe when it comes to protecting biodiversity. Populations of wild animals in the agricultural landscape decreased by 50% since 1990 (WWF-NL, 2020). These massive losses for nature are largely related to increased intensification and scale of agricultural production systems over the past decades.

With a 30% land share (CBS, 2019), the dairy sector is one of the biggest land users of the Netherlands and puts significant pressure on biodiversity - both on farmland and on adjacent nature areas as well as in production areas of imported animal feeds (e.g. soy from Brazil). The grasslands are generally intensively managed with monoculture crops (*perennial ryegrass*), early mowing, fertilizers and herbicides. This type of management threatens grassland species such as meadow birds, which suffer from the mowing during breeding season and limited availability of herbs and insect to feed the chicks. Most non-agricultural landscape elements, such as hedges and flowery corners, have disappeared during land consolidation processes for grassland scaling. This leaves less and less space for birds, butterflies, and other animals to forage, seek shelter and nest. Moreover, the quality of these habitats declines due to environmental pollution caused by agricultural activities. Especially nitrogen deposition and leaching causes eutrophication of soils and water, leading to losses of plant species and life in freshwater. Herbicides sprayed on grass are generally harmful for soil life and insects. All these practices together affect the entire food-web, leading to the massive loss of biodiversity in the agricultural landscape and beyond.

Changes in farming practices are urgently needed to stop and reverse biodiversity losses, but also to ensure the continuation of agricultural production which depends on ecosystem services (e.g. clean water and healthy soils). However, current markets provide small margins on milk, resulting in low farmers' income what stimulated intensification even further.

In order to create a future perspective for nature and dairy farmers, new business models are required to make ecosystem-based dairy farming a sustainable, profitable and attractive practice for farmers. In the light of that challenge, the Biodiversity Monitor for dairy farming has been established by a multi-stakeholder coalition consisting of WWF-Netherlands, Duurzame Zuivelketen (including FrieslandCampina – the largest dairy cooperative in NL with >19k members spread over >11k farms) and Rabobank (largest agricultural financier in NL).

Information/Contact: avalenca@wwf.nl

Website: <http://biodiversiteitsmonitormelkveehouderij.nl/>

Financing parties:

- Market sector (FrieslandCampina and Rabobank)
- Government without EU funding (province Drenthe)

High potential for government with EU funding (ecoschemes for post 2020 CAP)

The types of contract solutions are:

- Private – public (farm - government)
- Private – private (farm - business)

Contract conclusion:

Written agreement



Payment mechanism:

Currently:

- Higher product price (FrieslandCampina)
- Loan interest discount (Rabobank)
- Subsidy (Province Drenthe)

Other possibilities:

- CAP rewards
- Favorable land lease conditions
- Water tax discount
- Etc.



(In)direct effects: The primary focus is on (farmland) biodiversity, with strong links to soil quality and health, climate regulation (carbon storage and greenhouse gas emissions), and landscape and scenery. Indirect beneficial effects are on air quality (e.g. less ammonia emissions), recreational access (improved landscape quality), resilience to natural hazards (improved soil health), rural viability and vitality (increased farmer income and social appreciation), farm animal health and welfare (more grazing), and water quality (less soil-N surplus).

Involved parties: The initiators of the biodiversity monitor for dairy farming are WWF-NL, Rabobank and FrieslandCampina. Duurzame Zuivelketen, the sustainable dairy chain initiative for a responsible future-proof sector, later substituted FrieslandCampina in order to increase commitment of the wider dairy sector. These parties together developed the biodiversity monitor in close collaboration with researchers from Wageningen University & Research and the Louis Bolk Institute. During the development process (2014-ongoing) farmer organizations have continuously been consulted, pilots have been undertaken, and multiple stakeholder meetings took place. Since 2020, the Biodiversity Monitor Foundation manages the methodology development, monitoring and evaluation. Current contracting parties are FrieslandCampina, Rabobank and province Drenthe. In the future, many other stakeholders can also become contracting party.

Participation: FrieslandCampina is a dairy cooperative with >11.000 farms who are currently all obliged to participate in the sustainability monitoring program Foqus planet. Amongst other indicators for milk quality and animal welfare, this program also includes all seven KPIs to measure biodiversity impacts. Farms can receive a higher milk price for good performance and an extra bonus for improvements over time on the sustainability indicators. Besides, the best performing dairy farms which comply with the certification standards of 'On the way to PlanetProof dairy' (which includes the KPIs), receive an even higher milk price. Currently (Jan. 2019), about 600 farms are certified. These farms are spread throughout the Netherlands. Together with FrieslandCampina and Province Drenthe, Rabobank runs a pilot with Green bonds, which currently includes about 15 dairy farms and can grow to 50 farms in total. Farms with a good score on all KPIs or a PlanetProof certification can receive a loan interest discount. The ambition is to implement this nationally in the future. Province Drenthe currently runs a program to financially rewards 250 local dairy farms which score well on KPIs.

Advantage for involved parties

- Dairy farmer: financial support for biodiversity-enhancing efforts, what contributes to a better business model for ecosystem-based dairy farming.
- FrieslandCampina: sustainable dairy supply chain (future-proof), and safeguard of societal support for the sector (license to produce).
- Rabobank: financial risks minimalization, a sustainable perspective (future-proof), and a corporate responsible image.
- Assumed advantages for other potential contracting parties: sustainable soil management (land leaseholders), improved water quality (water boards), and enhanced conservation of nature reserves, ecosystem services and landscape quality (governments).

Funding/ Payments

- ❖ By Rabobank: The interest loan discount can be granted at moments of refinancing or at the start of a new contract. The discount can be max. 0,5% on a loan of max. 1 million euros (so max. 5.000 euros per year), for a contract period of max. 5 years. When the contract duration is shorter, then the discount also decreases. In the future, Rabobank aims to standardize all contracts at 0,4% for all contract durations, in order to simplify the system. Rabobank retrieved this money from own resources.
- ❖ By FrieslandCampina: Rewards for good performance in Foqus planet are retrieved from a redistribution of the cooperative's milk revenues. Instead of a fixed milk price for all farms, now the milk price is determined per dairy farm based on its performance. The best performing farmers can receive max. 0,20 cents extra per 100 kg milk. Besides, farms can receive an extra bonus for improvements over time on the sustainability indicators of max. 0,29 cents per 100 kg milk. At last, milk certified as 'On the way to PlanetProof' is rewarded with a higher milk price of 2 euro extra per 100 kg milk (Jan. 2020).

Length of participation in scheme:

- 1 year (FrieslandCampina),
- max. 5 years (Rabobank),
- max 3 years (province Drenthe)



Start of the program:

2014 (contracts since 2018)

End: open end

- ❖ By Province Drenthe: Drenthe provides farms an annual amount of max 2.500 euro (depending on performance), for max. 3 year. Besides, farms can count on about 1.500 euro per farm (only once) for education and consult about sustainable farm management. This money comes from provincial budgets to stimulate sustainable farming.

Controls/monitoring: The Biodiversity Monitor Foundation manages the methodology development and is responsible for data monitoring and evaluation. Independent data quality assurance is executed by a third party (Qlip). Most KPI data are obtained and calculated into scores within the program Kringloopwijzer – a farm management tool which dairy farms are obliged to use. Data about the KPI Herb-rich grassland and KPI Nature & landscape elements are not registered in Kringloopwijzer. Currently, the data from the Agricultural Nature and Landscape Management (ANLb; CAP 2) schemes are used for those farmers involved in this program. Simultaneously, a national registration system is being build in order to gather and monitor data on these KPIs for all Dutch dairy farms.

Conditions of participation: All contracting (rewarding) parties use the Biodiversity Monitor KPIs to determine contract qualifications. Contracting parties can determine their own contract conditions, and are free to determine goals per KPI and the extend of rewards per farm. For example Rabobank determined the top 25% dairy farms with best scores on all KPIs as eligible for a loan interest discount. FrieslandCampina used the roughly top 10% .

Risk/uncertainties of participants: Current reward are only for short period of time (contract length) – no longer term rewarding guaranties are provided.

Context features

Landscape and climate: The geography of the Netherlands can roughly be split into two areas: the low and flat lands in the West and North, and the higher lands with some hills (max. 300 meter) in the East and South. Much of the lower lands have been reclaimed from the sea (polders) and are below sea level, protected by dikes. The water is continuously pumped away through many small canals, and the groundwater level is in most places regulated at low levels. Soils in the lower lands are predominantly peat and loam, while the higher lands are more sandy-peat, sand and clay. The Netherlands have a temperate maritime climate, with cool summers (average daytime temperatures varies from 17-20 °C) and moderate winters (2-6 °C).

Farm system: The Netherlands is for 44% covered with agricultural land (1,82 million ha, out of the total country area of 4,15 million ha), which is for more than half in use as grassland (0.98 million ha – 24% of the country, 30% of total land area, and 54% of total agricultural area; CBS, 2019). See the light green areas on the map here at the right (number 1 in legend).

Consequently, the dairy sector is the largest land user in the Netherlands. The grasslands are spread over the entire country. The grasslands are mostly used by the nearly 18.000 dairy farms for grazing and/or mowing for cattle feed, which together house a total of 1,58 million dairy cows - predominantly Holstein Friesian (CBS, 2019). Together they produce about 15k million liters of milk per year - what is for about 65% exported (CBS, 2016). An average dairy farm has about 100 cows on 54 ha for grass and silage maize (CBS, 2018) - leaving on average about 1.9 cows per ha. About 5% of the grasslands are organically managed. Most farmers work full-time. Different kinds of grassland management are executed: 70% as permanent grassland, 22% as temporary grassland, and 8% as natural/biodiverse grassland (CBS, 2019). The permanent and temporary grasslands are generally intensively managed with monoculture crops (perennial ryegrass), early mowing, fertilizers and herbicides. The natural/biodiverse grasslands are generally very extensively managed, and most farmers receive yield loss compensation from Pillar 2 CAP. Most non-agricultural landscape elements, such as hedges and herbal-rich corners, have disappeared over the past decades during land consolidation processes for grassland scaling. Consequently, very little suitable habitat is left over for wildlife – contributing substantially to the massive biodiversity losses in the agricultural area in NL (WWF-NL, 2020).





SUCCESS OR FAILURE? And reasons for success:



We (WWF-NL) consider the establishment of the Biodiversity Monitor for dairy farming with this multi-stakeholder coalition as a major (factor for) success. Particularly the adoption of the monitor in the sustainability programs of the two key stakeholders FrieslandCampina and Rabobank is a major step into the right direction. The Biodiversity Monitor is also acknowledged in national policies as a good and useful example to work on the dual challenge of nature restoration and future perspective for farmers within the entire agricultural sector.

Also the innovative Delta Plan for Biodiversity Recovery (an ambitious plan signed by 30+ leading Dutch agri- and horticulture retail, agro-industry, nature and environmental organizations and science institutions) embraced the Biodiversity Monitor as key methodology for monitoring and rewarding best performances. The key success factors determined by the Delta Plan for Biodiversity Recovery are: shared values, coherent laws and regulations, knowledge and innovation, collaboration at the landscape level, and new business models. The Biodiversity monitor enhances all success factors, and particularly the new business models. Provinces and businesses have shown interest to implement the monitor and reward farmers for their performance on biodiversity. In general, the Biodiversity Monitor methodology is quite innovative and widely acknowledged as a high-potential contract solution. Especially the use of KPIs to quantify impact (performance) instead of prescribing measures or best agricultural practices, is critical to enhance impactful change. The methodology has potential to be unrolled in other sectors and regions, as done now for the arable farming sector in the Netherlands (see other Console case 'Biodiversity monitor Arable farming'). However, whether this contract solution contributes substantially to biodiversity recovery requires verification. Monitoring of the relationship between KPI performance and actual biodiversity enhancement, is scheduled for future trajectories.

SWOT analysis

Main Strengths

1. The result-based approach based on Key Performance Indicators (KPIs)
2. The integrated approach (aiming for positive results on all KPIs, on each farm) is powerful to stimulate biodiversity recovery without allowance for trade-offs
3. The Biodiversity monitor will become available for all Dutch dairy farms and can be used by all relevant stakeholders for result-based financial rewards.
4. Minimal extra administrative burden as most data comes from already obliged farm management data tools.

Main Weaknesses

1. Availability and reliability of data needed to calculate the KPI performance per farm. For two KPIs, the data is not yet nationally registered and therefore only available at farms where audits have taken place. The development of a national registration system for these KPIs is currently ongoing.
2. Environmental effectiveness requires verification by on-site monitoring. This is scheduled for future trajectories.

Main Opportunities

1. The Biodiversity monitor can be used in many different private-private and private-public contracts
2. High potential for integration in eco-schemes for the CAP
3. Multiple stakeholders can reward farmers based on the same biodiversity-enhancing results, enabling farmers to manage on clear unambiguous goals.
4. Stacking financial rewards based on the same KPIs can enhance new revenue model for ecosystem-based dairy farming.

Main Threats

1. Contracting parties can determine their own rewarding system and goals per KPI, allowing for the risk of rewarding targets below the required levels for biodiversity recovery (from ecological perspective).
2. Even though this methodology is theoretically very promising, the instrument is sometimes perceived as rather complex and difficult to apply. Information exchange and practical education is essential here.



Biodiversity monitor for ARABLE farming

The Biodiversity Monitor is a results-based methodology to measure and reward the performance for biodiversity (including soil, landscape, environment and climate) per arable farm in the Netherlands. The scores per farm on biodiversity-stimulating key performance indicators (KPIs) can be used as the basis for rewarding, and as such new revenue models. In this way, ecosystem-based arable farming can be stimulated.



Summary

With the successes with the Biodiversity Monitor dairy farming (started in 2014 – see other Console case study), the arable farming sector has been inspired to create a Biodiversity Monitor specifically for arable farming in the Netherlands (started in 2018). The concept is similar; differences include the stakeholder coalition and KPIs.

The Biodiversity Monitor for arable farming is a result-based methodology, with a primary focus on the public good biodiversity (including strong links with soils, landscape, environment and climate). The aim of the methodology is to make biodiversity-enhancing performance per arable farm measurable. In this way it becomes possible to benchmark farms and allow multiple stakeholders to appreciate and reward positive biodiversity performance. These stacked financial rewards should lead to new revenue models for ecosystem-based arable farming. As a consequence, it offers farmers action perspective to improve practices for more sustainable production. The methodology is currently being developed by WWF-NL, Branch Organization Arable Farming, province Groningen and Rabobank, in collaboration with scientists, experts, stakeholders and farmers.

The biodiversity-enhancing performance per arable farm is measured with an integrated set of Key Performance Indicators (KPIs). The set of KPIs is currently (Jan. 2020) still under construction, but will likely include indicators on topics around emissions, inputs, soil management and nature & landscape elements on the farm. These KPIs will be selected based on multiple criteria, including their scientifically proven relation with biodiversity, connection to existing data systems (minimize extra admin), and that performance can be influenced in the short term by taking on farm measures. The KPI research, selection and piloting will be executed in 2020-2022 by scientists from Wageningen University & Research and Louis Bolk Institute, in collaboration with Boerennatuur and farmers. For each KPI, scientists will also determine threshold- and target values based on existing legislation and policies, and the best available scientific knowledge. Good performance on the integrated set of KPIs can be linked with financial rewards from multiple stakeholders. Note that the Biodiversity Monitor provides a scientifically substantiated methodology to measure biodiversity-enhancing performance per farm, while contracting parties who use this data are free to decide how they reward the farmer.

Because the research/development and piloting of KPIs is still ongoing, no contracts using the Biodiversity Monitor systems have been implemented yet. Similar to the dairy sector, the arable sector can use the Biodiversity Monitor KPIs in private-private and private-public contracts, and there is much potential for integrating it in the new Common Agricultural Policy (CAP). It is foreseen to involve multiple rewarding parties (e.g. arable produce buyers, cooperatives, banks, land leaseholders, water boards, governments) to use the Biodiversity monitor to reward and stimulate ecosystem-based arable production.

Objectives

The objective of the Biodiversity Monitor is to make biodiversity-enhancing performances per arable farm measurable (using an integrated approach). This allows multiple stakeholders to financially reward positive biodiversity impacts based on unambiguous scientifically relevant results. The stacked financial rewards from multiple stakeholders, based on the same KPIs, will stimulate farmer to practice ecosystem-based arable farming. In this way, the Biodiversity Monitor stimulates the transition towards more sustainable production while enhancing biodiversity recovery, additional farmer income, and a future perspective for the arable sector.

RESULT-BASED



The Biodiversity Monitor measures per arable farm the performance on multiple biodiversity-enhancing Key performance Indicators (KPIs). Following, these results can be linked with financial rewards from supply chain stakeholders – this is the contract solution. Stacked rewards from multiple stakeholders can form the new revenue model for ecosystem-based arable farming.

VALUE CHAIN



Potential, not yet applied:

- A) Farmer – buyer – certification – store – consumer (product price)
- B) Farmer – bank – (interest discount)
- C) Farmer – government (compensation)
- D) Farmer – water board (tax rate)
- E) Etc.

LAND TENURE



Potential, not yet applied:

- A) Farmer – land leaseholder (favorable)
- B) lease conditions)

COMBINATIONS

Farms can have different contracts with multiple parties. For example, a farm can have a contract with the product buyer, bank, and government - which all sent financial rewards for good performance on the same set of KPIs.

PUBLIC GOODS



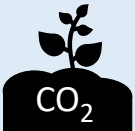
(Farmland) biodiversity



Landscape and scenery



Soil quality (and health)



Climate regulation - carbon storage and greenhouse gas emissions

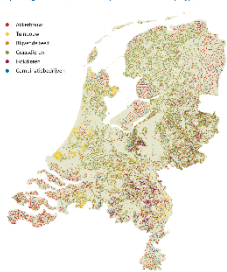


Water quality

LOCATION

NETHERLANDS

Spreading land- en tuinbouwbedrijven naar hoekbedrijfs, aanst



The Biodiversity Monitor can be applied on all approx. 11.000 arable farms in the Netherlands (red dots on map). Source: CBS, 2019.



Problem description

The Netherlands are among the European countries with the biggest challenge when it comes to protecting biodiversity (EEA, 2015). Populations of wild animals in the agricultural landscape decreased by 50% since 1990 (WWF-NL, 2020). These massive losses of nature are largely related to increased intensification and scale of agricultural production over the past decades.

With a 29% land share (CBS, 2019), the arable sector is one of the biggest users of agricultural land in the Netherlands and puts significant pressure on biodiversity – both on farmland and on adjacent nature areas. The arable lands are generally intensively managed with short rotations, high input levels of fertilizers, pesticides and soil tillage. This type of management threatens wildlife species such as field birds and insects. Most non-agricultural landscape elements, such as hedges and flowery corners, have disappeared during land consolidation processes for scaling. This leaves less and less space for birds, butterflies, and other animals to forage, seek shelter and nest. Moreover, the quality of these habitats declines due to environmental pollution caused by agricultural (and other) activities. Especially nitrogen deposition and leaching causes eutrophication of soils and water, leading to losses of plant species and life in freshwater. All these practices together affect the entire wildlife food-web, leading to a massive loss of biodiversity in the agricultural landscape and beyond.

Changes in farming practices are urgently needed to stop and reverse biodiversity losses, but also to ensure the continuation of agricultural production which depends on ecosystem services (e.g. clean water and healthy soils). However, current markets provide small margins on arable produce, resulting in low income for farmers what stimulates intensification even further.

In order to create a future perspective for nature and arable farmers, new business models are required to make ecosystem-based arable farming a sustainable, profitable and attractive practice for farmers. In the light of that challenge, the Biodiversity Monitor for arable farming has been established by a multi-stakeholder coalition consisting of WWF-Netherlands, BO Akkerbouw (branch organization arable farming Netherlands), province Groningen, and Rabobank (largest agricultural financier in the Netherlands).

CONTRACT

So far, there are no official contract partnerships, but this instrument provides full potential for:

Financing parties:

- Market sector: food industry, bank, landowner
- Government: province, municipality, waterboard, EU



Contract types:

- Private-public (farm-government)
- Private-private (farm-business)

Payment mechanisms:

- Higher product price
- Loan interest discount
- Favourable land lease conditions
- Water tax discount
- Subsidy
- CAP rewards
- Etc.



Data and Facts – Contract

Indirect effects: The primary focus is on (farmland) biodiversity, with strong links to soil quality and health, climate regulation (carbon storage and greenhouse gas emissions), and landscape and scenery. Indirect beneficial effects are on air quality (e.g. less ammonia emissions), recreational access (improved landscape quality), resilience to natural hazards (improved soil health), rural viability and vitality (increased farmer income and social appreciation), and water quality (less soil-N surplus).

Involved parties: The initiators of the Biodiversity monitor arable farming are WWF-NL, Rabobank, BO Akkerbouw (branch organization arable farming Netherlands) and province Groningen. These parties together currently (2018-ongoing) develop the Biodiversity monitor in close collaboration with researchers from Wageningen University & Research and the Louis Bolk Institute. These parties have a public-private-partnership (2020-2022) which includes KPI research and field pilots in close collaboration with farmer organization Boeren Natuur (represents 40 farmer collectives for agricultural nature conservation). During the development process, farmers, farmer organizations, experts and relevant stakeholders will continuously be consulted.

Participation: So far, no contracts have been implemented, as the research/development and piloting phase is yet ongoing. The Biodiversity monitor should become available for all arable farms in the Netherlands (~11.000 farms) and all potential contracting parties.

Advantage for involved parties

- Arable farmer: financial support for biodiversity-enhancing efforts, what contributes to a improved revenue model for ecosystem-based arable farming.
- Assumed advantages for potential contract parties: sustainable/future-proof supply chain and safeguarding of societal support for the sector (supply chain stakeholders), financial risks minimalization and corporate responsible image (banks), sustainable soil management (land leaseholders), improved water quality (water boards), enhanced conservation of nature reserves, ecosystem services and landscape quality (governments).

Funding/payments: So far, there are no official contracting parties. Rabobank (market-sector-oriented) will implement the Biodiversity monitor in the sustainability policy for each individual farmer. Besides, arable sector supply chain businesses (market-sector-oriented) are interested, and there is much potential for governments (both with and without EU funding) to apply this instrument in contract solutions.

Context features

Landscape and climate: The geography of the Netherlands can roughly be split into two areas: the low and flat lands in the West and North, and the higher lands with some hills (max. 300 meter) in the East and South. Much of the lower lands have been reclaimed from the sea (polders) and are below sea level, protected by dikes. The water is continuously pumped away through many small canals, and the groundwater level is in most places regulated at low levels. Soils in the lower lands are predominantly peat and loam, while the higher lands are more sandy-peat, sand and clay. The Netherlands have a temperate maritime climate, with cool summers (average daytime temperatures varies from 17-20 °C) and moderate winters (2-6 °C).

Farm system: The Netherlands is for 44% covered with agricultural land (1,82 million ha out of the total country area of 4,15 million ha), which is for about one-third in use for arable farming (0,53 million ha – 13% of the country, 16% of total land area, and 29% of all agricultural land; this excludes temporary grasslands and silage maize; CBS, 2019). Therewith, arable farming is one of the largest land use categories in the Netherlands. Arable farms are spread throughout the Netherlands, with hotspots in the Northeast, Southwest and center (see Fig. 2). The area includes about 11.000 arable farms, which have an average size of 62 ha (BIN, 2019). The main cultivated crops are grains (34% of arable land), potatoes (31% of arable land) and sugar beets (15% of arable land), which are often cultivated in rotation with potatoes once every 2-4 years. Other common crops (20% of arable land) include seed onion, grass seed, chicory, flax seed, fiber flax, rapeseed, hemp and kidney beans (CBS, 2020). The crops are conventionally grown in short rotations and relatively intensively managed with chemical fertilizers and crop protection agents. Most non-agricultural landscape elements, such as hedges and bushes, have disappeared over the past decades during land consolidation processes for scaling. Consequently, very little suitable habitat is left over for wild plants and animals to live in and around arable land in the Netherlands – contributing substantially to the biodiversity losses in the agricultural area in NL. Especially typical farmland birds have declined massively (WWF-NL, 2020).

SUCCESS OR FAILURE? And reasons for success:



The success of the Biodiversity monitor for arable farming is unknown until today, as the content is yet under research & development and contracts have not yet been implemented. However, we (WWF-NL) consider the initiation of this methodology with a motivated coalition of key stakeholders, upon the arable sector's own request, already as a major step into the right direction. In general, the Biodiversity monitor (for both dairy and arable farming) is acknowledged in national policies as a good and useful example to work on the dual challenge of nature restoration and future perspective for farmers across the entire agricultural sector.

Also the innovative Delta Plan for Biodiversity Recovery (an ambitious plan signed by 50+ leading Dutch agri- and horticulture retail, agro-industry, nature and environmental organizations and science institutions) embraced the Biodiversity monitor as key methodology for monitoring and rewarding best performances. The key success factors determined by the Delta Plan for Biodiversity Recovery are: shared values, coherent laws and regulations, knowledge and innovation, collaboration at the landscape level, and new business models. The Biodiversity monitor enhances all success factors, and particularly the new business models. Provinces and businesses have shown interest to implement the monitor and reward farmers for their performance on biodiversity. In general, the Biodiversity monitor methodology is quite innovative and widely acknowledged as a high-potential contract solution. Especially the use of KPIs to quantify impact (performance) instead of prescribing measures or best agricultural practices, is critical to enhance impactful change. The methodology has potential to be unrolled in other sectors and regions, as has also been done for the dairy farming sector in the Netherlands. However, whether this contract solution contributes substantially to biodiversity recovery requires verification. Monitoring of the relationship between KPI performance and actual biodiversity enhancement, is scheduled for future trajectories.

SWOT analysis

Main Strengths

1. The result-based approach based on Key Performance Indicators (KPIs)
2. The integrated approach (aiming for positive results on all KPIs, on each farm) is powerful to stimulate biodiversity recovery without allowance for trade-offs
3. The Biodiversity monitor will become available for all Dutch arable farms and can be used by all relevant stakeholders for result-based financial rewards.
4. Minimal extra administrative burden as most data comes from already obliged farm management data tools.

Main Weaknesses

1. Uncertainty about availability and reliability of data needed to calculate the KPI performance per farm.
2. The environmental effectiveness requires verification by monitoring. This is scheduled for future trajectories.

Main Opportunities

1. The Biodiversity monitor can be used in many different private-private and private-public contracts
2. High potential for integration in ecoschemes for the post 2020 CAP.
3. Multiple stakeholders can reward farmers based on the same biodiversity-enhancing results, enabling farmers to manage on clear unambiguous goals.
4. Stacking financial rewards based on the same KPIs can enhance new revenue model for ecosystem-based arable farming.

Main Threats

1. Contracting parties can determine their own rewarding system and goals per KPI, allowing for the risk of rewarding targets below the required levels for biodiversity recovery (from ecological perspective).
2. Even though this methodology is theoretically very promising, the instrument is sometimes perceived as rather complex and difficult to apply. Information exchange and practical education is essential here.

Natural Grazing in Podkarpackie Region

The Natural Grazing in Podkarpackie program was introduced to preserve, protect and restore the biodiversity in valuable natural areas in Podkarpackie region, through extensive grazing of livestock in the permanent grassland areas, while maintaining animal welfare and appropriate stocking rate.



Summary

The program "Podkarpacki Naturalny Wypas" was established in 2012 as a public initiative, in order to preserve, protect and restore the biodiversity in valuable natural areas through extensive grazing of livestock in the meadow-pasture areas of the Podkarpackie Voivodeship. The program is coordinated by the Marshal's Office of the Podkarpackie Voivodeship (Local Government). The program currently runs as a long term initiative (2017-2020). Each year an open call is organized in which non-profit organizations (e.g. foundations, associations, NGO cooperatives) and other eligible parties present offers to arrange grazing on specific grasslands by subcontracted farmers, who provide animals (cattle, horses, sheep, goats and deers) and plots of land for grazing. In the pilot year (2012), 7 organizations took part, representing a total of 321 farmers, grazing 5,981 animals on the area of 4,700 hectares. In 2019, there were 7 organizations involved and 715 farmers, grazing on an area of 15,100 ha (about 13,236 animals). The study of Ruda et al. (2019) shows that the program brings measurable benefits. Over half of the interviewed breeders increased the grazed area and number of animals, a significant part systematically performs pasture care activities, or built pastoral infrastructure. The program contributes to the protection of biodiversity in valuable natural areas and brings measurable economic and social benefits.

Objectives

- Preservation, protection and restoration of the biodiversity in valuable natural areas, based on extensive grazing of livestock while maintaining animal welfare.
- Restoration of valuable natural and landscape areas for grazing.
- Maintenance and restoration of architecture associated with traditional pastoral grazing;
- Protection of cultural heritage, supporting and sustaining the traditions, customs and other related elements of folk culture of pastoralism;
- Economic and tourist activation of the Podkarpackie province



Source. Fot. <https://horb.org.pl>

Problem description

The program responds to the need for economic and tourist activation of the Podkarpackie Voivodeship, and in particular for the protection of naturally valuable meadow and pasture areas while maintaining biodiversity. Among the factors justifying the implementation of the Program the most important are: a large share of protected areas in the region (44.9% of the total area), a progressive decline in livestock numbers and the low utilization of permanent grasslands (below 50%).

COLLECTIVE



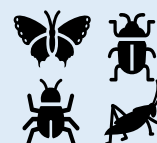
Collective implementation – the contract is between: NGO (association) and farmers

LAND TENURE



Land tenure: some areas which are subject of the contract are rented by farmers. For example the land in National Parks or in the mountain areas, where the farmer is not the owner of the land, but may rent it for the purpose of grazing.

PUBLIC GOODS



(Farmland) biodiversity



Landscape and scenery



Cultural heritage



Farm animal health and welfare

CONTRACT

It is a public-private contract: farmers are subcontracted by the NGO (association). The NGOs have a contract with the public organization (Podkarpackie Voivodenship Government – Urząd Samorządu Terytorialnego).



Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments

Financing party: Local Government (without EU-funding)



Start of the program:
2012
End: still running

Data and Facts - Contract

Indirect effects:

- Soil quality (and health) - grazing promotes grass propagation, prevents soil erosion, and trampling and leaving droppings stimulate turf development;
- Recreational access - the presence of animals on pastures increases the aesthetic value of the landscape, which contributes to increasing the tourist attractiveness of the region;
- Rural viability and vitality, the program brings measurable economic and social benefits, which contribute to rural viability and vitality.

Participation:

- Number of farms: in 2019 - 715 farmers/ 13,200 animals (70% cattle),
- Area of implementation: in 2019 – 15,200. ha.
- Other participants: in 2019 - 7 associations.

Involved parties: The contracting parties could be NGOs - associations and cooperatives, churches, sports clubs, non-profit companies. In the first year of the program implementation (2012), 7 organizations took part, representing a total of 321 farmers, grazing on the area of 4,700 ha (about 5,981 animals). In 2019, the number of farms was over twice bigger than in 2012 and the number of grazed animals and hectares tripled. Both, NGO organizations and their subcontractors (farmers with grazing animals) must provide a document, which implies the right to dispose of the premises/plots (lease agreement, lending, property right) and of the animals that will be involved in grazing.

Advantages of participation:

- Farmers have the possibility of financial remuneration for the use of land for grazing animals;
- NGOs raise funds for statutory activities and demonstrate activity in priority areas.
- Voivodship self-government contributes to preservation, protection and restoration of the biodiversity in valuable natural areas and to economic and tourist activation of the Podkarpackie Region.



Source: Fot. Robert garstka, Kik Batowice CC-BY-SA-4.0

Management requirements for farmers: The program is addressed to breeders of cattle, horses, sheep, goats and deer in Podkarpacie Region. Animals registered for the program must stay on the farm throughout the entire pasture period - it is assumed to be from May 20 to September 30, i.e. 134 days (it is possible to swap animals provided that the stocking ratio is maintained). The program involves grazing animals in the meadow and pasture areas of the Podkarpackie Voivodenship with a stocking of 0.4 - 1.0 LU/ha. Animals must be kept in compliance with animal welfare norms (e.g. have assured access to water, protection against predators). Animals must be registered in the database of the Agency for Restructuring and Modernization of Agriculture or the Horse Breeders Database and / or the regional veterinarian database. On the other hand the contracted NGO organisations must organize at least 4 trainings for farmers, beekeepers, and school pupils concerning specific topics related to biodiversity and ecological awareness. The budget available for organising trainings was 5,800 Euro per year per association, in 2019.

LOCATION

POLAND



Podkarpackie Region
(PL82)



Controls/monitoring: Controls on the implementation of the program are carried out by the voivodship office representatives, which assesses the status of task implementation, effectiveness, reliability and quality of implementation, correctness of spending public funds and properness of record keeping. At least 10% of beneficiaries are controlled.

Conditions of participation: Each year an open call is organized in which non-profit organizations (e.g. foundations, associations, NGO cooperatives) and other eligible parties present offers to arrange grazing on specific areas of land by subcontracted farmers, who provide animals (cattle, horses, sheep, goats and deers) and plots of land for grazing. The tasks of the program must be implemented in the Podkarpackie region.

Risk/uncertainties of participants: The main risk of the associations which take part in the call are that the sub-contracted farmers/other parties will not fulfill the requirements of the contract concerning for example number of animals kept for the grazing season or animal density etc.

Funding/Payments: The funds come from the Local Government Budget of Podkarpackie Voivodship. The amount allocated to the program is set annually by the Podkarpackie Voivodship Board. The payment is made to contracted NGOs organisations, which were approved by the commission, and then those organisations transfer funds to the sub-contracted farmers (or producer groups). The amount of subsidy per hectare is estimated on the basis of the expected interest in the program (estimated area on which animals will be grazed) and the funds available for this purpose. The level of payment therefore differs from one year to another and in 2019 was: 120 PLN (ca. 30 euro)/ha of utilized meadows/pastures; 160 PLN (ca 40 euro)/ ha if meadow/pasture it is located in the nature-protected area, 200 PLN (ca. 47 euro)/ha if the meadow/pasture is maintained in an organic system of production, and supplementary 150 PLN (ca 35 euro) payment (additional to the abovementioned) if the land is restored to usage after not being used for agricultural purposes before.

Context features

Landscape and climate: Podkarpackie Voivodship is located in south-eastern Poland, bordering with Ukraine and Slovakia. It covers an area of 17,844 km², which is 5.7% of the area of Poland. About 35% of the area is covered by forests, and almost 45% of the area belongs to various forms of nature and landscape protection.



Podkarpackie Voivodship covers three separate physiographic regions. The northern part of the province is occupied by the Sandomierz Basin lowland, the middle part by the Carpathian Foothills, while the southern part includes the mountains of the Low Beskids and the Bieszczady Mountains. Due to its location, the area of the Podkarpackie Voivodship is characterized by a significant variety of terrain, the difference between the highest hills and the lowest places is over 1000 meters. Thanks to the advantages of nature and the environment, Podkarpackie is one of the most popular tourist regions in Poland, particularly attractive because of the beauty of its landscape and the cultural richness. A great attraction of the region are well-preserved sacred and secular buildings. The tourist trail includes wooden temples, palaces and manors leads through 175 villages in the region. Podkarpackie lies at the intersection of North-West Europe's maritime climate and East European continental climate. Its climate is also influenced by its surface shape and physiographic division, which is why we distinguish three climate zones here: lowland - Sandomierz Basin; Podgórze - the Carpathian Foothills; mountain - Beskid Niski and Bieszczady.

Farm structure: Farm structure in the Podkarpackie Voivodship is characterized by very high fragmentation. Farms with agricultural land area of 2-5 ha dominate, and the share of farms with more than 15 ha of agricultural land accounts for only 2.9% of all farms, however their share in the agricultural land utilisation is 31.3%. The average size of farm in 2016 was 4.36 ha. The share of permanent grassland, i.e. meadows and pastures, constitutes about 40% of arable land in the region. Podkarpackie has favorable natural conditions for agricultural production, but cultural landscape and extensive farming also provides a good basis for tourism.

Contact: <http://www.rolnictwo.wrotapodkarpackie.pl/index.php/podkarpackie-naturalny-wypas-ii>

SUCCESS OR FAILURE?

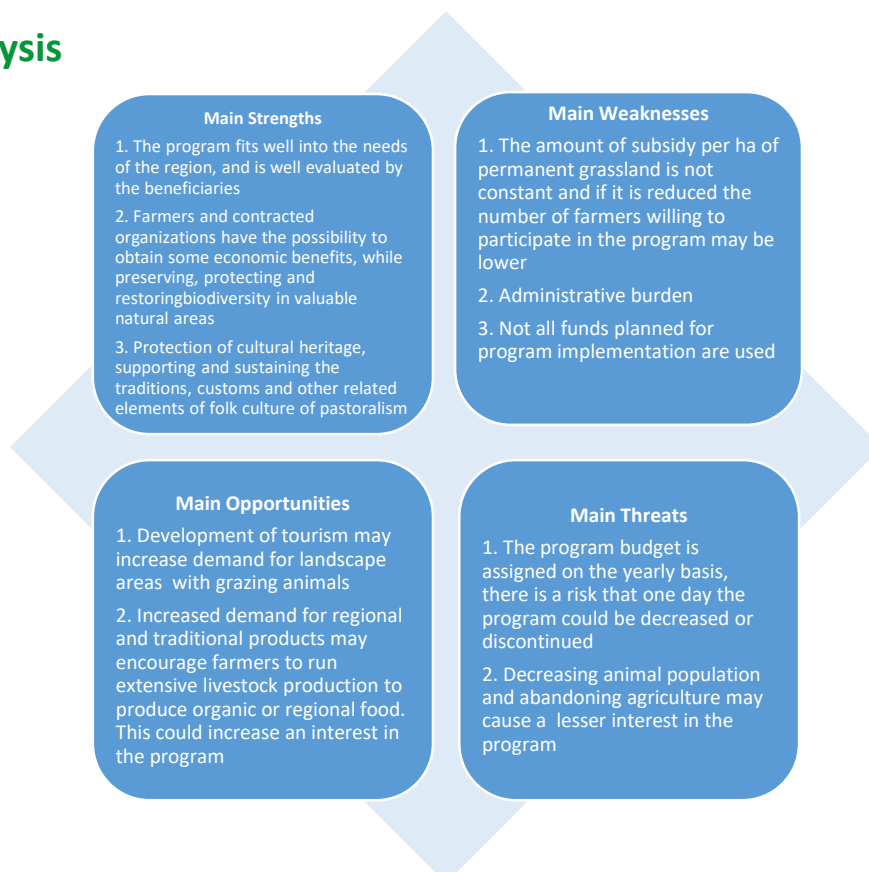


The Natural Grazing in Podkarpackie program presents a successful contract solution. The contract solution is judged successful, as the number of participants increased over the years. The program is implemented continuously since 2012. The study of Ruda et al. (2019) shows that the program brings measurable benefits. Over half of the interviewed breeders increased the grazed area and number of animals, a significant part systematically performs pasture care activities or built pastoral infrastructure. The program contributes to the protection of biodiversity in valuable natural areas and brings measurable economic and social benefits.

Reasons for success:

- Farmers have the possibility of financial remuneration for the use of land for grazing animals;
- High share of grasslands, tourist attractiveness of the region as well as fragmented, extensive structure of agriculture favors the implementation of the program.
- NGOs raise funds for statutory activities and demonstrate activity in priority areas.
- Voivodship self-government contributes to preservation, protection and restoration of the biodiversity in valuable natural areas and improvement of economic and tourist activation of the Podkarpackie Region.

SWOT analysis



Program “Sheep Plus” - Provincial Program of Economic Activation and Preservation of the Cultural Heritage of the Beskids and Kraków-Częstochowa Upland



The Program Owca Plus (Sheep Plus) was introduced in 2008 to preserve, protect and restore biodiversity and pastoral cultural heritage in valuable natural areas of the Beskids and the Kraków-Częstochowa Upland based on sheep and goats grazing.

Summary

The program “Owca Plus” was established in 2008 as a public initiative in order to preserve, protect and restore the biodiversity in valuable natural areas, through extensive grazing of sheep in the meadow-pasture areas of the Śląskie Voivodeship. The program is coordinated by the Marshal's Office of the Śląskie Voivodeship (Local Government). The program currently runs as a long term initiative 2015-2020 with a total budget exceeding 1 mio. Euro. Each year an open call is organized in which non-profit organizations (e.g. foundations, associations, NGO cooperatives) and other eligible parties present offers to arrange grazing on specific areas of land by subcontracted farmers, who provide animals (sheep and goats) and plots of land for grazing. The list of recommended areas offered for grazing by the program includes 168 plots in the Beskids and 73 plots of the Kraków-Częstochowa Upland. The bidding organizations assure grazing on the area covering at least 550 ha of land in Beskids or at least 100 ha in Kraków-Częstochowa Upland. There are two organisations representing over 100 farmers, grazing about 4-6 thousand animals on over 600 hectares of land. The program brings measurable environmental, cultural and economic benefits. The outcomes of the environmental monitoring showed significant improvement of biodiversity. In the economic aspect, the tourist infrastructure was modernized and expanded to improve the accessibility and attractiveness of the areas included in the program. Thanks to the implementation of the program, the sheep population increased and the availability of meat and sheep products expanded. The program has indirectly contributed also to the development of tourism (by an increase in the number of entities offering accommodation, meals, employment in tourist services, trade and transport).



Source: slaskie.pl

Objectives

- Preservation, protection and restoration of the biodiversity in valuable natural areas, based on extensive grazing of sheep and goats while maintaining animal welfare
- Maintenance and improvement of valuable natural habitats and species, depending on agricultural, especially pastoral use
- Restoration of valuable natural and landscape areas for grazing
- Protection of local breeds of farm animals
- Maintenance and restoration of architecture associated with traditional pastoral grazing
- Protection of cultural heritage, supporting and sustaining the traditions, customs and other related elements of folk culture of pastoralism

COLLECTIVE



The contract is between: public organization (Śląskie Voivodeship Government) - NGO (association) - farmer

LAND TENURE



Some areas which are subject of the contract are rented by farmers.

PUBLIC GOODS



(Farmland) biodiversity



Landscape and scenery



Cultural heritage



Farm animal health and welfare

CONTRACT

It is a public-private contract: farmer – NGO (association) – public organization (Śląskie Voivodship Government)



Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments

Financing party: Local Government (without EU-funding)



Start of the program:
2008

End: still running

Length of participating in scheme: 1 grazing season – end of April – September

Data and Facts - Contract

Indirect effects:

- Soil quality (and health) - grazing promotes grass propagation, prevents soil erosion, and trampling and leaving droppings stimulate turf development
- Recreational access - the presence of animals on pastures increases the aesthetic value of the landscape, which contributes to increasing the tourist attractiveness of the region
- Rural viability and vitality - the program brings measurable economic and social benefits, which contribute to rural viability and vitality.

Participation:

- Number of farms: Every year the program is realized by 2 organisations representing over 100 farmers.
 - Area of implementation: grazing about 4-6 thousand animals on 600-700 hectares of land
- Involved parties:** The contracting parties are the NGOs whose statutory activities are consistent with the assumptions of the program or legal entities which provide extension services. The program is usually contracted with 2 organizations representing over 100 farmers.

Problem description

The gradual disappearance of sheep grazing observed over the years due to a significant reduction in the demand for sheep products (wool, cheese, meat) almost irreversibly affected the overgrowing of naturally valuable areas of the Beskids and the Kraków-Częstochowa Upland with expansive plant species and self-sown trees. This, in turn, led to the impoverishment of nature that may cause irreversible changes in the traditional landscape, depriving it of, among others tourist values. The program, introduced in 2008, responds to the needs for preservation of natural and cultural heritage of the Śląskie Voivodship, and in particular for restoration of pastoral economy in the Beskids and Kraków-Częstochowa Upland, in order to stop adverse natural changes, as well as to protect the cultural heritage of these areas.

Management requirements for farmers: The program is addressed to breeders of sheep and goats in Śląskie Region. Animals registered for the program must stay on the farm throughout the entire grazing period – end of April – September. The program involves grazing animals with a stocking of 0.5 - 1.0 LU/ ha. It is preferred that in the Beskids, grazing takes place on pastures situated 550 m above sea level. Animals must be kept in compliance with animal welfare norms (e.g. have assured access to water, protection against predators). Animals must be registered in the database of the Agency for Restructuring and Modernization of Agriculture. Farmers, besides grazing, are required to perform special care treatments planned for individual plots (eg. felling trees and shrubs, mowing some parts of the plots) and where necessary constructing shepherd infrastructure (shepherds' huts, sheep fence).

On the other hand the contracted NGO organizations are obliged to promote natural and landscape values and tourism, promote sheep and goat products and popularize folk and pastoral culture.



Source: Marek i Ewa Wojciechowsky / Trips over Poland / CC-BY-SA-3.0, 2.5, 2.0, 1.0 & GDFL

Information: <https://www.slaskie.pl/content/program-owca-plus>

LOCATION

POLAND



Śląskie province (PL22)
Beskidy, Kraków-
Częstochowa Upland



Source: Barto146, CC-BY-SA-3.0

Controls/monitoring: The program implementation control is carried out for all beneficiaries. The audit covers effectiveness, reliability and quality of tasks implementation as well as environmental monitoring of grazed plots.

Conditions of participation: The contracting parties could be NGOs whose statutory activities are consistent with the assumptions of the program, and legal entities which provide extension services. The tasks of the program must be implemented in certain recommended areas (168 plots in Beskidy and 73 plots in Kraków-Częstochowa Upland) indicated in the program description document.

Risk/uncertainties of participants: The main risk of the associations which take part in the call is that the sub-contracted farmers/other parties will not fulfil the requirement of the contract concerning for example number of animals kept for the grazing season or animal density etc.

Funding/Payments: The funds come from the Local Government Budget of Śląskie Voivodship. The amount allocated to the program is planned for the programming period (currently 2015-2020). Annually an open call is organized in which NGOs, associations, cooperatives and other eligible parties offer the required number of sheep and goats made available by subcontracted farmers for grazing. The payment is made to contracted NGOs organizations, and then those organisations transfer funds to the sub-contracted parties (farmers, producer groups). The amount of subsidy is fixed and relates to size of the area offered for grazing (ca. 100 thousand euro for the area of minimum 550 ha in Beskidy, and/or 15 thousand euro for minimum 100 ha area in Kraków-Częstochowa Upland).



Source: owcaplus.pl

Context features

Landscape and climate: The Beskidy are medium-high mountains within 800-1400 m above sea level. The landscape is characteristic for this type of mountains overgrown with beech, oak, spruce, pine and fir, as well as scythe in the highest parts. In the Beskidy, there is a temperate mountain climate with continental features. It is characterized by high weather variability, significant rainfall and strong and frequent winds. Precipitation in the Beskidy sometimes exceeds 1200 mm per year. The average annual temperature ranges from 5.4 C in the dorsal parts to 8.5 C in the valley of the Olza River. The Kraków-Częstochowa Upland has a landscape that is a bit different. The area rises to a height of about 300 - 500m above sea level and 20% is covered by forests. In former times the area was often the bottom of the sea, which created many layers of rocks (dolomites, marls, limestones). Characteristic for the landscape are numerous calcareous outliers rising above the surface, rising to a height of several dozen meters. The climate of the highlands is milder than the climate of the mountainous Beskidy. One of the most important factors influencing the landscape and nature of both regions was and still is pastoralism. Sheep graze in beautiful mountain halls and areas that, due to natural conditions (e.g. slope), cannot be cultivated. Shepherds' buildings, sheep fences and shepherd's huts are typical elements of the landscape.

Farm structure: Agriculture, due to natural conditions, is not of great importance in the region of the Beskidy and the Kraków-Częstochowa Upland. The average farm size is 4.5 ha, which in consequence makes the agriculture of the Śląskie Voivodship one of the most fragmented in Poland. Tourism, which is becoming an important source of income for local people, is starting to play an increasingly important role in the economy of these regions. Sheep breeding is also important, which after a drastic period of decline, is slowly recovering in these areas, also due to the Sheep Plus program.

SUCCESS OR FAILURE?

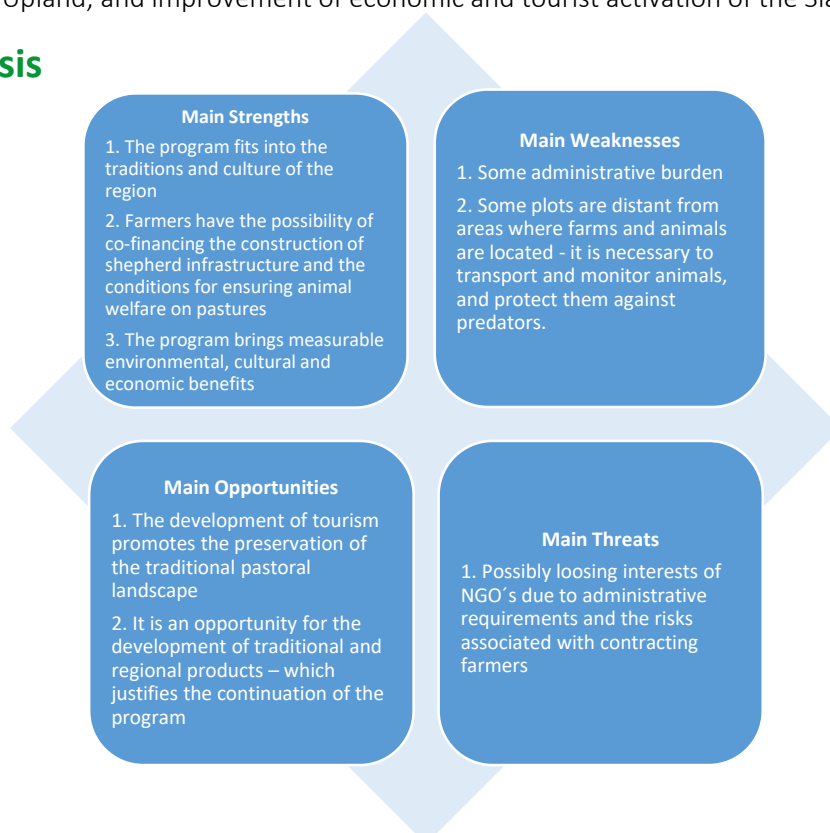


The program “Owca Plus” represents a successful contract solution. The number of participants increased over the years. The program is implemented continuously since 2008. The program brings measurable environmental, cultural and economic benefits. The outcomes of the environmental monitoring showed significant improvement of biodiversity in natural habitats. From economic perspective, the tourist infrastructure was modernized and expanded to improve the accessibility and attractiveness of the areas included in the program. Thanks to the implementation of the program, the sheep population increased and the availability of meat and sheep products expanded. Indirectly the program also contributed to the development of tourism (by an increase in the number of entities offering accommodation, meals, employment in tourist services, trade and transport).

Reasons for success:

- Farmers receive financial remuneration for grazing animals on specific areas (plots), which preserves pastoral traditions and cultivate this culture in the region.
- High share of grasslands, tourist attractiveness of the region as well as fragmented, extensive structure of agriculture favours the implementation of the program;
- NGOs raise funds for statutory activities and demonstrate activity in priority areas.
- Self-government of the Province, by financing this program, contributes to preservation, protection and restoration of the biodiversity in the most valuable natural areas of Beskids and Kraków-Częstochowa Upland, and improvement of economic and tourist activation of the Śląskie Region.

SWOT analysis



Program “Flowering meadows” - contracts for protection of biodiversity and water resources by regular mowing of meadows

The Program “Flowering meadows” was introduced in 2011 by the company Żywiec Zdrój S.A. to preserve and protect biodiversity and water resources of the Żywiec Region, through adapted mowing of meadows.



Summary

The program “Flowering meadows” has been introduced in 2011 by the Żywiec Zdrój S.A. company (one of the largest producers of bottled water and other soft drinks in Poland) within their Corporate Social Responsibility policy. Under the program, farmers/land owners in the communes of Jeleśnia, Węgierska Górką, Radziechowy-Wieprz regularly mow meadows respecting certain rules in order to protect biodiversity as well as water resources used by the company. Since 2017 the program has been managed by National Foundation of Environmental Protection Centrum UNEP/GRID-Warsaw. Farmers may take an advantage of the compensation of PLN 2.5 thousand/ha (ca. 580 euro/ha) of mowed area. In 2019, the project covered 52 ha of land owned by 97 farmers. The target area planned for protection is 120 ha of sensitive plots surrounding the water springs of Żywiec Zdrój S.A. As a result of this program, overgrowing of valuable grassland habitats was inhibited, and the infiltration of water was improved. The project allowed to secure populations of plant species subject to legal protection, which are highly threatened due to the abandonment of the use of mountain meadows - e.g. it prevented the extinction of the Spisz saffron in Sopotnia Mała in Polana Monarska.

Objectives

- Preservation, protection and restoration of the biodiversity in valuable natural areas.
- Protection of clean water resources of the region.
- Maintenance and improvement of valuable natural habitats.

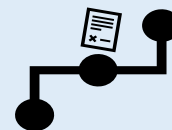


Zapolanka, Beskid Żywiecki Source: fot. Jerzy Opiota CC-BY-SA-3.0

Problem description

Abandonment of mowing accelerates the processes of secondary plant succession in the meadows by the influx of self-seeding invasive plant species and of trees. As a result, this affects the natural biodiversity of meadows, and reduces the water infiltration of these areas. Many species of valuable plants are being displaced from their natural habitats. Mowing meadows has a positive effect on the preservation of these habitats and improves water retention.

VALUE CHAIN



Value chain initiative – the contract is between private company Żywiec Zdrój S.A., UNEP/GRID (foundation who manages the program on behalf of the company) and farmers

PUBLIC GOODS



(Farmland) biodiversity



Water quality



Landscape and scenery

INDIRECT EFFECTS

The requirements for farmers, except mowing, also include the ecological maintenance of meadows and avoidance of all possible ways of its contamination (e.g. by fertilizing, chemical protection, silage storage, manure spreading, etc.). Therefore, the program also contributes to the protection of the natural environment, improvement of soil quality, as well as protection of water resources against pollution of agricultural origin.

CONTRACT

It is a market sector-oriented contract. The contract partnership is private – private: Żywiec Zdrój S.A. – UNEP/GRID (NGO) – farmer



Contract conclusion:
Written agreement (contract)



Payment mechanism:
Incentive payments

Length of the contract:
1 year, renewable



Start of the program:
2011
End: still running

LOCATION

POLAND



Żywiec Region, PL225



Data and Facts - Contract

Participation: In 2019, the program covered 52 ha of land owned by 97 farmers. Since 2017 the number of farmers and area covered by the program tripled.

Involved parties: The funding body: company Żywiec Zdrój S.A. - one of the largest producer of bottled water and other soft drinks in Poland. Organisation managing the program - The UNEP/GRID-Warsaw Centre (NGO – the branch of National Foundation for the Environmental Protection in Poland) – which is a member of the GRID (Global Resource Information Database) network, established by the UN Environment (United Nations Environment Programme – UNEP). Beneficiaries: farmers having land in the areas covered by this program.

Management requirements for farmers: The program is addressed to farmers/landowners having their land in the communes of Jeleśnia, Węgierska Góra and Radziechowy-Wieprz of Żywiec Zdrój Region. For the contracted farmers, besides mowing the plot twice per year (July and September), it is forbidden to use pesticides and fertilisers including sewage (manure, slurry), they are not allowed to perform drainage works and land excavations, to collect surface water or wastes, to bury dead animals, to build silage piles, and to wash motor vehicles.

Controls/monitoring: The program implementation controls are carried out by UNEP/GRID. The control covers implementation of the required activities, as well as environmental monitoring of mowed plots.

Risk/uncertainties of participants: The main risk of the program is that farmers will not fulfil the requirement of the contract. However this risk is limited by regular controls and support services offered by the foundation UNEP/GRID.

Funding/Payments: The program is financed by the Żywiec Zdrój S.A company, within its CSR policy. The target budget allocated to the program covers yearly 120 ha of land (ca. 70,000 Euro). The program is managed by the partner institution - National Foundation of Environmental Protection Centrum UNEP/GRID-Warsaw, who signs agreements with farmers. The foundation also offers additional services of mowing the meadows upon farmer's request. The amount of subsidy is settled at the level of 2,500 PLN (ca. 580€) per hectare.



Source: <http://www.kwietnelaki.karpatylacza.pl>

Context features

Landscape and climate: The case study region – Żywiec is located in the Beskids - medium-high mountains within 800-1400m above the sea level. The landscape is characteristic for this type of mountains overgrown with beech, oak, spruce, pine and fir, as well as scythe in the highest parts. In the Beskids, there is a temperate, cold mountain climate with continental features. It is characterized by high weather variability, significant rainfall and strong and frequent winds. Precipitation in the Żywiec Region reaches on average 828 mm per year. The average annual temperature is 8° C.

Farm structure: Agriculture, due to natural conditions, is not of great importance in the region. Agricultural land accounts for about 35% of the Żywiecki province area, forests for 52%. The average farm size is 4.5 ha, which in consequence makes the agriculture of the region one of the most fragmented in Poland. Tourism, which is becoming an important source of income for local people, is starting to play an increasingly important role in the economy of this region.

Contact: <http://www.kwietnelaki.karpatylacza.pl/>

SUCCESS OR FAILURE?

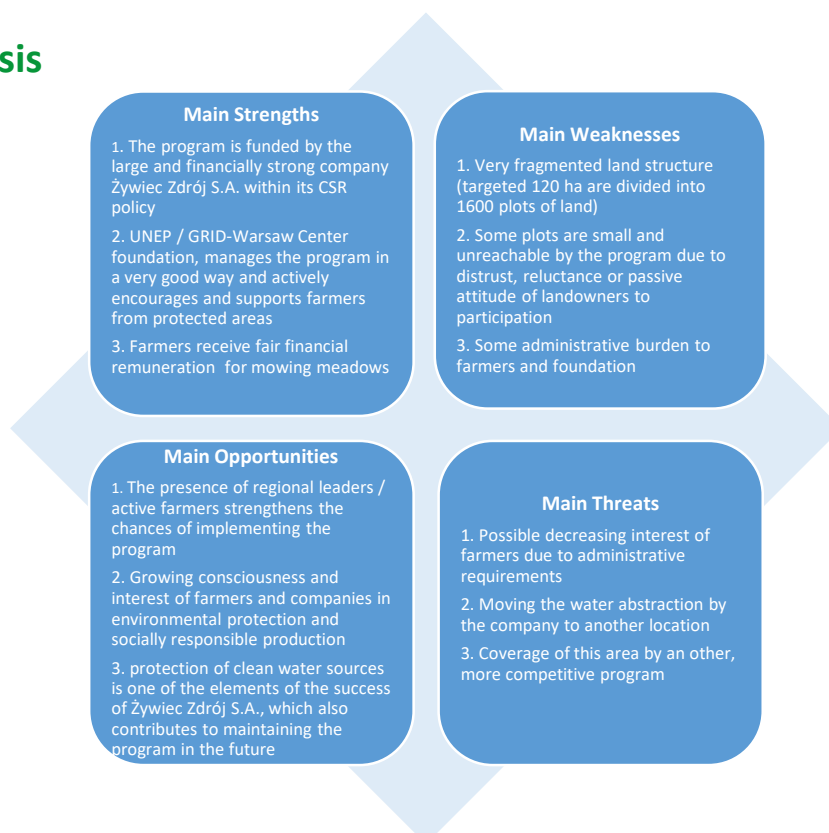


The program “Flowering Meadows” represents a successful contract solution implemented on the basis of a private initiative within the Corporate Social Responsibility policy of the Żywiec Zdrój S.A. company, producer of water and soft drinks. The program is implemented continuously since 2011, and in 2019 it covered 52 hectares, out of 120 hectares targeted for the program. The number of farmers participating in this initiative increased over the years, and the initiative is positively evaluated by residents of Żywiec region. As a result of this program, overgrowing of valuable habitats was inhibited, and the infiltration of water was improved. The project allowed to secure the populations of plant species subject to legal protection, which are highly threatened due to the abandonment of mowing of mountain meadows.

Reasons for success:

- The location of water springs of Żywiec Zdrój S.A. in this area and the company's policy aimed at socially responsible production and environmental protection is a key factor in the success of this program.
- The program is also successful thanks to the activity of the UNEP / GRID-Warsaw Center foundation, which, in cooperation with Żywiec Zdrój S.A., manages the program and very actively encourages and supports farmers from protected areas.
- Farmers receive fair financial remuneration for maintenance and mowing of the meadows.

SWOT analysis



Bio-Babalscy - organic pasta chain preserving old varieties of cereals

The Bio-Babalscy organic pasta company is a family business, which together with about 90 supplying farmers preserves rare varieties of wheat, which are cultivated to produce seeds and grains for processing to various cereal products: flakes, flour and pasta.



Summary

The initiative of Bio-Babalscy company represents a case of the integrated value chain, and is an example of the very successful integration process resulting in strong organizational and financial synergy effects, while protecting the environmental public goods. Cooperation within the chain is largely based on mutual trust and friendly relations between farmers (grains suppliers) and the processor. Most of the seeds used by contracted farmers are provided by Bio Babalski company, closely co-operating among others with the Gene Bank in Poland. Each year on the plots on Babalski's farm in Pokrzydowo about 70 varieties of old species of cereals are cultivated. The best species and varieties are promoted (1 hectare of land can be sown after 5-7 years from the reproduction of 100 seeds) and reproduced in order to provide seeds to other farmers. In total over 600 tons of grains are being processed annually, and the annual sales of final products reach about 350 tons. In addition to pasta and flakes also wholemeal flour, bran, and even spelt coffee are produced. All products from Bio-Babalscy company are certified as organic. Wholegrain pasta with Bio Babalscy brand, especially this made of spelt wheat, costs even 50% more than the conventional one. Nevertheless, the number of consumers who believe in quality of Bio Babalscy products is growing, assuring good prospects for the future of the company and the entire integrated supply chain. The organic farm and processing Bio-Babalscy plant are visited by about two thousand persons every year. The visitors are groups of students, farmers and consumers from all over Poland and also from abroad - all who want to see and learn how to successfully run a model eco-farm and to protect environment.

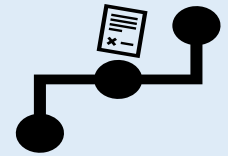


Source: <https://biobabalscy.pl/>

Objectives

- Preservation, protection and restoration of old varieties of wheat, thus supporting biodiversity and culinary heritage of the region
- Securing economic viability of farms in the Brodnica County
- Protecting environment by organic production
- Maintaining family traditions of organic production

VALUE CHAIN



farmers – Bio-Babalscy processor and shop

PUBLIC GOODS



(Farmland) biodiversity



Rural viability and vitality



Quality and security of products



CONTRACT

It is a private-private contract between farmer and processor.

Contract conclusion:
verbal agreement/
handshake

Payment mechanism:
Product price

Financing party:
Consumer-oriented



Start of the program:
1993
End: still running



Length of participating in scheme: There is no written contract needed. The cooperation lasts for many years already (with some farmers even since 1993). In practice - they meet twice a year and agree on deliveries, usually on the occasion of the Ekolan Association meetings, they have also regular telephone contact.



Data and Facts - Contract

Indirect effects:

- o Soil quality (and health) - through methods of organic production
- o Rural viability and vitality, the program brings measurable economic and social benefits to farmers, which contributes to rural viability and vitality.
- o Cultural heritage - mainly culinary

Participation:

- Number of farms: over 90 farmers delivering to Bio-Babalscy, most of them being members of the EKOLAN association - Association of Organic Producers in Cuiavia and Pomerania. Farmers are located in the Brodnica County. The average size of farm is 19 ha, all farms can be classified as mixed: with cereals and animal production, cereals and vegetables, and with all these types of products.
- Other participants: Bio-Babalscy processing plant and shop

Involved parties: Bio-Babalscy company cooperates with about 90 farmers, most of them - members of the EKOLAN association. EKOLAN farmers have a unique relationship with the pasta producer. The processing company owner, Mr. Babalski, has a strong authority as a pioneer of organic farming in Poland, respected for the broad knowledge of ecological production methods. He provides seeds and advice to farmers, always offers good prices for grains to his suppliers and provides all support they may require. That is why the relationship between farmers – suppliers of grains to Bio Babalscy company and the processor (Mr Babalski) may be described as a close partnership rather, than a typical buyer – seller connection. One may say, thus, that both parties have almost an equal bargaining power due to the fact that all partners in the chain are aware of their mutual interests. Farmers appreciate assured payments and good prices offered by processor, but also possibilities of sales of large quantities of produce. Farmers declare that they "simply" like to sell their grains to Mr Babalski.

Management requirements for farmers: Organic production.

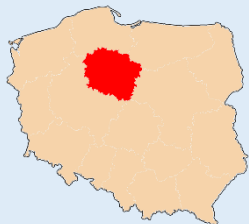
Initial situation

Aleksandra and Mieczysław Babalski belong to the pioneers of organic farming in Poland. At the beginning of the 80's Babalski decided to cultivate the land on his farm using ecological methods, based on his experience from longer stays and short visits to organic farms in Switzerland, Austria and Germany. The family started farming on the area of 9 hectares of agricultural land. After conversion, his farm has been certified by the Agro Bio Test Certification Body (PL EKO 07 90001) as the first certified organic farm in Poland. In 1991 a plant for pasta production was built, which is operating along with the farm. One of the most important products of the company is wholemeal pasta, which is made from traditional, old varieties of grains. The flour used for making pasta at "Bio Babalscy", unlike standard flour, contains remnants of shells and peels which provide a healthy fiber. The Babalscy are passionate about ecology and environment protection. They contribute to these by producing and protecting old varieties of cereals (such as spelt, flatfish and samarium), which have unique nutritional and health values, as well as through disseminating organic methods of production. They also cultivate old varieties of fruits (mainly apples) in their orchard. In 2010, Babalski's farm won the competition for the Best Ecological Farm in Poland in the category „Ecology and Environment”. Since 2012 the company is a member of the Regional Network called "Culinary Heritage of Kujawy and Pomerania", and is also engaged in the activities of the Association for Old Varieties and Breeds and Cuiavia and Pomerania Association of Ecological Producers EKOŁAN.

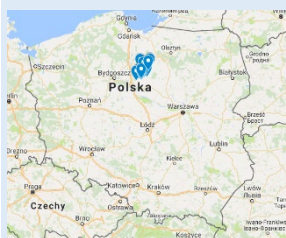
Controls/monitoring: The quality controls are performed by the processor and cover such parameters as: variety, taste, smell, presence of diseases, moisture of grains, grain contamination.

LOCATION

POLAND



Brodnica County PL613



Context features

Landscape and climate:

The Brodnica County is called the land of 101 lakes, and it is located in the north-eastern part of the Kuyavian-Pomeranian Voivodeship, in the northern part of Poland.

The region is characterized by a varied terrain with postglacial features (lakes, gentle hills). In terms of the percentage of forests, the Kuyavian-Pomeranian Voivodeship belongs to the least forested in the country. Forest complexes in the voivodeship are small and occur in a large dispersion. The climate in the region is temperate. The average annual temperature is 7.6 °C. and the average annual rainfall is 568 mm.

Conditions of participation: There are two conditions for participation - first, the farm must be certified as organic, and secondly, it must produce varieties of cereals as required by the processor (usually old, even ancient varieties of cereals).

Risk/uncertainties of participants: The main risk of the processor is that the farmers will not deliver the required amount of grains because of reasons such as low yields caused by poor weather conditions or diseases, but also because of potential decisions of the farmer to sell grains to another buyer offering a better price. Farmers take the common risks typical for agricultural production, strengthened by the fact that they produce old varieties of cereals, which could be more sensitive to some external factors.

Funding/Payments: The case is a typical market oriented-scheme, where the key payment is the price for the value added products. The indicators of the economic performance show that price premium for organic pasta/wheat production is high at both, farm and processing levels. The organic wheat price (0,43 €/kg) almost doubles the price of conventional wheat (0,22 €/kg) and prices of organic pasta are about 50% higher compared with conventional. This premium is additionally relatively high because of the old varieties of wheat used by the organic pasta producer which usually are very low performing (have lower yields), but are valued by consumers. Unique is also a close relationship between pasta producer and farmers, which enhances extra premium for supplying very specific cereals to the processor.



Source: <https://biobabalscy.pl/>

Farm structure: The natural conditions for agriculture in the Kuyavian-Pomeranian Voivodeship are favorable. The agricultural sector in the region is characterized by a high share of arable land (57%, compared to 45% of the average in the country) and a high farming culture. The region has a significant share of good arable land - 76% of the total area, including 36.7% of particularly productive and protected soils. There are about 60,000 individual farms with an area of at least 1 ha. In terms of the value of production from 1 ha of arable land, the Kuyavian-Pomeranian agriculture is ranked second in the country. The share of the region's agriculture in creating the gross global agricultural product is higher than the national average and amounts to about 10%. The main crops are sugar beet (17% of the country production), rapeseed (13%) and cereals (9%), while in animal production considering pigs population and meat production the region takes 2-3 place in the country. The average size of farm delivering to Bio-Babalscy is about 19 hectares, what is above an average farm size for Poland (10,56 ha in 2016) and also in kujawsko-pomorskie voivodeship (15,51 ha). Majority of farms delivering to processor can be classified as mixed: with cereals and animal production, cereals and vegetables, and with all these categories of products.

Information/Contact: <https://biobabalscy.pl/>

SUCCESS OR FAILURE?



The case study "Bio-Babalscy" on integrated organic pasta chain" represents a successful contract solution. The initiative increases the share of organic farming and preserves, protects and restores old varieties of wheat, thus supporting biodiversity and culinary heritage of the region. Through a price premium at farm levels, it also secures economic viability of the farmers in the Brodnica County.

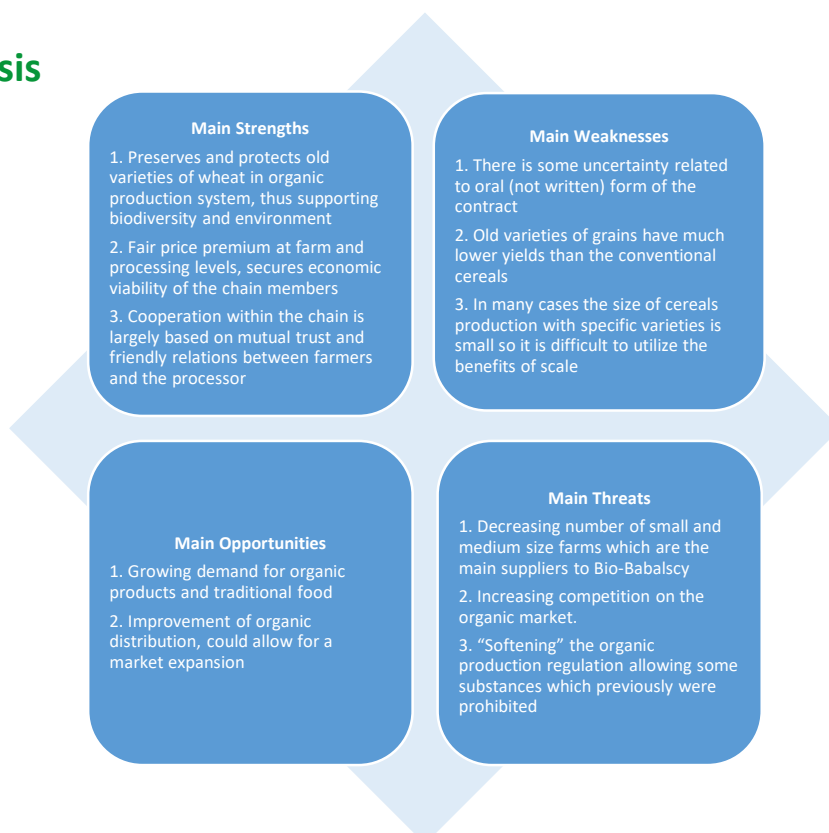


Source: <https://biobabalscy.pl/>



Excluding transport, the carbon footprint of organic pasta is lower than its conventional production. Most of this difference is driven by the absence of mineral fertilizers and pesticides in the cultivation of organic cereals. Unique is also a close relationship between pasta producer and farmers, based on mutual trust and friendly relations.

SWOT analysis



Delivering multiple environmental benefits in the South Pennines

Several key environmental benefits from the Countryside Stewardship Facilitation Fund (CSFF) presence in the South Pennines area have been identified in order to improve habitat connectivity across and adjacent to Special Protection Areas (SPA), Special Areas of Conservation (SAC) and the South Pennines Moor Site of Special Scientific Interest (SSSI). These activities include moorland restoration and enhancement, grassland habitat creation, and enhancing and expanding riparian habitats to benefit flood risk management and water quality while addressing sub-optimal land management



Summary

The network was initially set up by a farm advisor who had good contacts with farmers, local authorities and other large landowners. Land managers in this area have previously struggled to access funding because it is not located in a National Park or Area of Outstanding Natural Beauty which receive additional funding from the Government. This is further compounded by the small size of many of the farms which makes it hard for them to apply to certain farm support payment schemes.

A particular highlight of this network was working with a local council that had been allocated £2 million following the 2015 floods. The group worked to ensure £500k was allocated to an Agri-Environmental Scheme (AES) which the network developed and Calderdale Council oversees. The network has also worked with the Woodland Trust to enhance the woodland creation offer.

Objectives

- Build an informed and cohesive, landscape scale, land management community
- Increased woodland management and creation
- Improved water quality and flood risk in the region
- Improved grassland and moorland habitat connectivity
- Development of non-government funding streams for the delivery of ecosystem services in land management
- Addressing potential issues resulting from sub-optimal land management



Problem description

The South Pennines network includes areas of protected status including SSSIs, SACs and SPAs. However unlike many other CSFFs in the Yorkshire region it is not in a National Park so does not benefit from the additional Government funding that those areas receive.

Farming incomes in this area are built on a long history of mixed livelihoods, from weaving on hand looms to working in the mills during the industrial revolution. The requirement for farmers to supplement their income with out-of-farm activities continues, and can lead to sub-optimal land management. The CSFF strives for a future free from the threat of financial constraints and is aiming for continued land stewardship not intensification of farming.

COLLECTIVE



PUBLIC GOODS



Landscape and scenery



(Farmland) biodiversity



Soil quality (and health)



Resilience to natural hazards



Rural viability and vitality



Cultural heritage



Water quality

Further PG's

Woodland creation and management

CONTRACT

Public-Private contract
Public-private-civil
society

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments



Financing party:
Government with EU-
funding

Funding/Payments:
Government funding,
£10,000, plus £500 per
farmer in the CSFF
group per year, to
cover the expenses for
attending meetings and
training.

**Length of participation
in scheme:** The length
of the contract is 5
years



Start of the program:
2016

End: 2021
The network began
shortly before the
funding was awarded in
2016 and will continue
for 5 years.

LOCATION

United Kingdom



West Yorkshire UKE4

Data and Facts - Contract

Participation: At its outset in 2016 the network had 8 members and has grown to over 60 with a further 20 non-members attending meetings. The total land area encompassed by the network is 8,630 hectares made up of clough woodlands and upland livestock farms; it includes SSSI, SPA and SAC-designated sites to benefit habitat connectivity.

Involved parties: Three major types of partners are involved in the CSFF group; farmers and land managers, network facilitator and funding body. The facilitator of the group is employed to bring the group together, organise meetings and invite key stakeholders and experts to provide training as well as bring new members into the scheme. They also oversee the expenses of participants and will apply for funding renewal as appropriate. Natural England provides funding, oversees the functioning of the group and provides crucial information on pressing environmental needs in the region and the actions of other CSFF groups in the area.

Advantages: The contract solution facilitates meetings between, and training of, land manager members and is focused on increasing the probability of delivering higher quality environmental public goods through better environmental management and by supporting knowledge transfer.

Management requirements for farmers: The maximum available annual grant is £50k. While there is no set requirement for numbers of meeting between the members, progress reports are required every quarter along with expenses claims.

Controls/monitoring: Results are not monitored yet, but monitoring and evaluation is conducted through the claim expenses of the CSFF facilitators. Natural England determines whether farmers and CSFFs' case is offering good value for money.

Conditions of participation: The minimum number of farmers needed for a CSFF to be set up and be eligible for funding is 4 and the network should have no more than 80 members. The land covered by all members' farms must exceed 2,000 hectares. The farmer's/land manager's land should be part of a landscape area to be included.

Risk/uncertainties of participants: Seasonal fluctuations due to the nature of agricultural activities means participation of members varies throughout the year. A large proportion of the farmers in the network rely on out-of-farm income and additional jobs meaning their time is limited for participation in the network. Most of the farmers are heavily reliant on environmental payment schemes which in some cases makes up the majority of the farm's income. There is a possibility that fellow farmers are viewed as competitors and not as collaborators.

Context features

Landscape and climate: The South Pennines CSFF land holdings are characterized by mainly upland farms 250 – 400m above sea level. These include a variety of habitats and land types ranging from upland heath, blanket bog, moorlands, riparian habitats, acid grasslands, low-input grasslands and pastures for livestock which is the major activity in the area. Towards the bottom of the catchment there are clough woodlands: woodlands that



Credit: J. Bancroft

are in valleys connecting open moorland to the towns below. The area encompassed includes SSSI, SPA and SAC-designated sites to benefit habitat connectivity.

Farm structure: The South Pennines CSFF network land holdings are in an upland area with mainly livestock, predominantly sheep with some beef cattle, used for meat, and a small number of dairy farms and arable in the area. The sheep are usually not finished in the area but sold on for fattening in lower ground where the grassland can provide sufficient nutrients; this creates an obstacle for farmers who wish to set up community supported agriculture schemes or sell direct to the consumer as they are unable to produce animals ready for slaughter. There is no organized forestry in the area and most of the woodlands are under-managed. Many of the farms in the network are owned although some are rented.



ASSESSMENT OF CONTRACT SOLUTION



There are a mixture of different contract solutions being operated by CSFF members and an overall assessment of their success is not possible at this time. The South Pennines CSFF group of land managers benefit from the proximity with other CSFFs that allow for positive spill-overs and common meetings between the groups. Many of the targets are difficult to evaluate as the results will become apparent over a long period of time, however, member feedback is positive and attendance at monthly meetings increases month on month. So far over 30 meetings have taken place covering topics ranging from the Climate Emergency to the marketing of rare breed mutton.

SWOT analysis



Using natural flood management to achieve multiple environmental benefits in Wharfedale



The Wharfedale Countryside Stewardship Facilitation Fund (CSFF) network was set up to provide multiple environmental benefits through increased biodiversity, protection of historic landscapes, wetland management and improvements in water quality. The network was brought together by, and is now coordinated through the Yorkshire Dales Rivers Trust which allows greater connectivity with, and knowledge of, similar activity taking place across the region

Summary

Natural flood management (NFM) was one of the reasons for establishment of the Wharfedale CSFF network in 2017; it brought together 16 farmers to tackle issues across the catchment using NFM and other measures. Flooding happens several times a year in the catchment and there are long-term problems with soil loss and pollution; Storm Desmond in 2015 provided a North of England focus for action to address flooding.

A key aspect of this network was to bring together a group of neighbouring farmers and identify their priorities. The group has focused on key issues they want to tackle; some related to flood risk mitigation, but many others on topics including improving the value chain for their products, public goods such as habitat restoration and understanding and reducing their carbon footprints.

Objectives

- Improvements in water quality, in particular reductions in sediment and phosphate throughout the catchment, from Natural Flood Management measures
- Increased biodiversity in blanket bog, upland heath and hay meadows
- Improvements in habitats for species, in particular wading birds
- Training to provide greater knowledge and understanding of flood risk reduction and to build a holistic view of the catchment



Credit: D. Turner



Credit: D. Turner

Problem description

The Wharfedale NFM CSFF network was funded through the CSFF Northern Flood round in 2017 as a response to the flooding in the North of England caused by Storm Desmond in December 2015.

Flood events happen in this area several times a year and there are longstanding issues such as sedimentation, soil loss and pollution levels in the Wharfe catchment. While the flooding itself is further downstream from where network members are based, there was a desire amongst farmers to use NFM measures to tackle these problems and work together collectively.

COLLECTIVE



PUBLIC GOODS



Water quality



(Farmland) biodiversity



Resilience to natural hazards



Water quantity



Rural viability and vitality



Cultural heritage



Landscape and scenery

CONTRACT

Public-Private contract

Contract conclusion:

Written agreement



Payment mechanism:

Incentive payments



Financing party:

Government with EU-funding

Funding/Payments:

Government funding, up to £500 per year, per farmer in the CSFF group to cover costs of training and attending meetings.

Length of participation in scheme:

The length of the contract is 3 years



Start of the program:

2017

End: 2020

LOCATION

United Kingdom



North Yorkshire UKE2

Data and Facts - Contract

Participation: The membership is 16 farmers with a total land of adjacent holding of 6456 hectares, with the participation and oversight of Natural England (government agency).

Involved parties: Three major types of partners are involved in the CSFF group; farmers, network facilitator and funding body. The facilitator of the group is employed to bring the group together, organise meetings and invite key stakeholders and experts to provide training as well as bring new members into the scheme. They also oversee the expenses of participants and will apply for funding renewal as appropriate. Natural England provides funding, oversees the functioning of the group and provides crucial information on pressing environmental needs in the region and the actions of other CSFF groups in the area.

Management requirements for farmers: The maximum salary that the CSFF facilitator can get is £50k. While there is no set requirement for numbers of meeting between the members, progress reports are required every quarter along with expenses claims.

Controls/monitoring: Results are not monitored yet, but monitoring and evaluation is conducted through the claim expenses of the CSFF facilitators. Natural England determines whether farmers and CSFFs' case is offering good value for money.

Conditions of participation: The minimum number of farmers needed for a CSFF to be set up and be eligible for funding is 4 and the network should have no more than 80 members. The land covered by all members' farms must exceed 2,000 hectares; land cannot be included if it belongs to a public body. The farmer's/land manager's land should be part of a catchment area to be included.

Risk/uncertainties of participants: Due to the type of farming and its profitability all the farms rely on additional sources of income either through part-time working by the farmer, a second income through family members, diversification of activities or a combination of these. The majority of sheep farming is also making a loss. These factors can both be a distraction and a reason for farmers to participate in the network. The former can lead to adverse effects on environmental quality and delivery of AES.

Context features

Landscape and Climate: The Wharfedale NFM CSFF network is located in the Yorkshire Dales National Park and the land the network members farm contains upland habitats such as blanket bog, upland heathland and hay meadows, ancient/native woodland, upland flushes, fens and swamps, riparian habitats, and wader breeding habitat. Some of the land is Common Land with several farmers having access rights to it. Across the wider region there is a lot of hay meadow and moorland restoration taking place; for example the Yorkshire Peat Partnership is undertaking peatland restoration in the area



Credit: D. Turner

Farm structure: All 16 farms in the network have upland sheep, some are transitioning to including hairy cattle and there is one dairy farm. There is a mix of ownership and tenanted farms and several of the farmers have access to Common Land which has a variety of different arrangements for getting grazing rights. The majority of the land under tenancy agreements belongs to the National Trust and the tenancy agreements vary in their terms: some date back several generations. Some of the tenancy agreements have high rents which impact farmer income and profitability. The farms vary in size, but all are low input and all are part of Countryside Stewardship schemes. Upland farmers in this network receive 25% of their income from Basic Payment Schemes (the most basic type of Agri-Environmental Schemes (AES) in the UK), 25% from Countryside Stewardship (another AES), and then a large amount from diversification of income sources outside of farming and forestry.

ASSESSMENT OF CONTRACT SOLUTION



There are a mixture of different contract solutions being operated by CSFF members and an overall assessment of their success is not possible at this time. The Wharfedale CSFF group of farmers benefits from the proximity with other CSFF that allows for positive spill overs and common meetings between the groups. The expected target of NFM cannot be evaluated but attendance has been solid and several meetings have taken place.

SWOT analysis

Main Strengths

1. Homogeneous farming practices (sheep) with common interests in NFM
2. Proximity to National Trust land provides higher benefits due to higher environmental quality of such areas and potential tourism income due to increased visits
3. A change of perspective on what constitutes a successful AES has developed with farmers seeing the opportunity to deliver benefits across the catchment.

Main Weaknesses

1. Meetings are held when topics of interest have been identified (this results in 8-9 meetings per year with varying levels of attendance)
2. Tenancy agreements can be burdened by high land rents reducing farm profitability
3. The differences between size of holdings of members of the CSFF results in network members having a different focus and priorities.

Main Opportunities

1. Better environmental benefits from close cooperation with other CSFF and Natural Flood Management groups. Extended support by the Yorkshire Dales Rivers Trust (a local charity) is of benefit and a critical support factor
2. The formation of the network provides opportunities for members to exchange knowledge and ideas about novel farm products and services and taking them towards commercialisation.
3. CSFF brings people together, allowing easier comparison between owners and tenants, and highlights the different pressures they are under.

Main Threats

1. The varied interests of different farmers makes CSFF facilitation and coordination difficult
2. Large dependency on out-of-farm income may impact the environment and participation in AES
3. Continued funding and support for group working is not guaranteed.

Building natural flood management knowledge and capacity in Wensleydale



The Wensleydale Countryside Stewardship Facilitation Fund (CSFF) group was set up to improve knowledge sharing and provide training in farm practices aimed at improving natural flood management (NFM). The group is also focused on how NFM can be delivered in conjunction with positive land management for landscape, biodiversity and water quality.

Summary

The Wensleydale CSFF network was set up in April 2017 by a group of 29 farmers with a common interest in natural flood management. The group has subsequently grown and members tend to naturally group according to their farming/land management practices, although all have benefited from other similar CSFFs being set up at the same time in the same geographical area.

The group has several aims including exploring Countryside Stewardship priorities and funding that can help deliver NFM and management for priority habitats and species. By working as a group the farmers are also able to provide sufficient information to help inform and influence future funding allocations such as Agri-Environment Schemes (AES) and the priorities of organisations including Yorkshire Water and the Environment Agency. The group has constant contact with other nearby NFM CSFF groups including Upper Wharfedale, Swaledale and Lunesdale to agree ways of joint working to share expertise and training delivery which increases farmer participation and outcomes. The group also works with the 'Yorkshire Dales Catchment Partnership' to improve water quality.

Objectives

- To explore what NFM measures could be considered and installed to help address surface water run-off and high river and stream levels during periods of heavy and/or prolonged rainfall.
- Identify what services farmers provide/can provide to help downstream communities recognise the value of 'buying in' to NFM carried out on farmland upstream
- Improved management of ancient and native woodland
- Native woodland creation and habitat creation for black grouse and red squirrel
- Management of purple moor grass and rush pasture for breeding waders
- Traditional hay meadow management and restoration
- Riparian habitat management and creation



Flooding Hawes (credit: H. Keep)

Problem description

The Wensleydale NFM CSFF group was set up as part of the 2017 Northern Flood Round of the CSFF to tackle issues brought into sharp focus following Storm Desmond in 2015. Surface water run-off, coupled with high river water flows during periods of heavy or prolonged rainfall, was contributing to flooding in the area which was happening more regularly and with increasing intensity. Flooding and high water levels were not just affecting farmland, but local roads and communities too.

An additional driver was the need to improve water quality as phosphate and sediments were reaching the upper and middle reaches of the Ure catchment and the Semer Water SSSI.

COLLECTIVE



PUBLIC GOODS



Resilience to natural hazards



(Farmland) biodiversity



Landscape and scenery



Soil quality (and health)



Rural viability and vitality



Cultural heritage

CONTRACT

Financing party is the government (with EU-funding).
Public – private type of contract.

Contract conclusion:
Written agreement



Payment mechanism:
Incentive payments



Funding/Payments:
Government funding, up to £500 per year, per farmer in the CSFF group.

Length of contract: 3 years

Length of participation: 3 years so far



Start of the program: 2017
End: 2020

LOCATION

UNITED KINGDOM



North Yorkshire UKE2

Data and Facts - Contract

Participation: The network started with 29 farmers and has now grown to 34 farmers. The area of focus is the upper River Ure catchment and the total land involved is 7,853 hectares.

Involved parties: Three major types of partners are involved in the CSFF group; farmers, network facilitator and the funding body. The facilitator of the group is employed to bring the group together, organise meetings and invite key stakeholders and experts to provide training as well as bring new members into the scheme. They also oversee the expenses of participants and will apply for funding renewal as appropriate. Natural England provides funding, oversees the functioning of the group and provides crucial information on pressing environmental needs in the region and the actions of other CSFF groups in the area. Yorkshire Dales Rivers Trust (YDRT) and the Dales Farmer Network (DFN) are partners who sit on the steering group and help to deliver some of the group events and training.

Management requirements for farmers: The maximum available annual grant is £50k. While there is no set requirement for numbers of meetings between the members, progress reports are required every quarter along with expenses claims.

Controls/monitoring: Results are not monitored yet, but monitoring and evaluation is conducted through the claim expenses of the CSFF facilitators. Natural England determines whether farmers case is offering good value for money.

Conditions of participation: The minimum number of farmers needed for a CSFF to be set up and be eligible for funding is 4 and the network should have no more than 80 members. The land covered by all members' farms must exceed 2,000 hectares; land cannot be included if it belongs to a public body. The farmer's/land manager's land should be part of a catchment area to be included.

Risk/uncertainties of participants: This group is big and covers a large geographical area. Members of the group can be different in terms of what they want to focus on. It has been a challenge focusing on such a diverse group with differing interests and has meant holding meetings that capture everyone's interest can be difficult. Most members are upland farmers whose businesses rely on Basic Payment Scheme (BPS) and Agri-Environmental Scheme (AES) support. BPS is being phased out and AES is changing causing concerns about payments suddenly stopping. Farmer retirement and the subsequent splitting up and incorporation of some farms into neighbouring farms creating a large variability between small and large holdings amplifies the differences in farming methods and focus which can impact upon participation in AES.

Context features

Landscape and climate: The Wensleydale landscape is predominantly upland rocky with a steep topography and varied soils from clay and acidic in the uplands to rich fertile loam and clay river alluvium in the valley floors. The land that members farm includes upland heath, blanket bog and flushes and fens, ancient and native woodlands, traditional hay meadows and riparian habitats. The area encompassed includes SSSI, SPA and SAC-designated sites and many of the landholdings are in a National Park.

Farm structure: The farms of members of the Wensleydale CSFF group cover a wide variety of agricultural and forestry practices ranging from beef and sheep systems up in the fells (the majority of farmers belong in this category), to dairy and sheep in the valley bottoms. There are some forms of agroforestry in place too.

The majority of the farms are medium-sized of 50 – 250 hectares although some are significantly smaller (10 hectares) and there are also some large farms with one estate of 2,500 hectares. Few are able to support more than one person working full-time on the farm and they are typical of upland areas in being very reliant upon subsidies. Basic Payment Scheme has become a key part of the business. Some of the farms have been involved with AES for over 20 years.



Sleddale-Wensleydale (credit: T. Wilson)



Rush Management event (credit: T. Wilson)



ASSESSMENT OF CONTRACT SOLUTION



There are a mixture of different contract solutions being operated by CSFF members and an overall assessment of their success is not possible at this time. The group benefits from proximity with other CSFF groups that allow for positive spillovers and common meetings between the groups. The expected target of NFM cannot be evaluated but attendance at group meetings and farm walks has been good.

SWOT analysis

Main Strengths

1. Committed and active 'Steering group'; 3 of the 4 farmer members have continued to be a member of the steering group since the start and are members of the local community
2. Partnership involving the farmer members plus Yorkshire Dales National Park Authority (YDNPA), Yorkshire Dales Rivers Trust (YDRT) and Dales Farmer Network (DFN)- all sit on the 'Steering group'. Many of the farmer members have already worked with or know officers who work for YDNPA, YDRT and DFN
3. Members are able to benefit from other projects run by partners, examples include those based in Bishopdale to install practical NFM features on their land ,and benefits from monitoring and modelling projects

Main Weaknesses

1. Large number of members with very diverse farm practices and interests with farm holdings located across a large geographical area means it has taken a while to build up relationships
2. Some of the members are also involved on a voluntary basis in other projects/partnerships and thus struggle with time commitments
3. Focus on NFM sometimes limits what the group can spend their time on

Main Opportunities

1. It has taken time for the members to understand the benefits of involvement with the Facilitation Fund Group and engage and attend group events/farm walks. The momentum is just starting as the end of the 3 year project approaches: a majority of the group members wish the CSFF group to continue for a further 2 years.
2. Ability to signpost members to other initiatives and funding opportunities such as future Environmental Land Management Scheme (ELMs), potential future funding allocations from other organizations such as Yorkshire Water, and the Environment Agency and as a group to engage with, and influence, the roll-out of alternative funding
3. Identifying what services group members can provide to help downstream communities recognise the value of NFM carried out on land upstream as a 'public good'.

Main Threats

1. Lack of funding through DEFRA and links to wider Facilitation Fund group network
2. Key partners such as the YDRT struggling to commit continued support due to other work commitments
3. Brexit and no longer funding through CAP

Natural Flood Management in the River Swale catchment in Yorkshire

Farmers and land managers in eastern Yorkshire make up the small Swaledale Countryside Stewardship Facilitation Fund (CSFF) network to share knowledge on how to provide Natural Flood Management (NFM) and maintain soil health.



Summary

The Swaledale CSFF group was one of the first to be set up in the UK and has benefited from other similar CSFFs being set up across the North of England region as part of the 2017 Northern Flood Round. This was viewed both as a necessity given the magnitude of the flooding issue, both on farms and further downstream, but also due to the need for farmers to diversify their income sources due to low farm incomes.

The 17 farmers involved at the outset wanted to engage with NFM measures and had expressed particular interests in soil management, flood water infiltration and planting of trees and hedges; all these are issues that are addressed in the monthly meetings to build up knowledge of different practices.

Objectives

- NFM such as woody debris dams to improve water quality by reducing phosphate and sediment within the catchment
- Soil health
- Tree Planting/woodland creation
- Maintenance of field boundaries to reduce flooding
- Understanding catchment flood risks
- Funding streams through Countryside Stewardship



Problem description

The Swaledale NFM CSFF was funded through the Northern Flood Round of the CSFF in response to impacts in the area from Storm Desmond in 2015. Damage to farmland, flash flooding and high flood waters were all strong driving forces for collective action and the group were keen to begin working together better; CSFF was a good way to support this.

Water often backs up and floods where the rivers meet, for instance at Arkle Beck, but the worst effects are felt further downstream as the water takes longer to drain away in the flatter areas. There was a desire to work collectively to slow the flow of water moving downstream and also reduce pollution washing downstream. Awareness has been raised about different types of NFM as well.

COLLECTIVE



PUBLIC GOODS



Water quality



Soil quality (and health)



Landscape and scenery



Resilience to natural hazards



Rural viability and vitality



Cultural heritage

CONTRACT

The financing party is the government (with EU-funding). It is a public – private contract.

Contract conclusion:
Written agreement



Payment mechanism:
incentive payments



Funding/Payments:
Government funding, up to £500 per year, per farmer in the CSFF group.

Length of contract: 3 years

Length of participation: 3 years



Start of the program:
2017
End: 2020

Data and Facts - Contract

Participation: The Swaledale NFM CSFF started with 17 farmers; potentially up to 20 farmers attend meetings. The area of focus is the River Swale catchment. The land coverage is 4,009 hectares.

Involved parties: Three major types of partners are involved in the CSFF group; farmers, network facilitator and funding body. The facilitator of the group is employed to bring the group together, organise meetings and invite key stakeholders and experts to provide training as well as bring new members into the scheme. They also oversee the expenses of participants and will apply for funding renewal as appropriate. Natural England provides funding, oversees the functioning of the group and provides crucial information on pressing environmental needs in the region and the actions of other CSFF groups in the area.

Indirect effects: There is a beneficial spill-over effect from the formation of several NFM groups that allows for better knowledge transfer, jointly held meetings and farm visits in the general area that promotes better results and well attended meetings and training courses.

Conditions of participation: The minimum number of farmers needed for a CSFF to be set up and be eligible for funding is 4 and the network should have no more than 80 members. The land covered by all members' farms must exceed 2,000 hectares; land cannot be included if it belongs to a public body. The farmer's/land manager's land should be part of a catchment area to be included.

Risk/uncertainties of participants: More than three-quarters of the income comes from Basic Payment Schemes (BPS) contracts. The grass quality is not sufficient for finishing sheep for market meaning they have to be sold on for fattening elsewhere removing some opportunities for the farmers. Lack of certainty for the future of AES payments and farming income brings CSFF farmers together but there are no guarantees for the future.



Credit: Creative Commons

Context features

Landscape and climate: The Swaledale NFM CSFF network is located in a high rainfall upland area with very shallow soils, lots of limestone and a history of lead mining. Many of the farmers have access to common land in the upland areas, and much of the land area is permanent pasture. Woodland and tree cover is low, and trees that are present tend to follow the river system. Iconic stone walls and field barns are scattered across the landscape. Several of the meadows in the area are SSSIs while National Parks are also in the vicinity of the farms. Historic features such as drystone farm walls and boundaries are important to local cultural heritage and tourism.

Farm structure: All the farms in the Swaledale CSFF are sheep and beef farms apart from the one dairy farm. Most of the finishing for the sheep is done elsewhere as it is not possible to do in the area due to the quality of the grass, some finishing of the sheep is indoor. All of the farmers rely on an additional income from other activities, such as second jobs, or through diversification of what is done on the farm, such as bed and breakfast accommodation, holiday cottages or tea rooms. Swaledale is a very popular holiday destination within an iconic Yorkshire landscape.

The average farm size is about 200 hectares, but this does not include access to moorland and common land with grazing rights which many of the farmers also rely upon. Half the farms are owner-occupied and half are tenanted. In the bottom reaches of the catchment many of the farms are rented; this can be a problem for these tenants as they can be tied by what the land-owner wishes to do and those wanting to install certain NFM measures need to seek permission. Experience shows this can be an extremely lengthy process.

LOCATION

UNITED KINGDOM



North Yorkshire UKE2

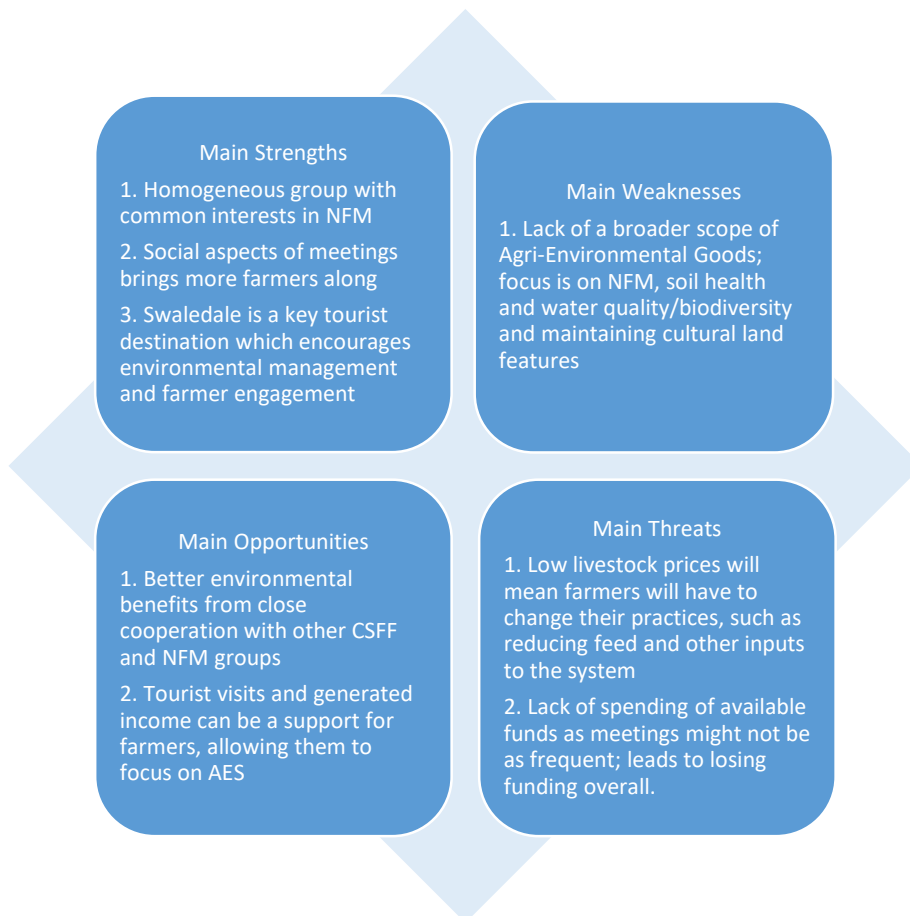


ASSESSMENT OF CONTRACT SOLUTION



There are a mixture of different contract solutions being operated by CSFF members and an overall assessment of their success is not possible at this time. The Swaledale CSFF group of farmers benefit from the proximity with other CSFFs which allows for positive spill-overs and common meetings between the groups. The expected target of NFM cannot be evaluated but attendance has been solid and several meetings have taken place.

SWOT analysis



Environmental improvement across a whole catchment: Esk Valley

Farmers across the catchment are working together to implement solutions to improve the water quality in the Esk Valley. The river contains salmon and trout and efforts are underway to boost the freshwater pearl mussels and migratory fish through tackling problems with sediment and pollutants.



Summary

The network covers the whole catchment and 30% of the land area is farmed by Countryside Stewardship Facilitation Fund (CSFF) network members. A key focus is what can be done to improve water quality across the whole catchment, especially as it is a salmon and trout river and sediment in the water is a major factor in the lack of recruitment of juvenile migratory fish. Water quality is generally good across the catchment and of Good Ecological Status according to the Water Framework Directive. Many other additional environmental improvements have been added; sedimentation, nitrate and phosphate pollution due to the agricultural and farming activities in the area, and complement the main focus. For example wading birds benefit from the network tackling issues of water quality.

Objectives

- Support for the Pearl Mussel and Salmon Recovery Project.
- Improvements to water quality across the whole catchment by tackling sediment and pollution issues.
- Maintenance and support for historic and traditional National Park landscapes and features.
- Address disconnect between maintenance of the iconic traditional landscapes in the catchment and the systems designed to reward this
- Improving skills and understanding of issues and the measures to tackle them



Credit: F. Hugill



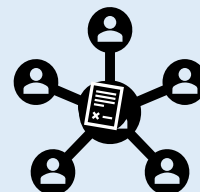
Credit: Creative Commons

Problem description

There is a long history of action in the River Esk catchment seeking to improve its ecological status so that an iconic species previously found in the river such as the Freshwater Pearl Mussel and species such as salmon and migratory trout do not ultimately go extinct. As a salmon and trout river that has supported recreational fishing, previous action and funding has often focused at the economic level.

The CSFF is focused on the environmental and ecological aspects of the catchment, specifically from the perspective of those farming and managing the land. The CSFF aims to support efforts by the Esk Pearl Mussel and Salmon Recovery Project to re-introduce the Pearl Mussel to bolster the remnants of the existing population, through improving the water quality in the river. For this iconic species 'good' is not good enough, pristine conditions are required. This needs collective action from farmers in both upper and lower reaches of the catchment to reduce pollution and sedimentation problems.

COLLECTIVE



PUBLIC GOODS



Water quality



Pearl mussel; Migratory fish species' juvenile recruitment to the river



Cultural heritage



Landscape and scenery



Soil quality (and health)



Rural viability and vitality 205

Data and Facts - Contract

Participation: 59 farms are involved in the contract solution at the current time. The area of implementation is the Esk Valley catchment, including both upper and lower reaches. The total land area encompassed by the network is 10,514 hectares.

Involved parties: Three major types of partners are involved in the CSFF group; farmers, network facilitator and funding body. The facilitator of the group is employed to bring the group together, organise meetings and invite key stakeholders and experts to provide training as well as bring new members into the scheme. They also oversee the expenses of participants and will apply for funding renewal as appropriate. Natural England provides funding, oversees the functioning of the group and provides crucial information on pressing environmental needs in the region and the actions of other CSFF groups in the area.

Indirect effects: Riparian birds benefit from the actions taken, despite these not being a key focus of the actions.

Management requirements for farmers: The maximum available annual grant is £50k. While there is no set requirement for numbers of meeting between the members, progress reports are required every quarter along with expenses claims.

Controls/monitoring: Results are not monitored yet, but monitoring and evaluation is conducted through the claim expenses of the CSFF facilitators. Natural England determines whether farmers and the CSFF is offering good value for money.

Conditions of participation: The minimum number of farmers needed for a CSFF to be set up and be eligible for funding is 4 and the network should have no more than 80 members. The land covered by all members' farms must exceed 2,000 hectares; land cannot be included if it belongs to a public body. The farmer's/land manager's land should be part of a catchment area to be included.

Context features

Landscape and climate: The area encompassed by the Esk Valley CSFF is the whole Esk Catchment which extends from the source of the Esk all the way to the sea at Whitby: it is inside the National Park. This catchment includes a range of land types from heather moorland to arable fields, and includes SSSI, SPA and SAC-designated land as well as highly intensive farmland. There is little

woodland in the region, with less than 13% of the total region designated as woodland; what there is tends to be in linear strips. In the 1950/60s the Esk Valley was noted for its haymeadows; there are few left now.

As much of the farming is very intensive, low numbers of farmers have joined the Countryside Stewardship payment scheme. The activities carried out by those who have joined are limited in the payments they attract and are mainly related to physical features such as walls that are iconic of the wider region. The majority of the river is under Good Ecological Status according to the Water Framework Directive while the grassland soil pH is 6.0 for more than 68% in the Esk Valley in comparison to the 53% average for the whole of the UK.

Farm structure: Along the entire length of the catchment the types of farms vary according to the land and immediate microclimate. In the upper reaches there are moorland flocks of sheep and herds of beef cattle. Lower down in the valley dairy farms are seen; over time there has been a shift to a smaller number of larger dairy farms of which there are 8 in the group. There are some small pockets of arable land in the valley as well. The farms tend to be small compared to the average size of farms in the Yorkshire Dales, with an average farm size of about 100 hectares. The farms are a mixture of owner-occupied and tenanted and this is seen across the whole catchment. Land farmed by group members covers approximately 1/3 of the whole Esk catchment. Large numbers of the farmers are reliant upon farm payments to stay in operation, and many of the farmers also have second jobs to bring in additional income.



Recreational access / improvements to physical and mental health

Quality and security of products

CONTRACT

Government (with EU-funding)
public – private

Contract conclusion:
Written agreement



Payment mechanism:
incentive payments



Funding/Payments:
Government funding, up to £500 per year, per farmer in the CSFF group

Length of contract: 3 years

length of participation: 3 years so far



Start of the program: 2017

End: 2020

LOCATION

UNITED KINGDOM



North Yorkshire UKE2



ASSESSMENT OF CONTRACT SOLUTION



There are a mixture of different contract solutions being operated by CSFF members and an overall assessment of their success is not possible at this time. The Esk Valley CSFF group of farmers benefits from the proximity with other CSFFs that allow for positive spill-overs and common meetings between the groups. The expected target of water quality improvements cannot be evaluated but attendance has been solid and several meetings have taken place. Group participation and numbers have facilitated the uptake of funding to conduct capital works of £300k value.

SWOT analysis

