



Learning Area “Dealurile Clujului Est” (Romania)

INNOVATION EXPERIENCES AND NEEDS

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Introduction and contents

This report looks at innovation that supports HNV farming in **Dealurile Clujului Est**, and identifies the types of innovation that are missing and needed in order to secure a sustainable future for HNV farming.

We present examples of innovation existing in this Learning Area (LA) and examples more widely in **Romania** that could usefully be transferred to address challenges in the LA.

Types of innovation that seem to be absent in Romania, and that we would like to explore in other countries of the HNV LINK network, are also summarised.

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The challenges facing HNV farming in LA Dealurile Clujului Est

The **HNV farming** system in the region is based on the traditional family household's low-intensive techniques that used a mosaic of natural pastures for grazing and mowing.

Challenges:

- alteration of the traditional agricultural practices and intensification due to the increase of sheep livestock;
- increasing aging trend especially for the rural communities that have important HNV resources;
- the **value chain** of the HNV products is currently based on low-value-added products;
- poor basic rural infrastructure, especially for the remote HNV areas;

Comparison between mowed and not mowed pastures



Aged farmers applying archaic techniques



Poor rural infrastructure



Challenges facing HNV livestock farming in Dealurile Clujului Est LA

The HNV farming system in the region is based on the traditional family household's low-intensive techniques that used a mosaic of natural pastures for grazing and mowing. In recent years the HNV agro-environment resources have known suffered a process of degradation caused by the alteration of the traditional agricultural practices and intensification due to the increase of sheep numbers. The traditional farming system based on common grazing and family labour force is threatened and abandoned nowadays due to low income sources and also due to high alternative incomes outside the LA. There is an increasing aging trend especially for the rural communities that have important HNV resources.

Due to inefficiency and high consumption of time, manual mowing became an exception in the last years. That caused important degradations for the permanent pastures. In the field of good governance, there exist inconsistencies both in the administrative organization (communes belonging to different administrative associative structures with specific objectives and instruments) and also in the implementation of agricultural policies, and in particular for the agri-environment measures (not all communes eligible for such measures although they belong to a Natura 2000 site). The value chain of HNV products is currently based on low-value-added products. On-farm processing (cheese/meat) and direct sales cannot develop due to rigid rules and bureaucracy. There is a lack of product differentiation from grazing systems. Basic rural infrastructure is poor, especially in the remote HNV areas.

Overview of innovation in Dealurile Clujului Est, Romania

HNV-LINK is the first comprehensive attempt to evaluate the HNV farming situation in Dealurile Clujului Est, by analysing all four dimensions.

Innovations were found in the areas of: regulations and policy; farming techniques and management; products and markets.

Social and institutional innovations are lacking.

Overall, innovations do exist, however there is lack of innovation at the individual level to help small farmers marketing their HNV products and to comply to eligibility criteria for agri-environment measures

Natural pastures in summer grazing in Dăbâca commune



Hay transportation process



Overview of the innovation situation

HNV-LINK is the first comprehensive attempt to evaluate the HNV farming situation in Dealurile Clujului Est, by analysing the all four dimensions.

Innovations were found in the area of regulations and policy, related to the introduction of agri-environment CAP measures based on researches in the field; and to the development of a management plan for the Natura 2000 site Dealurile Clujului Est.

In the area of farming techniques and management, innovation was found in the use of light machinery for mowing the HNV grasslands that maintains the biodiversity and their habitats. The Natura 2000 management plan is also relevant to this theme.

The on-line baskets with organic vegetables was found in the area of products and markets. The management plan intends to support HNV farming, however there are some inconsistencies with the eligibility criteria of the agri-environment measures.

Social and institutional innovations are most lacking, and it was highly emphasized by farmers (during the project meetings and Innovation seminar, questionnaire) as being helpful to have a small farmer association representative for the region.

Innovation examples in Dealurile Clujului Est, Romania: what are their strengths and weaknesses for HNV farming?

- **Regulations and Policy:** Agri-environment measure: “Grasslands important for butterflies (*Maculinea* sp.)” in Cluj and Suceava counties
- **Regulations and Policy:** Integrated management plan for the Easter Hills of Cluj (Natura 2000 site)
- **Farming Techniques and Management:** Effect of traditional and modern agricultural practices on HNV grasslands
- **Products and Markets:** On-line baskets with organic vegetables

Butterfly *Maculinea*



Brielmaier mower



Source: Romanian Lepidopterological Society

Romanian Lepidopterological Society

Basket with organic vegetables



Source: <https://colinafarms.ro/>

Strengths

- Some initiatives to support farmers who use manual/light machinery for mowing HNV grassland;
- Some attempts to improve the marketing of local products (on-line baskets) but at the level of one farm and it is not directly linked to HNV farming (but it is a good example for HNV products as the system works);
- LAGs actively involved;

Weaknesses

- The existing innovations are not in the benefit of all small farmers, as some are struggling to comply with the eligibility criteria for agro-environment measures or/and not interested in HNV farming;
- Acquisition of a light mowing machinery (e.g. Brielmaier) is very expensive for a small farmer;
- On-line baskets for HNV products would be successful only if farmers are cooperating under a farmer association and create a brand representative for LA;
- The examples of innovation do not address the main challenges facing HNV farming: lack of cooperation; lack of processing capacities under a local brand; lack of specific agri-environment support for the communes situated in the Natura 2000 site; lack of consistency among all communes as regards Package 6 (butterfly measure);

What are the main innovation needs in Dealurile Clujului Est, and how could they be addressed?

Social and institutional innovation

Social and institutional - innovation needs	Possible approaches
Farmers' associations	Good practice model for farmer cooperation adapted to small HNV farmers needs
Better information system	Working/extension sessions, SMS system for HNV farms
Young people to start a business in agriculture and/or complementary domains	Information sessions about the CAP non-refundable funds, measures that encourage young people
Investments in rural infrastructure	The Local Action Group and local authorities can access non-refundable funds
Lack of specialised working force	Orientate the local young population to agricultural/rural development studies

Social and Institutional Innovation Needs

Small farmers associations would help to become economically efficient by learning to work together in production, processing and marketing (e.g. establish a processing capacity, create a local brand, participate at fairs as a local brand, find better ways to reach customers as belonging to an entity)

The low level of entrepreneurial skills of small farmers, as well as their lack of information on how to become more economically efficient could be improved by organizing working and/or extension sessions/meetings with experts in the field and the local administrative associations, such as the local action groups. The communes from LA belong to different LAGs (6 to LAG Somes-Transilvan, 1 to LAG Leader Cluj, 1 does not appertain to any LAG). This is done at a certain level, however, more efforts of each LAG are needed to organise information sessions to work along with small farmers to look for optimal solutions that could increase their level of living without negative effects on the habitats. An SMS system developed only for farmers acting in HNV areas.

Another innovation needed is to attract young people from LA or urban areas to start a business in agriculture and/or complementary domains, since elderly people prevail in LA and the migration of young people is increasing. Financing possibilities exist through CAP. Frequent information sessions are needed with examples from previous project/on-going projects already financed through RDP.

The rural infrastructure needs significant improvements. LAGs can play an important role by accessing non-refundable funds, however, the local authorities (e.g. city hall) should also be involved in this process.

Regulatory framework innovation

Regulatory framework - innovation needs	Possible approaches
Adapting the sanitary-veterinary norms to the local needs for processing and direct selling	Lobby for changes in the current regulatory framework
Solve the issues of land ownership (status of unclear property)	Tools used in cadaster
Adapt conditions of agri-environment measures to the reality of small farmers	Revise the eligibility criteria and adapt them to the reality of farmers, based on field research
Use RDP measures to support the areas located in Natura 2000 sites	Adaptation of management plan to the needs/expectations of farmers

Regulatory Framework Innovation Needs

The most acerbic need is related to the adaptation of sanitary-veterinary norms to the local production system (HNV system), the existing norms impeding the processing and direct selling for small farmers.

The status of unclear ownership of land remains a challenging innovation need. Perhaps tools used in cadastre in other similar situations where the problem was successfully solved could be adapted for this case. Also a system for financing the cadastre costs will help landowners to solve this issue.

Another priority innovation need is the adaptation of agri-environment measures conditions to the reality of small farmers by revising the criteria based on field research and meetings with small farmers to understand their everyday challenges.

The need for special RDP measures to support the areas located in LA (Natura 2000 site) can be solved by adapting the Romanian National Rural Development Programme.

Products and markets innovation

Products and markets - innovation needs	Possible approaches
Small processing capacities under cooperative system	Work in cooperative system of 5-10 farmers, using same specification conditions
Local brand for farmers which practice HNV farming	Create a local brand to differentiate the products on the market
Alternative sources of revenue, such as ecotourism, cyclotourism	The Local Action Group can access funds to create trails, in collaboration with farmers which can offer their products directly to tourists
Alternative distribution channels	Create a on-line platform for selling products from more farmers (associated in an farmer association)

Products and Markets Innovation Needs

The main identified innovation need in this domain is the development of small processing capacities under a cooperative system for the local HNV products (meat, milk), this would help small farmers to process their raw products while respecting the sanitary-veterinary norms, leading to production diversification and increased added-value.

Along with this, development of a brand would be beneficial for distinguishing the local products from other regions, for their unique features. Both innovations are linked to the creation of small farmers' association (regulatory framework innovation).

Finding alternative sources of revenues such as ecotourism, cyclotourism can offer small farmers also the opportunity to become known outside LA (advertise local HNV products). The trails can be built to reach small farms or small selling points were tourists can taste/buy the HNV local products. LAG plays an important role within the current RDP, as it can access funds for such investments.

Local small farmers struggle with finding efficient distribution channels, the access on organized markets being low, the multinational supermarkets dominate. A possible approach developed along with a local small farmer association and a local brand is an on-line platform for selling the products, mainly in the cities located near the area.

Farm techniques and management innovation

Farm techniques and management - innovation needs	Possible approaches
Promoting processing and direct selling to respond to the sanitary-veterinary norms	Training farmers and developing informative materials
Increase the hay production	Use of light machinery that reduces working time
Ways to improve the precarious situation of pastures (large areas with shrubs; low productivity)	Innovative methods to increase green and hay production that maintains the biodiversity
More efficient way of informing farmers how to comply with the criteria for the agri-environment packages	A Guide to good practices for implementing the agri-environment packages

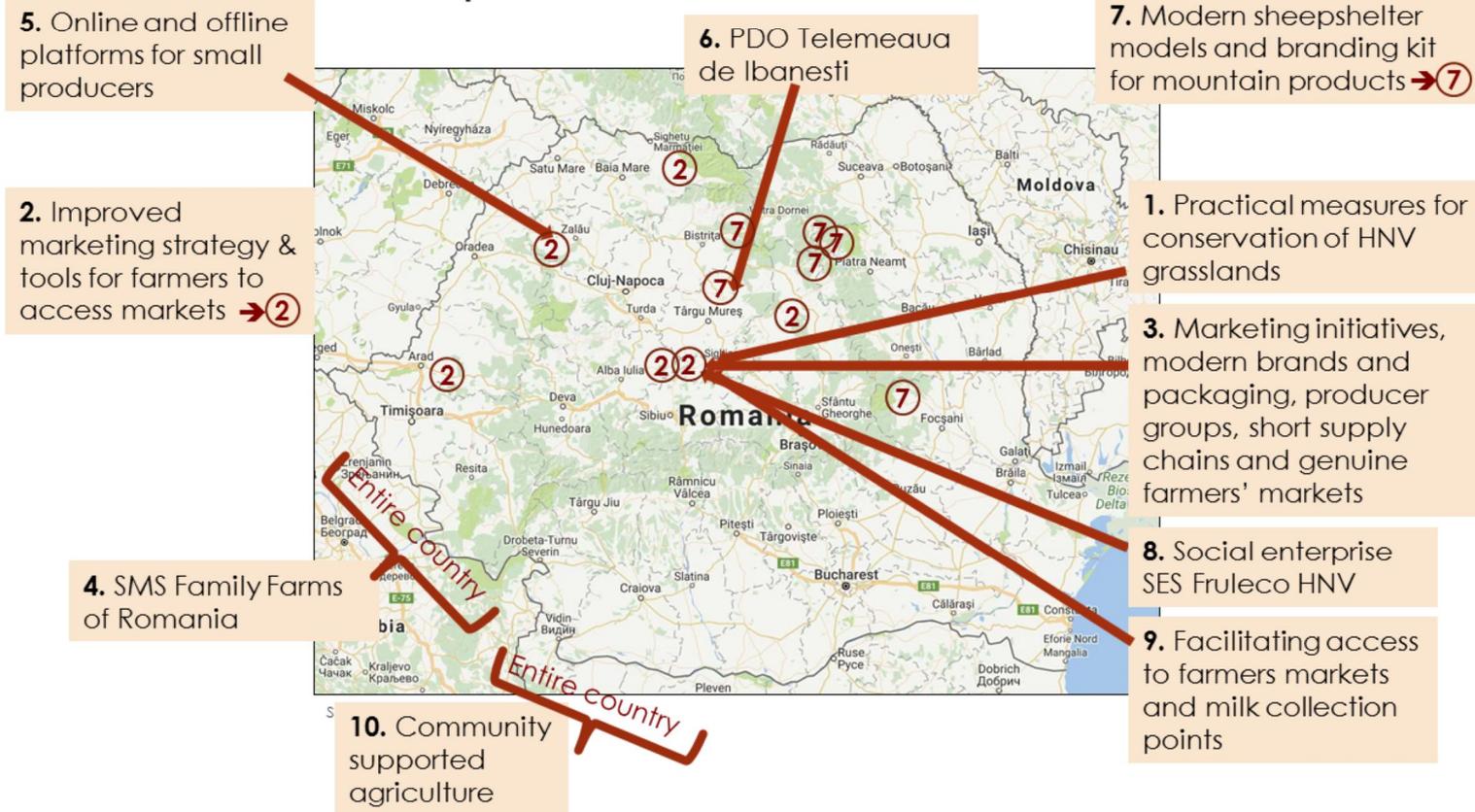
Farm Techniques and Management Innovation Needs

Promoting processing and direct selling to respond to the sanitary-veterinary norms is a need directly linked to the need to adapt the sanitary-veterinary norms to the local production system (HNV system) (regulatory framework need). Farmers can be informed and guided through training courses and informative brochures.

Although several researches were done regarding the effects of using light machinery for mowing such as the Brielmaier mower, there is still a reluctance on using mainly due to the lack of money. The use of light machinery would help increasing the hay production, reducing the working hours spent on manual mowing. Higher payment within Package 6 is also offered for this type of mowing. This mowing technique would also improve the situation of pastures by clearing the shrubs, without negative effects on biodiversity.

Another innovation need is related to manner of helping farmers to comply with the criteria for agri-environment packages. A guide to good practices presenting all required steps would significantly help them.

Innovations from outside the LA that could help address LA needs



1. Saxon Villages Area of Southern Transylvania: Practical measures for conservation of HNV grasslands: innovative machinery, conservation action plan, educative materials
2. 6 study areas representative of HNV farmed landscape across Romania (Zarand, Târnava Mare, Târnava Mică, Pogany Havas, Valea Barcăului, Mara-Cosău-Creasta Cicoșului): Improved marketing strategy and tools for farmers to access markets
3. Tarnava Mare: Marketing initiatives, developing modern brands and packaging, producer groups, short supply chains and genuine farmers' markets
4. Entire country: SMS Family Farms of Romania
5. Valea Barcăului, Salaj: Creation of online and offline platforms to promote small producers from HNV areas and to sell their products
6. Valea Gurghiului, Mureș: PDO Telemeaua de Ibanesti
7. Romanian Mountain Areas: Modern sheepshelter models and branding kit for mountain products
8. Sighisoara-Tarnava Mare: Social enterprise SES Fruleco HNV
9. Tarnava Mare: Facilitating access to farmers markets and milk collection points
10. Entire country: Community supported agriculture

Innovation examples for which Dealurile Clujului Est is looking to other Member States

- ▶ Flexibility in the application of food hygiene rules to small-scale, on-farm processing units;
- ▶ Small processing capacities under a cooperative system;
- ▶ Good practice model for farmer cooperation adapted to small HNV farmers needs;
- ▶ Innovative methods to increase pastures and meadows production that maintains the biodiversity;

INNOVATION FICHES FROM ROMANIA

- 1) Agri-environment measure: "Package 6 Grasslands important for butterflies (*Maculinea sp.*)" in Cluj and Suceava counties
- 2) Integrated management plan for the Eastern Hills of Cluj (Natura 2000 site)
- 3) Study of effects of traditional and modern agricultural practices on HNV grasslands
- 4) Practical measures for conservation of HNV grasslands: innovative machinery, conservation action plan, educative materials
- 5) PDO Telemeaua de Ibanesti

Romania – innovation example 1) Agri-environment measure: “Package 6 Grasslands important for butterflies (*Maculinea* sp.)” in Cluj and Suceava counties

Location: Cluj and Suceava counties,
Romania

HNV system: Extensive grazing, mosaic
farming

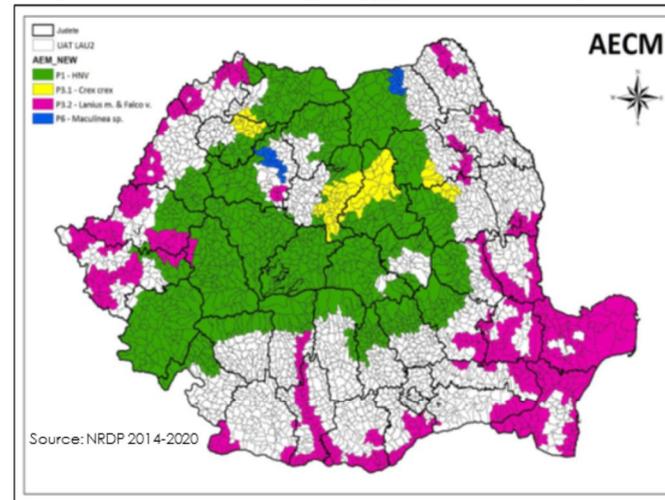
Scale of operation: Eligible areas are 26
ATUs from Cluj and Suceava counties, with
a total area of 23000 ha.

Timespan: It started in 2012 and continues
through the actual RDP 2014-2020

Keys to success: Initiative of local NGOs
(the Romanian Lepidopterological Society;
collaboration with ADEPT and WWF);
opportunity to ask for extra payment
additional to direct payments.

Additional information: <http://www.madr.ro/en/>

Eligible areas for Package 6 (■) – *Maculinea* sp.



Problems addressed by this example

Through this innovation it is intended to protect the grasslands important for butterflies in the two counties. The areas are Natura 2000 sites with high biodiversity. Through this measure farmers commit themselves to respect some conditions such as not using chemical fertilizers or pesticide, the use of organic fertiliser is only up to a certain level, mowing is allowed only manually or by using light machinery and only after August 25th, etc.

Story in a nutshell

The Romanian Lepidopterological Society proposed an agri-environment measure: “Package 6 Grasslands important for butterflies (*Maculinea* sp.)” in Cluj and Suceava counties, in collaboration with ADEPT foundation and WWF as an agri-environment payment. This was based on the work done by the Society to protect the butterflies and their habitats, such as several working meetings, on-field research on butterfly protected species, development of an on-line platform. According to this measure, since 2012 farmers received 240 euro/ha/year if they respected the conditions of the package (National Rural Developed Program 2007-2013). This is additional to Pillar 1 direct payments. According to NRDP 2014-2020, the aid increased to 361 euro/ha/year if land is worked manually or 282 euro/ha/year if land is worked with light equipment. The support is granted following the signature of voluntary commitments for 5 years, after which can be extended on an annual basis until the end of the programme. Additional information: <http://www.madr.ro/en/> (details about Package 6 on page 423-428)

What does Agri-environment measure achieve for HNV farming?

- ▶ Important additional support for farmers
- ▶ About 3,600 ha/year and 475 beneficiaries/year (NPRD 2014-2020)
- ▶ 2012-2016: 400 farmers received about 4.3 millions euro from APIA through Package 6 (SLR Leaflet, 2017)

Butterfly *Maculinea teleius*



@ summer 2017, Pâglișa village
Sheep grazing in
Vultureni Commune

Manual mowing



@ summer 2017, Pâglișa village

Manual mowing



Source:
<http://ziuadecj.realitatea.net/politica/riculescu-subventiile-pentru-fluturi-si-gasle-cu-gat-rosu-afecteaza-credibilitatea-politicii-agricole-comune--85267.html>



Source: Romanian Lepidopterological Society

Achievements

The payment represents an important support for farmers in the area, as additional payment to the direct CAP payments. The extensive management of the pastures/meadows important for butterflies is ensured by Package 6.

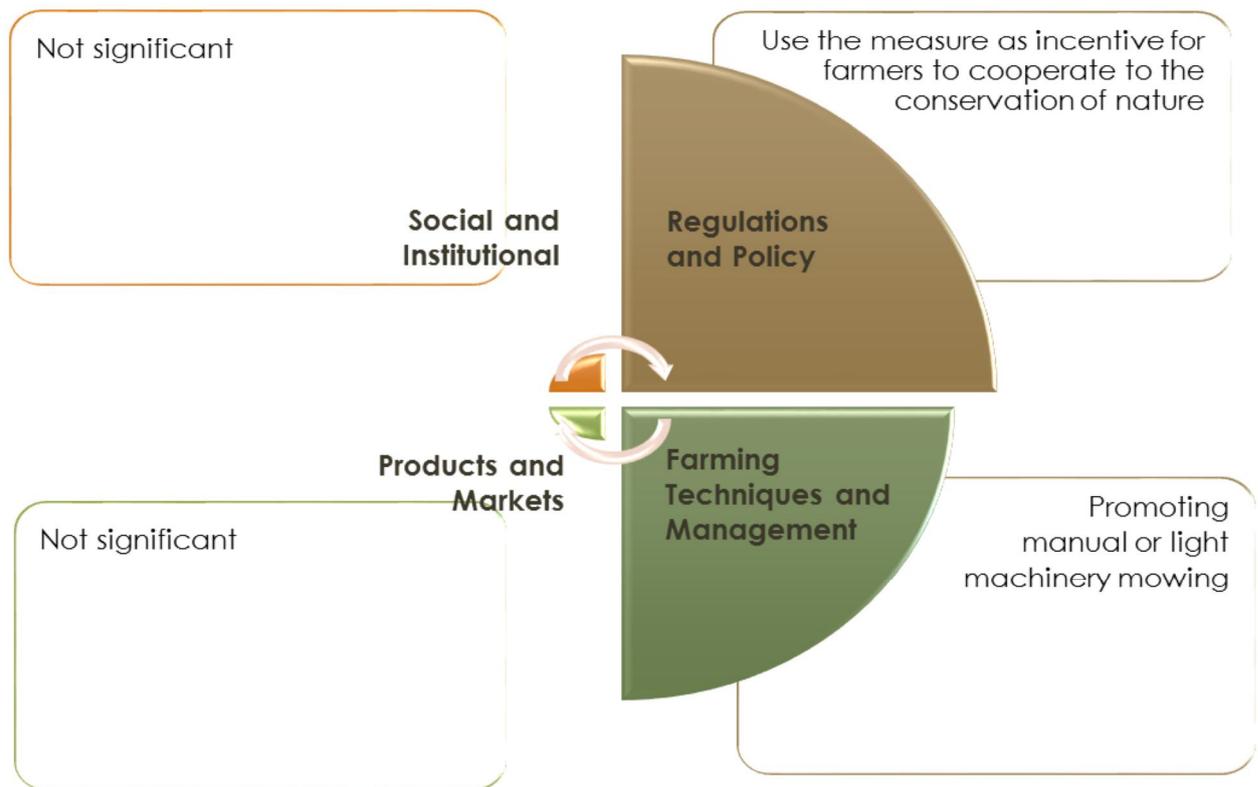
Economics of HNV farming

Package 6 within the NRDP 2007-2013 supported about 3,600 ha/year and about 475 beneficiaries/year (NRDP 2014-2020). During 2012-2016, more than 400 farmers from 11 communes from Cluj county received about 4.3 million euro from APIA (SLR Leaflet, 2017).

Maintaining or improving HNV values

The main objective was to protect the butterfly *Maculinea sp.*, the Eastern Hills of Cluj being the only place where can be found together all the European butterfly species *Maculinea*. These areas host about 3% of the populations at European level and 40% at national level (NRDP 2014-2020). The most representative species are *Maculinea nausithous*, *Maculinea teleius*, *Maculinea alcon* and *Eriogaster catax*.

How does Agri-environment measure respond to the HNV LINK innovation themes?



Regulations and Policy:

Package 6 - Grasslands important for butterflies (*Maculinea sp.*) - was especially built for Cluj and Suceava counties, being a unique measure at European level. It is an additional payment to the direct ones, obtained only by eligible farmers. Eligibility is specified in the National Rural Developed Program and it refers to technological restrictions (use of fertiliser), grazing with maximum 0.7 Livestock Units per hectare, mowing starts after August 25th.

Farming Techniques and Management:

Use of extensive management through manual or light machinery mowing proved to be efficient for pastures/meadows important for butterflies only if it is done after August 25th, after the larvae are leaving the inflorescences.

The process that made it happen and critical factors for success

Information poster from APIA

- Cooperation between actors within Mozaic Project
- Based on research: monitoring butterflies over the years
- Critical factors for success: difficulty to comply package conditions due to old age of most farmers, lack of interest, bureaucracy

Source: <http://www.apia.org.ro>

Monitoring butterflies in traditional hay meadow – Mozaic Project



Source: <http://www.mozaic-romania.org>; ©Inge Paulini

Timetable for farming activities for Package 6

Source: <http://www.apia.org.ro>

Actors and roles: Romanian Lepidopterological Society (SLR) – initiator/catalyst/innovator; ADEPT foundation – partner; WWF (Danube-Carpathian Programme Romania) – partner, Romanian Government – partner (agreed with the proposal to include the new measure in the National Rural Developed Program)

Institutional context that made it possible

It is the result of many years of research projects related to butterflies conducted by SLR. The opportunity offered by CAP for an extra payment in addition to the direct payments.

Resources: researches on butterflies and their habitats were done within the Mozaic Project I (2009-2012)

Processes: The measure has been implemented since 2012 (NRPD 2007-2013) and also supported by the current NRDP (2014-2020)

Critical factors for success: difficulty to comply with the package conditions due to the old age of most farmers, bureaucratic burdens in order to access these payments

Limiting factors, actual/potential problems, and how could they be overcome?

Farmers lack of information and lack of interest. Not all communes are eligible for this payment although they are located within the LA. *The inconsistency for the designation of the package eligible area could be overcome by redesigning the eligible area.*

Lessons learnt from this innovation example, and its potential replication

- ▶ Research done by SLR in the area sustained the need of this measure
- ▶ Farmers encouraged to use extensive farming methods
- ▶ Replicable for HNV areas with species and habitats that need special attention for their preservation

Brielmaier mower



Natural pastures general view



Source: Romanian Lepidopterological Society

Overall lessons from this example, especially from point of view of HNV farming?

Researches conducted over years by SLR proved to be an effective foundation to sustain the need of this measure as an optimal solution to conserve natural values and continue farming in the areas. Farmers are encouraged to continue the use of extensive farming methods.

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

The measure can be replicated for other HNV areas where species and habitats need special attention for their preservation

Could it be rolled out on a bigger territorial scale?

Yes, where these species or others are threatened by trends in the type of farming activities used

What would be needed to do this successfully?

Farmers should be better informed about the eligible conditions to access this measure by explaining the benefits of both, nature and farming. A farmer association could be a good solution for small farmers who cannot afford to buy light machinery such as Brielmaier. Including all commune from LA in the eligible area to protect the habitats on a larger scale.

Romania – innovation example 2) Integrated management plan for Dealurile Clujului Est (Natura 2000 site)

Project brochure



Location: Dealurile Clujului Est

HNV system: Extensive grazing, mosaic farming

Scale of operation: Dealurile Clujului Est
Natura 2000 site

Timespan: 2013-2016; Management plan approved by Order no. 1208/2016

Keys to success: Initiative and experience of the Romanian Lepidopterological Society in research in the area sustained the initiative; opportunity to attract funds

Additional information:

http://www.mmediu.ro/app/webroot/uploads/files/2016-04-11_PM_ROSCI0295.pdf

Limits of Natura 2000 area in Dealurile Clujului Est LA



Source: Management Plan Natura 2000 site Dealurile Clujului Est (map. 4.)

Source: Romanian Lepidopterological Society

Problems addressed by this example

The management plan was developed with the aim to conserve the rare fauna and flora, by collaborating with the local communities, especially as regard to the farming activities. For example, mowing only after August 25th, manually or with the use of low capacity machines because this favours the butterflies, the Eastern Hills of Cluj being the only place where can be found all European butterfly species *Maculinea*.

Story in a nutshell

The management plan for the Eastern Hills of Cluj area developed within the project “Development of an integrated management plan for the site of community importance ROSCI0295 – Eastern Hills of Cluj” was initiated by the Romanian Lepidopterological Society (SLR). Eastern Hills of Cluj is a Natura 2000 site (Order MMP 2387/2011) with an area of 18,889.6 ha. The management plan substantially contributes to the conservation of the biodiversity, promotes the natural values, encourages traditional agricultural practices and the sustainable management of hay meadows and pastures, and encourages a sustainable tourism.

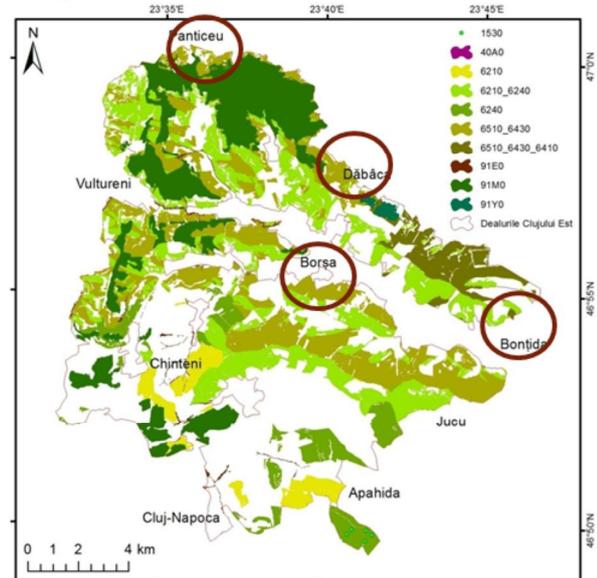
What does Integrated management plan achieve for HNV farming?

- Traditional farming practices are encouraged to continue
- Farmers from 4 communes (Borşa, Bontida, Dăbâca and Panticeu) may be eligible for Package 6 Grasslands important for butterflies (*Maculinea sp.*)
- Favourable conservation conditions for site habitats



Source: Romanian Lepidopterological Society

Map 12. Distribution of the HNV habitats identified in the LA



Source: Management Plan Natura 2000 site Dealurile Clujului Est

Achievements

The management plan was approved by Order of the Romanian Ministry of Environment, Water and Forests no.1208/29.06.2016. This is a good prospect for future if the actions mentioned in the management plan are implemented.

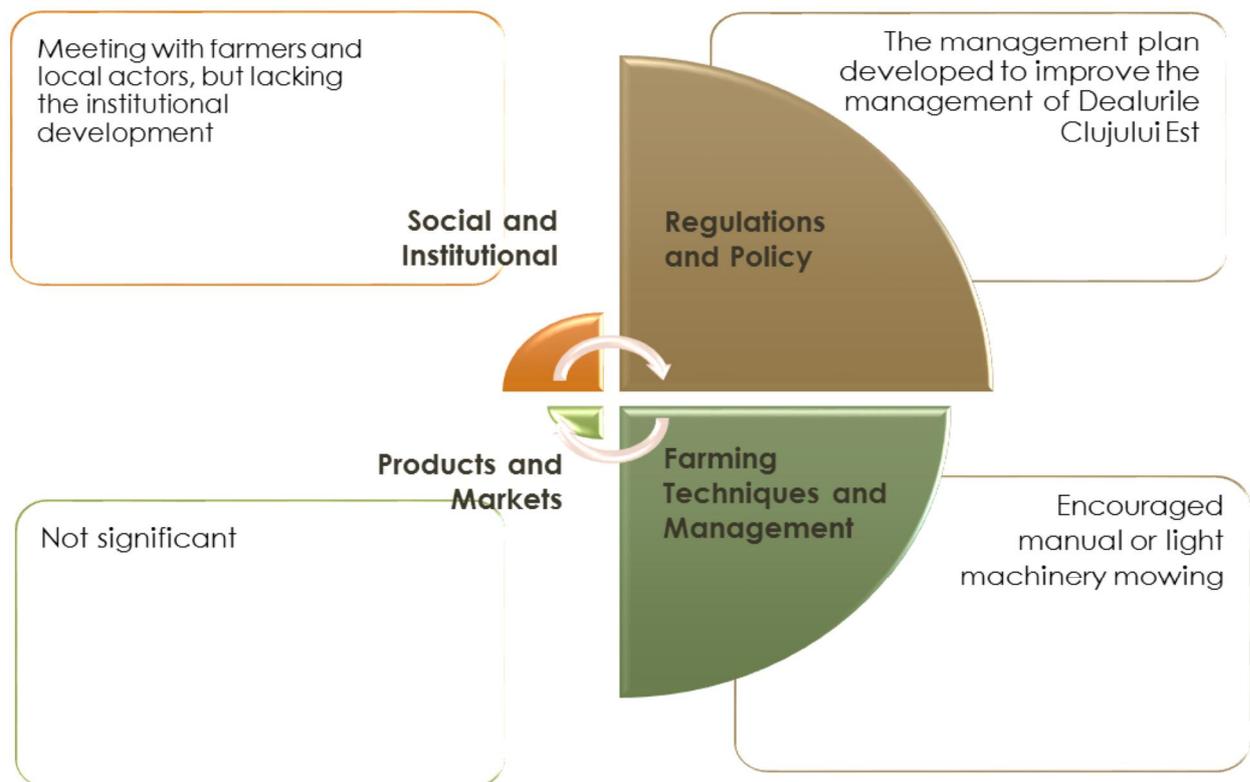
Economics of HNV farming

Farming traditional practices are encouraged to continue. Farmers who respect the management plan comply to the conditions of the agri-environment measure "Package 6 Grasslands important for butterflies (*Maculinea sp.*)", which is an extra financial aid.

Maintaining or improving HNV values

The management plan clearly indicates how to assure favourable conservation status of each type of grassland habitat in the area by specifying the conditions under which mowing is allowed and naming the authorities in charge for monitoring and control. In the case of damaged areas several measures of ecological reconstruction will be undertaken.

How does Integrated management plan respond to the HNV LINK innovation themes?



Regulations and Policy

The management plan was developed with the aim to improve the management of the site of community importance ROSCI0295 - Dealurile Clujului Est and to increase people's awareness regarding the biodiversity protection in the site. It was based on detailed assessment of conserved conservation flora and fauna species, natural habitats of conservative interest, assessment of the anthropic impact on protected areas and implicitly on species and habitats, establishment of conservation measures and ways to involve stakeholders and local communities, as well as the environmental assessment procedure according to the legislation.

Farming Techniques and Management:

Mowing is allowed during 25 August – 30 November, the mosaic system being recommended such that each area is mown every 3-4 years. Manual mowing (traditional practices) or with light machinery are encouraged.

Social and Institutional

There were some actions to increase awareness about the management plan: meetings with farmers and local actors, but lacking the institutional development

The process that made it happen and critical factors for success

- ▶ Project co-financed by European Regional Development Funds (ERDF)
- ▶ Critical factors for success: reluctance of local people to collaborate; migration of young people; low involvement in farming; lack of interest in mowing the land

Signing the contract;
Left Prof. dr. László Rákósy - President SLR ,
Right dr. Codruța Simule - Director OI POS
Mediu Cluj-Napoca



Source: http://www.lepidoptera.ro/pos_galerie_foto.htm

Traditional mowing



Source: http://www.lepidoptera.ro/pos_galerie_foto.htm

Brielmaier mower



Source: Romanian Lepidopterological Society

Researchers in the field



Source: <http://www.lepidoptera.ro/evenimente.htm>

Actors and roles: Romanian Lepidopterological Society (SLR) – initiator/catalist/innovator; Agency for Environmental Protection Cluj – partner; European Regional Development Funds (ERDF) – co-financer; Romanian Government – co-financed from national budget

Institutional context that made it possible

The initiative of SLR, based on many years of research in the field and opportunity to attract non-refundable funds from the European Regional Development Funds and national budget. Resources: Total budget was 1,349,497 RON (aprox 300,000 EUR), from which non-refundable funds were 1,331,149 RON from the ERDF, and the rest from the national budget.

Processes: The project was prolonged by 9 months, period necessary for the management plan to be approved. Meetings were organised to inform farmers about the management plan.

Critical factors for success: Reluctance of local people to collaborate and the migration of young people from rural to urban areas; risk of low involvement in farming and lack of interest in mowing the land.

Limiting factors, actual/potential problems, and how could they be overcome?

Farmers to be informed about the benefits they can obtain, such as becoming eligible for Package 6 (although only in 4 communes), a higher productivity when using light machinery for mowing.

Lessons learnt from this innovation example, and its potential replication

- Collaboration with stakeholders is mandatory to succeed
- Actions to increase awareness of the benefits of using extensive farming
- Applicable in regions with same grassland habitats or adapted on other types of habitats.

Informing farmers about the management plan



Source: Romanian Lepidopterological Society

Prof. dr. László Rákossy explaining about the Natura 2000 site to children in a school from Bondita



Source: http://www.lepidoptera.ro/pos_galerie_foto.htm

Meetings with local stakeholders, Vultureni City Hall



Source: http://www.lepidoptera.ro/pos_galerie_foto.htm

Overall lessons from this example, especially from point of view of HNV farming?

It is important to develop management plans for protected areas with actions that lead in time to a better conservation of the land with the help of local communities (HNV farming).

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

The idea can be applied in other regions with same grassland habitats or adapted on other types of habitats.

Could it be rolled out on a bigger territorial scale?

Yes, in protected areas where HNV farming is still present

What would be needed to do this successfully?

Collaboration with all stakeholders (especially farmers) is critical to understand the reality in the area, the problems they confront on a daily basis and find optimal solutions that are in the benefit of both, nature and farmer (to preserve the natural values and help farmers increase their economic productivity)

Romania – innovation example 3) Study of effects of traditional and modern agricultural practices on HNV grasslands

Map of experimental plots

Location: Dealurile Clujului Est

HNV system: Extensive grazing, mozaic farming

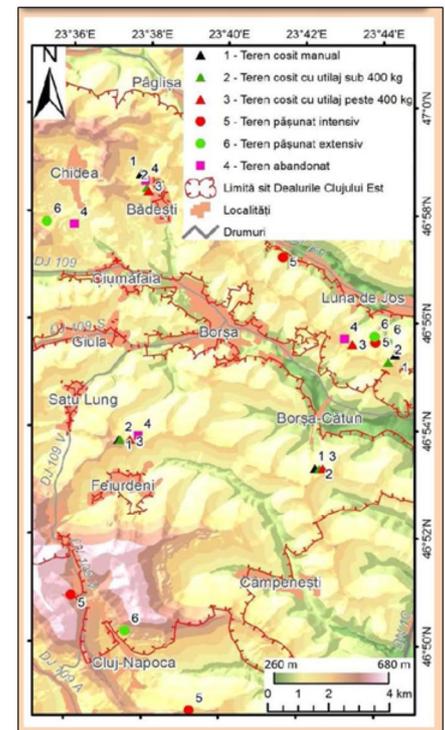
Scale of operation: 24 plots of land from Dealurile Clujului Est

Timespan: 2014-2016

Keys to success: Initiative and experience of the Romanian Lepidopterological Society in research in the area; opportunity to attract funds

Additional information:

https://www.researchgate.net/publication/320165592_Variatii_in_comunitatile_de_fluturi_diurni_din_parcele_gestionate_traditional_sau_modern_din_Situl_Natura_2000_Dealurile_Clujului_Est



Source: Romanian Lepidopterological Society

Problems addressed by this example

There is little information available regarding the correlation between biodiversity and traditional or modern farming practices. SLR has done over the years several researches proving that there is a link between biodiversity and land use (mowing, grazing, abandonment). The project intended to propose practical grassland management measures to be sent to the national and local authorities.

Story in a nutshell

This is a study the effects of traditional and modern agricultural practices on HNV grassland - project "Quantification of the effect of traditional and modern agricultural practices on the biodiversity of HNV grasslands targeting sustainable management", initiated by Romanian Lepidopterological Society (SLR). It also tested the use of ecological mowers as possible replacement for the traditional hand mowing for biodiversity conservation, thus combining traditional practices with modern technology.

There are 24 plots of land, each with a different management technique and 6 different groups of species, to be compared and to determine an index of biodiversity for each type of use.

6 different techniques were used: intensive grazing, extensive grazing, manual mowing, mowing with mechanical mower of low capacity, mowing with a tractor, abandoned.

Innovation: use of Brielmaier mower does not have a negative impact on biodiversity (to be published)

What does the project “Traditional and modern agricultural practices” achieve for HNV farming?

- About 20,000m² mowed using Brielmaier machines
- Biodiversity is maintained
- Farmers can comply with the conditions of Package 6 - Grasslands important for butterflies (*Maculinea* sp.)
- Reduced working time and increased productivity

Brielmaier mower



Source: Romanian Lepidopterological Society

Butterfly *Maculinea teleius*



Source: Romanian Lepidopterological Society

Achievements

About 20000m² were mown using Brielmaier machines and it was proved that biodiversity is not harmed. Final results of the project are expected to be officially disseminated.

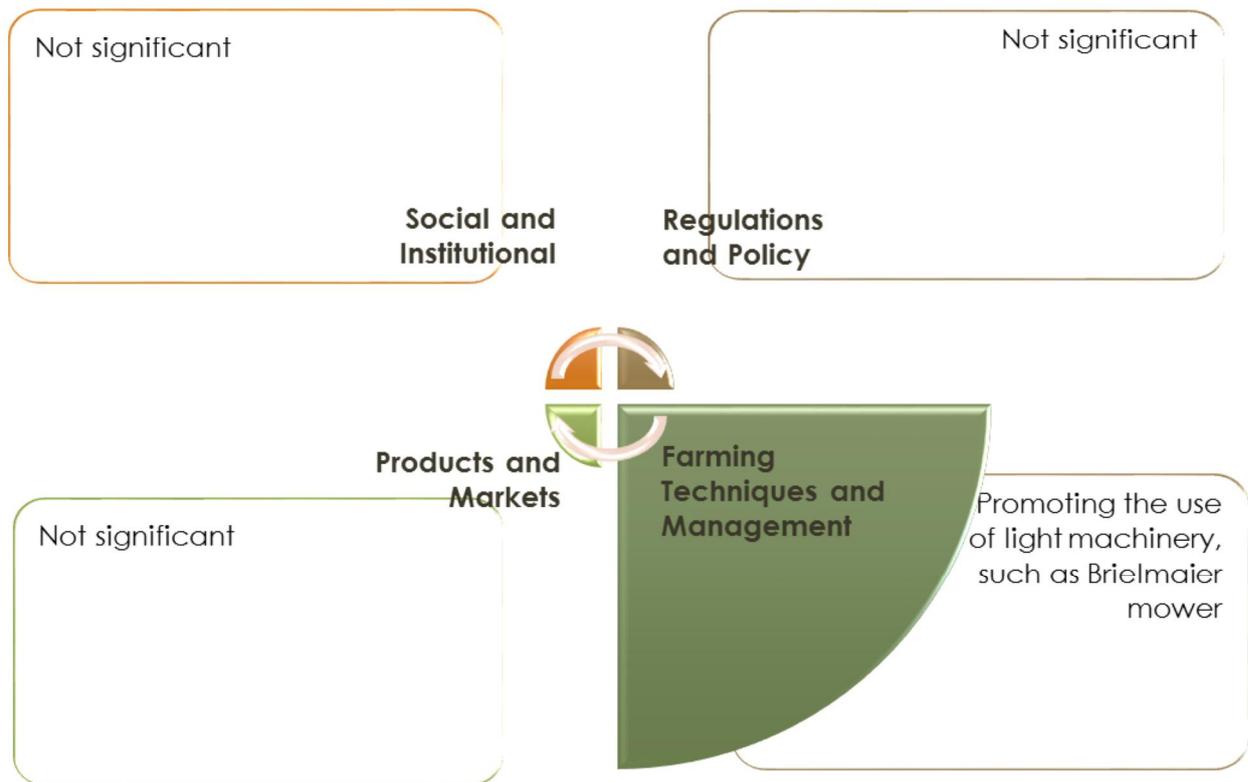
Economics of HNV farming

On the long-term, the socio-economic viability of the farms can be improved if farmers are using proper agricultural techniques that do not harm nature, helping them to reduce working time, to increase productivity and to comply with the conditions of the agri-environment measure (e.g. Package 6)

Maintaining or improving HNV values

The main objective was to conserve nature values and increase awareness of the benefits of using traditional and modern agricultural practices

How does the project “Traditional and modern agricultural practices” respond to the HNV LINK innovation themes?



Farming Techniques and Management:

Use of light machinery mowing. The use of Brielmaier mower does not have a negative impact on biodiversity (to be published). Farmers can reduce the time spent on mowing and increase productivity.

The process that made it happen and critical factors for success

- ▶ Opportunity to attract funds to continue research started in 2004
- ▶ Critical factors: reluctance of farmers; lack of money to buy the Brielmaier mower
- ▶ Increase farmers' awareness of the benefits of using light machinery for mowing

Researchers in the field



Source: <http://www.lepidoptera.ro/evenimente.htm>

Use of Brielmaier mower in Dealurile Clujului Est



Source: <https://assets.vindersichting.nl/docs/2983adae-ff6b-4dc2-813b-bd0dc442b812.pdf>

Actors and roles: Romanian Lepidopterological Society (SLR) – initiator/catalist/innovator; Romanian Ministry for Education and Research – funding partner; Brielmaier Motormäher GmbH– partner.

Institutional context that made it possible

It is the result of many years of research projects related to butterflies conducted by SLR. The opportunity offered by CAP for an extra payment in addition to the direct payments.

Resources: Financed by the Romanian Ministry for Education and Research (PN II-PT-PCCA 2013-4-1229, nr. 79/01.07.2014)

Processes: Previous researches on the protection of butterflies and their habitats lead to the research idea of investigating the effects of using the Brielmaier mower.

Critical factors for success: Reluctance of farmers in using the proposed farming techniques. No information found if farmers are using the Brielmaier mower. Continuity depends on the purchasing power of farmers (about 25,000 EURO new mower; 18,000 EURO second hand mower)

Limiting factors, actual/potential problems, and how could they be overcome?

Make farmers aware of the fact that their involvement in protecting natural values will not stop them from practising agriculture.

Lessons learnt from this innovation example, and its potential replication

- ▶ Positive effect of using Brielmaier mower demonstrated over years in Dealurile Clujului Est
- ▶ Brielmaier mower proved to be efficient in Tarnava Mare as well (STIPA project)
- ▶ Applicable in other HNV areas
- ▶ Grants and active dissemination are needed to encourage farmers to take up new technology that is quite expensive
- ▶ Need to promote HNV farmers' associations for purposes such as sharing machinery

Use of Brielmaier mower in Tarnava Mare



Source: http://www.fundatia-adept.org/?content=lifeplus_whatwedid&news_id=&set_lang=ro

Use of Brielmaier mower in Dealurile Clujului Est



Source: <https://assets.vindersiching.nl/docs/2983adae-ff6b-4dc2-813b-bd0dc442b812.pdf>

Overall lessons from this example, especially from point of view of HNV farming?

The project was a predictable action of SLR to continue the investigation started in 2004 about the link between biodiversity and land use (mowing, grazing, abandonment). They demonstrated the positive effect of using the Brielmaier mower.

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

Even if it can be considered unique by the fact that it was tested the effect of six different techniques on flora and fauna, the innovation can be replicated in other areas. For instance, the positive effect of the Brielmaier mower was demonstrated previously in another region of Romania, Tarnava Mare within a project conducted by ADEPT foundation (STIPA project).

Could it be rolled out on a bigger territorial scale?

Yes, Brielmaier mower was proved to be efficient in Tarnava Mare as well

What would be needed to do this successfully?

To increase awareness of the positive effects of using it (technical innovation); create farmer association to afford purchasing the mowers, which could be shared by farmers.

Romania – innovation example 4) Practical measures for conservation of HNV grasslands: innovative machinery, conservation action plan, educative materials

Location: Sighișoara-Târnava Mare SCI Natura 2000 site - Saxon Villages Area of Southern Transylvania, Romania

HNV system: Extensive grazing, mosaic farming

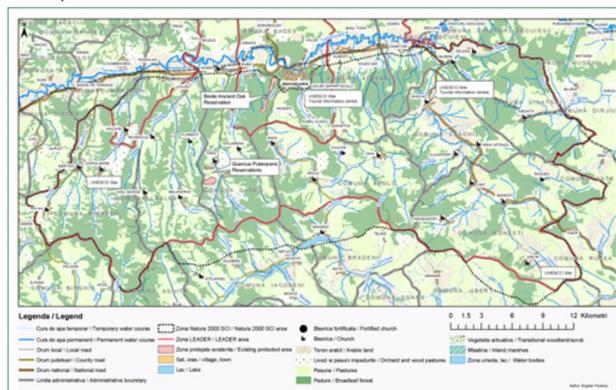
Scale of operation: 5000 families living in 24 small-scale farming communities.

Timespan: 2010-2013

Keys to success: Initiative of ADEPT foundation; EU funds and co-funding from a partner; Direct involvement of the inventor of the mower in training farmers; Participation of a large number of farmers to the farm visits; Regular discussions with stakeholders to validate the Conservation Action Plan

Additional information: http://www.fundatia-adept.org/?content=life_stipa

Map of Târnava Mare



Source: <http://www.fundatia-adept.org/>

Tarnava Mare: 6210* and 6240* managed by farmers



Source: <http://www.fundatia-adept.org/>

Problems addressed by this example

The threats identified at the beginning of this project were the loss of grassland priority habitats 6210* and 6240* - scrub and thorn spread quickly in abandoned grasslands and a thatch of dead grass develops on top of the hay meadows smothering the plants underneath; and the loss of priority habitats through lack of local support for conservation measures; lack of public knowledge about the economic and ecological value of the biodiversity.

Story in a nutshell

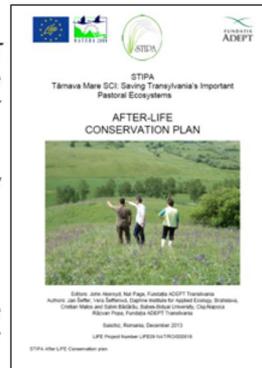
Innovative actions within the project "Saving the Important Pastoral Ecosystems of Transylvania" (STIPA) initiated by the ADEPT Foundation:

- (1) develop conservation action plans for two priority dry grassland habitats: 6210* Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) with important orchid sites, and 6240* Sub-Pannonic steppic grasslands - in cooperation with farmers;
- (2) clear scrub with innovative machinery;
- (3) bring habitat into good conservation status;
- (4) management plan addressed to all stakeholders (farmers, general community, schools, policy-makers)

What does Practical measures for conservation of HNV grasslands achieve for HNV farming?

- Farmers trained on using Brielmaier Conservation Action Plan Document mower
- 320 ha cleared of scrub by Brielmaier mower, 920 ha returned to Favourable Conservation Status, 3,800 ha under better conservation management;
- Conservation Action Plan agreed by Town halls and farmers;
- Habitat improved after only 3 years;
- Additional 26 communes became eligible for grassland management support payments

Conservation Action Plan Document



Martin Brielmaier (right), a trainer from Germany and two Romanian trainees.



Source: <http://www.fundatia-adept.org/>

Clearing of scrub



Source: <http://www.fundatia-adept.org/>

Achievements

264 farmers participated to demonstrations of innovative equipment for scrub clearance during 43 farm visits and 2 local contractors trained by the inventor for use of the Brielmaier; 320 ha cleared of scrub by Brielmaier mower, 920 ha returned to Favourable Conservation Status, 3,800 ha under better conservation management; Conservation Action Plan agreed by Town halls and farmers; monitoring shows habitat improvements after only 3 years; additional 26 communes became eligible for grassland management support payments

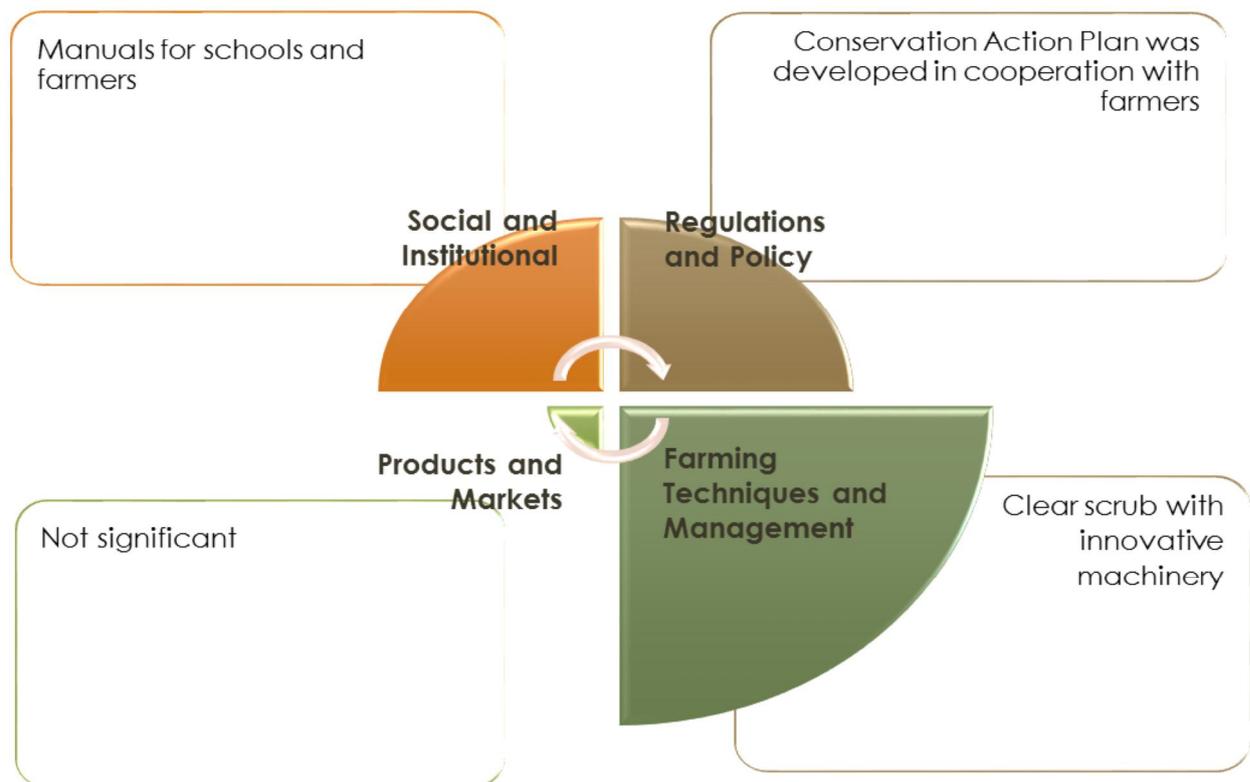
Economics of HNV farming

As a result of the innovative actions taken, 2,097 farmers (69% of eligible farmers, receiving SAPS direct payments) on 35,421 ha (74% of land eligible for direct payments) are receiving a total of €4,959,060 per year (average €2,364 per farmer per year) on 5-year contracts. Farm technology is correlated with the need to improve the conservation status of the dry grassland habitats in the area by using the innovative mowers and applying the Conservation Action Plan.

Maintaining or improving HNV values

The main aim of the project was to improve and secure future conservation status of two priority habitats and of the HNV landscape, in partnership with local people especially farmers. At the end of the project, 920 ha have been returned to Favourable Conservation Status and 3,800 ha are under better conservation management.

How do Practical measures for conservation of HNV grasslands respond to the HNV LINK innovation themes?



Farm Techniques and Management

Clear scrub with innovative machinery (Brielmaier mower; large surface of two habitats cleared and demonstrations of using for farmers). The Brielmaier allows speedy and energy efficient mowing of sloping grasslands.

Regulation and Policy

The Conservation Action Plan was developed in cooperation with farmers was well received by stakeholders

Social and Institutional:

Flora and Lepidoptera Indicator species guides produced, for long-term use in the area and more widely (manuals for schools and farmers); 8 schools were involved (280 children per year in nature classes); Over 1 million TV viewers in Romania have seen film dedicated to the project

The process that made it happen and critical factors for success

- Active involvement of ADEPT Foundation in preserving natural values
- Critical factors: reluctance of farmers; lack of money to buy the Brielmaier mower
- Risk of intensification may appear if farmers are not using the innovative machinery and the Conservation Action Plan is not applied.

ADEPT team



Source: <http://www.fundatia-adept.org/>



Source: <http://www.fundatia-adept.org/>



Source: <http://www.fundatia-adept.org/>

Actors and roles: ADEPT Foundation – initiator/catalyst/innovator; Martin Brielmaier - inventor and trainer; Farmers – trainees and for consulting sessions; Local Action Group Dealurile Tarnavelor - for consulting sessions; Town Hall - for consulting sessions

Institutional context that made it possible: The experience of ADEPT in nature conservation contributed to good stakeholders' response. The project was well received by the community and authorities.

Resources: STIPA is a EU-funded Life Natura project (LIFE09/NAT/RO/000618). Total budget was 356330 euro (73% EC Co-funding). It was co-financed by Orange Romania.

Processes: It was a pilot project. Proposed follow-up actions were: to incorporate the Conservation Action Plan into the management plan for the SCI/SPA to be finalised in 2015 (no information found if it was done or not); to cooperate with the Ministry of Agriculture and Rural Development to develop better-targeted agri-environment schemes for dry grasslands; to continue to provide farm advisory services to promote economic viability of the broader landscape of which the target habitats are an integral part.

Critical factors for success: Reluctance of farmers in using the proposed farming techniques. No information found if farmers are using the Brielmaier mower. Continuity depends on the purchasing power of farmers (about 25,000€ new mower; 18,000€ second hand mower)

Limiting factors, actual/potential problems, and how could they be overcome?

The areas need to be cleared of scrub periodically. The risk of intensification may appear if farmers are not using the innovative machinery and the Conservation Action Plan is not applied.

Lessons learnt from this innovation example, and its potential replication

- Brielmaier mower proved to be efficient and supports HNV farming
- Farmers and stakeholders willing to learn about how to protect the grasslands
- Connection among all stakeholders lead to success result, such as the agreement of the Conservation Action Plan.
- Applicable in other HNV areas

Monitoring of the results of habitat restoration



Source: <http://www.fundatia-adept.org/>

Meetings with stakeholders



Source: <http://www.fundatia-adept.org/>

Visit of Former EU Agriculture Commissioner Dacian Cioloș and HRH The Prince of Wales



Source: <http://www.fundatia-adept.org/>

Overall lessons from this example, especially from point of view of HNV farming?

- The project was designed to help the continuation or re-establishment of grassland management in the area. The innovative mower can support HNV farming, but it can be a challenge for farmers due to finance reasons. Farmers and other stakeholders were willing to learn about how to protect the grasslands. Connection among all stakeholders lead to success result, such as the agreement of the Conservation Action Plan.

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

- It was unique at the time of project implementation. The use of the innovative mower is replicable in areas with the two types grassland habitats: 6210* and 6240*. The conservation action plan can be adapted to other areas, in LA as well.

Could it be rolled out on a bigger territorial scale?

- Yes, Brielmaier mower was proved to be efficient in Dealurile Clujului Est a well. A Conservation Action Plan should be developed for each habitats and included in the management plans of the areas.

What would be needed to do this successfully?

- To increase awareness of the positive effects of using it (technical innovation); create farmer association to afford purchasing the mowers, which could be shared by farmers. Farmers need to be frequently trained and proved the efficiency of using light machinery.

Romania – innovation example 5) PDO Telemeaua de Ibanesti cheese

Location: Valea Gurghiului, Mures County

HNV system: Livestock

Scale of operation: Valea Gurghiului (milk collector points in Ibanesti, Hodac, Gurghiu).

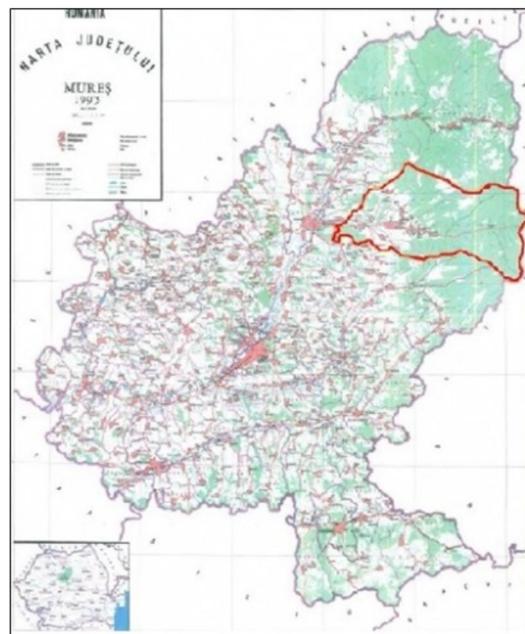
Timespan: PDO certification in 2015

Keys to success: Initiative of the Association of promoting traditional products of Gurghiului Valley ; tradition of producing the cheese; involvement of the Association members

Additional information:

<http://www.madr.ro/industrie-alimentara/sisteme-de-calitate-europene-si-indicatii-geografice/produse-agricole-si-alimentare/caiete-de-sarcini-2013.html>

Valea Gurghiului, Mures County



Source <http://mirdatod.ro/>

Problems addressed by this example

The challenge was to obtain the PDO certification as recognition of a product that has been passed through generations being unique for the provenance of the raw material. Local producers with maximum three cows are helped by collecting the milk – 70% of the milk used comes from the small local producers (not binding in the Products specification)

Story in a nutshell

Telemeaua de Ibanesti is the first cheese with protected denomination of origin (PDO) in Romania. It was certified in 2015. The cheese is produced in Ibanesti, Mures County, through an acid coagulation of milk from cows raised in Gurghiului Valley. Minimum annual grazing period is six months.

The uniqueness of the product comes from the feeding of the animals, but also from the water used for the brine (salt water well in Orsova).

It is produced by the Mirdatod company (Ibanesti) throughout the year. Farmers that provide the raw milk are grouped in cattle breeders associations near the milk collector points from three towns: Ibanesti, Hodac, Gurghiu (Mures County) situated in the Gurghiului Valley. Cows are grazed in summer only in the Gurghiului Valley and in winter with hay harvested from the pastures from the geographic area; milk production is from an extensive system (Products specification). We could say that this cheese is close to an “HNV PDO”.

What does PDO Telemeaua de Ibanesti achieve for HNV farming?

- ▶ Local small farmers (max 3 cows) provide 70% of milk
- ▶ Region becomes well-known for the unique product
- ▶ HNV farming is sustained
- ▶ Conservation of nature value is an indirect objective, achieved by encouraging grazing on the local pastures.

Salt in Orsova



Source ©Dorina Matis / AGERPRES FLUX

Grazing, Valea Gurghiului



Source <http://mirdatod.ro/>

Achievements

The local product Telemeaua de Ibanesti was recognized at EU level as a PDO. Local small farmers from HNV area sell the raw milk for processing of the PDO product.

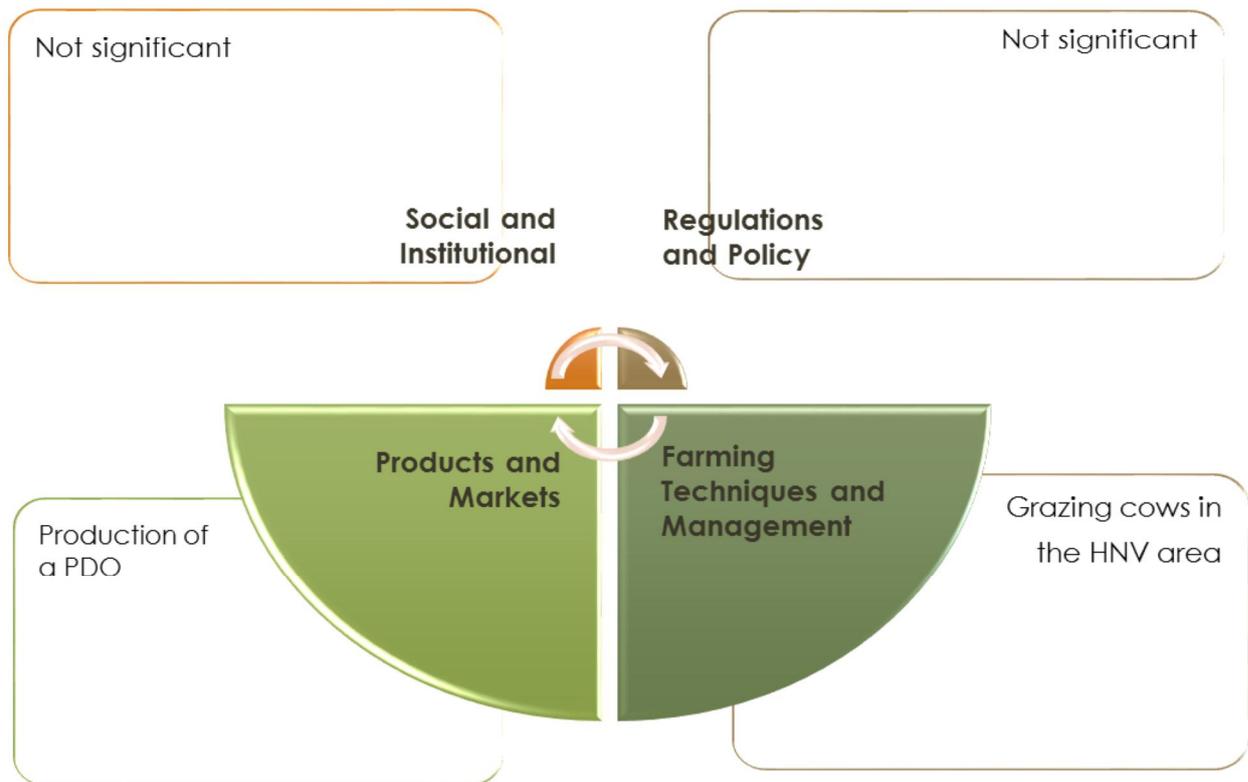
Economics of HNV farming

Local small farmers have the opportunity to sell directly the cow milk for producing the PDO product. HNV farming is sustained. The whole community also benefits because the region becomes well-known for the PDO product and may attract more tourists in future.

Maintaining or improving HNV values

Conservation of nature value is an indirect objective, achieved by encouraging grazing on the local pastures.

How does PDO Telemeaua de Ibanesti respond to the HNV LINK innovation themes?



Products and Markets

Production of a PDO - Telemeaua de Ibanesti

Farm Techniques and Management

Grazing cows in the HNV area in summer only in the Gurghiului Valley

The process that made it happen and critical factors for success

- ▶ Initiative of the Association of promoting traditional products of Gurghiului Valley
- ▶ Cooperation with local farmers for providing raw milk
- ▶ Certification process delayed due to opposition of Greece (“Telemeau” vs. “Telemes”)

PDO Telemeaua de Ibanesti



Source <http://mirdatod.ro/>

Achim Irimescu, former Minister of Agriculture, receiving the PDO certificate in Brussel



Source: <https://www.stiagriicole.ro/>

Actors and roles: Association of promoting traditional products of Gurghiului Valley-initiator of certification process; SC Mirdatod Prod SRL (company) catalyst/innovator– member of the Association - milk collector and dairy producer; Local small farmers with maximum 3 cows - provide 70% of milk requested for production

Institutional context that made it possible: The initiative of the Association

Resources: Support of Association members for the certification process

Processes: The product will continue to be produced as it is a good asset for the region: farmers are encouraged to graze cows on the Gurghiului Valley.

Critical factors for success: direct involvement of the dairy processor;

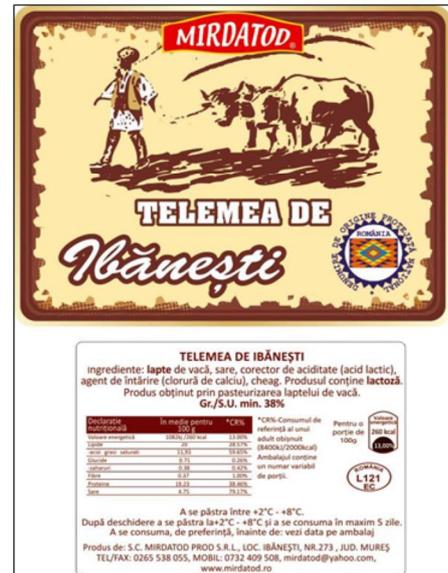
Limiting factors, actual/potential problems, and how could they be overcome?

The certification process was delayed due to the oppositions expressed by Greece: the word “Telemeaua” is almost identical to the word “Telemes” which is produced on large scale in Greece through a similar procedure. Thus, the product was requested to be named “Telemea de Ibanesti” so that the word “telemea” can still be used.

Lessons learnt from this innovation example, and its potential replication

- Local farmers are sustained in their everyday activity
- First cheese product certified as PDO in Romania
- Grazing is sustained
- Applicable in areas with localised products

PDO Telemeaua de Ibanesti



Source <http://mirdatod.ro/>

Overall lessons from this example, especially from point of view of HNV farming?

The certification can sustain local farmers in their everyday activity and thus maintain the HNV characteristics of the area (e.g. grazing). The challenge is to create/find associations willing to request for the certification and to assure the production facilities for a constant production.

Is the innovation unique to its territory and its characteristics, or is it replicable in other areas?

It is the first cheese product certified as PDO in Romania. The process of certification can be applied to any product that corresponds to the certification requirements.

Could it be rolled out on a bigger territorial scale?

Yes, in areas with products that can be proved as being unique by the way of producing and using local raw ingredients

What would be needed to do this successfully?

Initiative of a farmer association; willingness of farmers to cooperate to sustain such a process