



Learning Area “*Dalmatian Islands*” (Croatia)

INNOVATION EXPERIENCES AND NEEDS

Contribution to deliverable D2.6.1

Date: October 2017

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*This project has received funding from the European Union Horizon 2020 research and innovations program under Grant Agreement No. 696391
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Introduction and contents

This report looks at innovation that supports HNV farming in **Dalmatian islands** (LAG Brač, LAG Škoji, LAG 5), and identifies the types of innovation that are missing and needed in order to secure a sustainable future for HNV farming (HNVf).

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

Types of innovation that seem to be absent in **Croatia (specifically coastal and island area)**, and that we would like to explore in other countries of the HNV LINK network, are also summarised.

Contents

- Slide 2: Introduction and contents
- Slide 3: The challenges facing HNV farming in Dalmatian islands
- Slide 4: Overview of innovation in LA Dalmatian islands
- Slide 5: Innovation examples in LA Dalmatian islands
- Slide 6: Social and institutional innovation
- Slide 7: Regulatory framework innovation
- Slide 8: Products and markets innovation
- Slide 9: Farm techniques and management innovation
- Slide 10: Innovations from outside the LA that could help address LA needs
- Slide 11: Innovation examples for which LA Dalmatian islands is looking to other Member States
- Slide 12: Innovation fiches from Croatia
- Slide 13-17: Croatia innovation example 1: Oživi održi otok – Action plan for sustainable use of resources of Murter region
- Slide 18-22: Croatia innovation example 2: Multistakeholder organizations: fostering HNV products and practices
- Slide 23-27: Croatia innovation example 3: HNVf as a tourist activity: SMS Vlaho Komparak, SMS Eko Škoji, Olive oil museum
- Slide 27-31: Croatia innovation example 4: Drystone walls: keystone for mosaic HNV
- Slide 28-37: Croatia innovation example 5: Nursery of indigenous species “Anemona”
- Slide 37: Photo credit
- Slide 38: Bibliography

The challenges facing HNV farming in Dalmatian islands

The HNV system is under pressure from tourism development and its infrastructure on one hand and land abandonment and the consequent closure of the mosaic landscape on the other. It results in an increasing number of wild fires and loss of biodiversity as the agricultural land and habitats become recolonized by the maquis and then by forest.

Livestock farming is facing a stifling regulatory system (food hygiene, animal health, land ownership and management, land-use planning, inconsistency in policies and subsidies on different governance levels) that closes down most of their options for improving the economics of the system.

Due to fragmented, small parcels and an unreliable land ownership system farms struggle with poor economic viability. They receive very limited support from the CAP (Pillar 1) and RDP compared with other sectors and other Member States.



Challenges facing HNV farming in Dalmatian islands

Depopulation of the islands and land abandonment is an ongoing trend with more and more people shifting from agriculture to tourism. Agricultural land cover represents 5,8% of the total LA surface with an average size of cultivated land being 1,7 ha. The majority of the land is used for olive groves (53%), vineyards (21%) and karst pastures (15%). From the overall 57 566 living in the LA total number of domestic animals in households is 32 652 . 45% sheep, 49% poultry, 5% goats and 1% cattle. Data limitations exist with respect to spatial coverage of agriculture.

Before the area had intensive livestock activity on all the islands (mostly goats and sheep) but with the decrease of the population and the abandonment of the agricultural land, the habitats are recolonized by the maquis and then by forest. As a long term result of the agrarian reforms in 1945 and 1953 between 1960 and 1990 the percentage of farms size of 3 ha or less increased from 55% to 70%. The growth of tourism compensated the declining part of agriculture in economy.

Although there is a strong demand for the local products by restaurants that want to offer local menu to the tourists there is a great problem in obtaining local lamb as in the Dubrovnik-Neretva county there is only one slaughter house and it is located on the island of Korčula (Smokvica). On the Pelješac peninsula there is no veterinarian and the breeders need to pay for their arrival from the mainland (Metković). On-farm processing (e.g. cheese) and direct sales cannot develop due to rigid rules and bureaucracy.

Overview of innovation in LA Dalmatian islands

There is no overall project to support the HNV farmland in the area but there are multiple private, public and civil sector initiatives that aim to promote HNV and HNVf practices. These examples include products from HNVf practices, agro tourism that use HNVf as part of the touristic experience, or activities of a non-profit organisation that has been working on the protection of the mosaic landscape, its drystone walls and the transfer of its building know-how for the new generations.



Overview of the innovation situation

- Learning area of Dalmatian islands is a highly touristic area that covers 7 islands, a peninsula and a coastal municipality.
- Development is seen as the driver that will meet the needs of the present generation without compromising the ability of future generations to meet their own needs. It is an area of mosaic landscape and low intensity farming activity.
- There are not a lot of innovation in terms of HNVf as a concept that is being deliberately promoted, but there is broad range of practices and products that have the potential to revitalize HNV farming systems and its natural area.
- HNV-LINK is a first attempt to create a network aiming to coordinate different actors, actions and projects that will foster HNVf in Croatian islands and link it to sustainable tourism development.
- Sustainable tourism development as a paradigm that refers to *"meeting the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems"* (Norrby et al., 2003:11)
- The innovations being presented are the innovation that foster HNV farming type 2 that is "mosaic landscape" and the practices of sustainable tourism development in the learning area.

Innovation examples in LA Dalmatian islands: what are their strengths and weaknesses for HNV farming?

- LEADER as a tool to foster HNV: LAG 5
- Slow Food Pelješac: fostering HNV products and practices
- Dry stone walls: keystone for mosaic HNV
- Doing agriculture as a tourist activity
 - SMS Vlaho Komparak
 - SMS Eko Škoji
 - Olive oil museum
- Nursery of indigenous species: Anemona



Slow Food® Pelješac



Strengths

- There are several organisations in the area that support HNV practices
- There are several producers that are producing in line with HNVf practices
- There are multiple initiatives aiming to improve marketing of local products
- There is a demand by the local restaurant for local livestock and other HNVf products (honey, olive oil....)
- Beekeeping is increasing and it is fostering the productivity of fruit cultivations

Weaknesses

- The existing innovations are on an extremely limited scale, compared with the scale of the challenges (that is reconstruction and maintenance of the dry stone walls as one of the main characteristics of the HNV landscape in the islands)
- Two innovations are just beginning (Slow food Pelješac and nursery of indigenous species Anemona) and need additional institutional push and subsidies to enhance their HNV impact
- There is a problem of specialization (small farmers don't possess bureaucratic knowledge needed to apply for subsidies that would foster their HNVf practices)
- The existing innovations do not address the main challenges facing HNV farming that is land abandonment and land stewardship

What are the main innovation needs in the « Dalmatian islands » & how could they be addressed?

Social and institutional innovation

Social and institutional - innovation needs	Possible approaches
Establish long-term HNV “animation” project for LA Dalmatian islands	Design a project for RDP measure 16.1.1.
Integrate the approach of government departments towards mosaic agriculture	Regional authorities develop a strategy and a cross-departmental working group with island LAGs
Create an online and transparent platform for acquiring state land for stewardship	National authorities establish dialogue with local actors for development of approaches
Sharing of good farming practices	Capacity building in the form of exchange of good practices should be provided associated to subsidies for HNV farming.

Social and Institutional Innovation Needs

In the area there have been several initiatives and projects aiming at promoting and revitalizing mosaic landscape and HNVf but there were no multistakeholders group other than civil society individual projects or small scale farmer initiatives focusing on the issue of long term strategic revitalization of mosaic agriculture.

In the island of Korčula and Pelješac peninsula there is an active beekeepers association that has helped to boost the honey production and has brought many positive side effects in terms of enhanced environmental services. On the island of Brač there is an active livestock farmers association whose professionalization would help to promote small scale farmers interests from the islands (cheese production especially).

On the national level it is necessary to establish a uniform and transparent system that would speed the process of state land allocation to local farmers and foster giving land to HNVf practices as its environmental services would significantly lower the risk of fires that are quite high in the area.

The different authorities apply their policies without talking to local farmers about best approaches. This creates major problems, and ineffective programmes. A very significant innovation would be for the authorities to engage with local farmers in designing and implementing policies.

By designing a project that would create a group of designated actors with an “innovation action plan” that would state concrete actions to be done in the area would mean a significant shift forward in revitalising HNVf as key in protecting both the natural and cultural heritage of the islands that make them so attractive to tourists.

Regulatory framework innovation

Regulatory framework - innovation needs	Possible approaches
Solve the severe limitations of Pillar 1 for support to mosaic agriculture	It is necessary to establish an operational group within the National rural network that would draft policy recommendations that are adapt to the realities of mosaic agriculture and insularity
Use RDP measures to support HNVf on large scale, for biodiversity and fire prevention	Advocate for a modifications in submeasures 4.4.1. and Measure 10. Additional points for HNVf activities funded through measure 6.1; 6.2; 6.3; 4.1.1; 4.1. Changes in measure 4.3.2. that foster land management by farmers
Implement sustainability criteria in state-owned land	Monitoring of lands given for concession in order to preserve agricultural landscape patriomony and foster biodiversity

Regulatory Framework Innovation Needs

CAP Pillar 1 gives direct support per hectare that is not applicable to HNVf type 2 in the islands. Mosaic agriculture that is characteristic for the area is based on small agricultural parcels that have a wide variety of species.

Land management of mosaic landscape is much more work intensive and it is necessary to implement these type of specificities when developing Pillar 1 subsidies. Pillar 1 needs to foster extensive land management and give support to practices that will slow down land abandonment.

Republic of Croatia is implementing its 1st Rural development programme that is Pillar 2 and has drafted specific sub measures for reconstruction and maintenance of dry stone walls and terraces as traditional HNV landscape, still there are some inconsistencies in the implementation of policies on different government levels and a discrepancy between the local needs and policy that should be fixed for the next financial perspective through closer communication with the local stakeholders and scientific institutions that have done research on the topic (See Andlar 2002; 2007; 2012).

As there is no monitoring of lands given under concession it is necessary to either implement the sustainability criteria for state owned land given up for renting or concession or develop a specific HNVf program for state-owned land that would help farmers with HNVf friendly project to get access to those lands (Abdesater et al, 2017:143).

Products and markets innovation

Products and markets - innovation needs	Possible approaches
Promote HNVf products and practices	Establish a centre for agrobiodiversity of the islands: educational, economical and tourist development centre for preservation of agrobiodiversity and the promotion of elements of traditional agricultural cultures
Develop certifications	Design a certification for the islander HNVf products and specific support marketing and distribution measures for the holders of the certificate
Laboratory for HNVf fostering tourism	Create a collaborative platform of multistakeholders from the islands that will develop HNVf friendly tourist products and services and create an overarching marketing strategy for the area
Developing volunteering tourism	Introduce voluntourism as a way to battle lack of labour force

Products and Markets Innovation Needs

Innovations identified in this domain are responding to the innovation gap related to branding and promotion of HNVf products and are trying to propose solutions to the identified gap in terms of insufficient labour force and the pressure posed to the environment from the misbalance between tourism and agriculture.

In order to answer to the proposed innovation gaps it is necessary to engage a wide range of stakeholders on different scales and sectors.

- For the viability of the HNVf practices and products in the area it is necessary to have an educational centre who will provide the know-how set and the tools for doing HNVf.
- It is also necessary to have a support system around certifications that will show to the producers that their labels have substance in terms of the services and market position that goes with it. Differentiation on the market through certificate itself isn't enough (as has been shown in the example of the label "Croatian Island Product").
- The issue of land abandonment and consequent lack of labour force could be solved through the promotion of voluntourism as a platform for finding people that would help with herd management and restoration/maintenance of terraces (Abdessater et al., 2017).

Farm techniques and management innovation

Farm techniques and management - innovation needs	Possible approaches
Use grazing as a tool for reducing fire risks in critical areas	Identify key actors in the area and develop specific programmes and legislative framework with local and regional authorities that would support this type of activity
Reconstruction and maintenance of dry stone walls	Establish unformal education in order to preserve that knowledge as well as to identify bio-cultural hotspots and visitor infrastructure as to ensure its economical viability
Reintroducing animals	Develop project on the LAG level that would promote reintroduction of breeding at a scale of a SMS in order to preserve ecologic balance.

Farm Techniques and Management Innovation Needs

Dalmatian island are scarce in arable agricultural land and prone to wild fires. Agricultural land is man made through the process of cleaning the land from rocks and building dry stone walls to prevent erosion. The role of dry stonewalls was a way of defining ownership and system for livestock management. These practices with land abandonment and forestation of agricultural land are being ever more forgotten and it is necessary to promote those practices and implement them in the "modern" agricultural holdings that are more prone grinding the soil then building dry stone walls. These modern practices foster soil erosion and loss of habitats.

Reintroducment of animals will answer to major problems such as wild fires and los of biodiversity due to the closing dynamics of the abandoned landscape. The area has a potential for breeding to enhance the biodiversity of the are but there are 2 major constraints, lack of funds and lacko of workforce on the other.

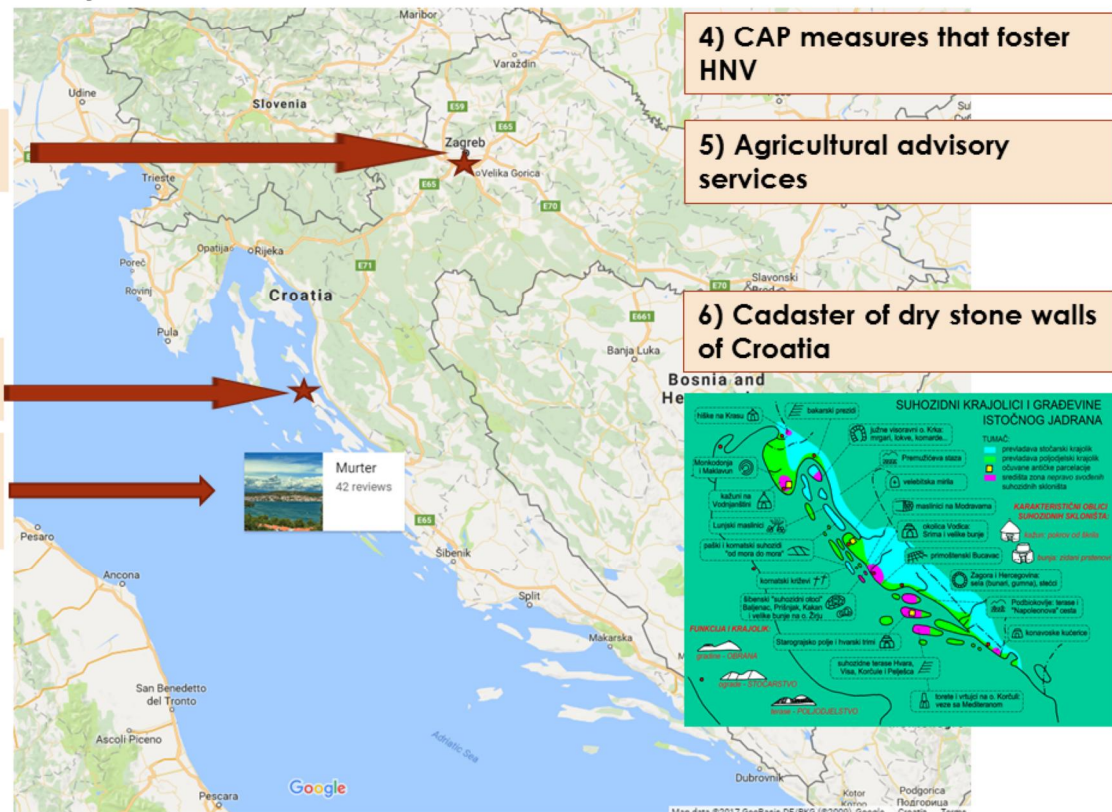
Following the example of what was done in Bulgaria and Romania to protect traditional forms of breeding (WWF-DCP/EFNCP, 2008), it seems that more could be done by national authorities in Zagreb to create legal and other incentives for the preservation of these practices. In this case, it could take the form of facilitation in use of abandoned land, status for shared herds (as it exists e.g. in France). This would maybe require some lobbying effort from local entities, which could include the LAGs, but also actors involved in these activities, even indirectly – like tourism actors working with animals, in actuality or potentially (Abdessater et all., 2017:145)

Innovations from outside the LA that could help address LA needs

1) Webshops of HNV products

2) "Island of Pag lamb" certificate of origin

3) Oživi održi otok – Action plan for sustainable use of resources of Murter region



- 1) Web shop of organic and HNV products: Greencajg.hr is a newly opened web shop that is situated in the capital but is selling products from small scale farms thorough Croatia that have "eco" or any kind of "organic" certificate
- 2) "Island of Pag lamb" certificate of origin
- 3) Oživi održi otok – Action plan for sustainable use of resources of Murter region that documented local resources in terms of natural resources and biodiversity friendly practices and innovations linked to it. It underlined the key elements for revitalization and sustainable use of local resources "open eco museum" of the Murter region.
- 4) CAP measures that foster HNV: Agri-environmental measures- IAKS measures and sub-mesure of measure 4 for stonewalls
- 5) Agricultural advisory services: 2 types of AKIS governmental services that have local branch offices. One is on the scale of the region the other is one the scale of an island/peninsula. The first is to give advice and share knowledge in livestock breeding, the latter in sustainable agricultural practices
- 6) Drystone walls: keystone for mosaic HNV

Innovation examples for which LA Dalmatian islands is looking to other Member States

- ▶ Locally-led projects that set objectives for pastoral land with the users, and apply a « payment for results » approach to promote these objectives
- ▶ Flexibility in the application of food hygiene rules to small-scale, on-farm processing units.
- ▶ Approaches to dealing with animal health controls (TB) in extensive systems on common land with wild fauna vectors.
- ▶ Land management system for confused land ownership land
- ▶ Creation and implementation of a local brand
- ▶ Creation of formal local value chains

INNOVATION FICHES FROM CROATIA

- 1) Oživi održi otok – Action plan for sustainable use of resources of Murter region
- 2) Multistakeholder organizations: fostering HNV products and practices
- 3) HNVf as a tourist activity: SMS Vlaho Komparak, SMS Eko Škoji, Olive oil museum
- 4) Drystone walls: keystone for mosaic HNV
- 5) Nursery of indigenous species ‘‘Anemona’’

Croatia – innovation example 1)

Oživi održi otok – Action plan for sustainable use of resources of Murter region

Location: island of Murter, National park Kornati, Nature park Vransko lake

HNV system: mosaic agriculture and extensive grazing, mainly sheep on eumediterranean grassland

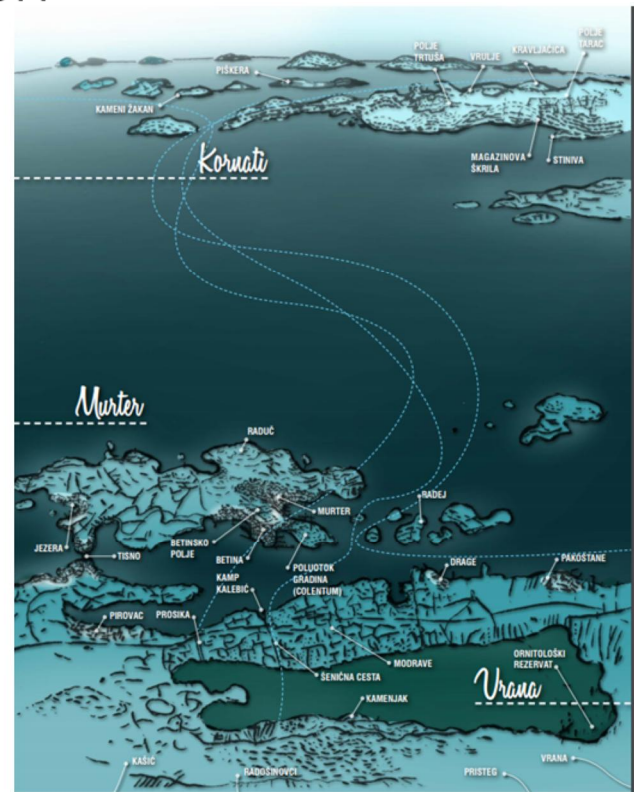
Scale of operation: Natura 2000 sites of Vransko lake, islands of Murter and National park Kornati

Timespan: 18 months (2014/2015)

Keys to success: Partnership of civil and private sector, EU funding, creation of a local multistakeholders platform to promote and implement the concept

For further info:

<https://www.argonauta.hr/1499/ozivi-odrzi-otok/>



Problems addressed by this example

This project aimed at reinventing the traditional practices that fostered HNVf in the contemporary times. It aimed at tackling the problem of knowledge transfer of traditional practices that stopped due to intensive land abandonment and aging of population.

Story in a nutshell

This was a project ‘Revival of local traditional practices of sustainable use of resources of the island of Murter and its natural region’ funded through the EU IPA Funds (Supporting CSOs in Development of Partnerships for Sustainable Use of Protected Areas in Croatia, Including Potential NATURA 2000 Sites). One of the outputs was the action plan that documented local resources in terms of natural resources and biodiversity friendly practices and innovations linked to it. Additionally 7 concrete project proposals were developed as a next step in the implementation process:

- 1) Archaeological/recreational park Colentum - tourist valorisation of the cultural and historical heritage of the island of Murter;
- 2) Modrave gardens - Fostering ecological olive growing with a combination of tradition and innovation;
- 3) Not all sheeps are black - The revitalization of traditional cattle breeding for the protection of the eumediterranean lawns;
- 4) Dry stone walls as a the bond of social capital and sustainability - A register of local dry stone walls heritage and knowledge holders;
- 5) Wooden shipbuilding tomorrow- revitalization of traditional knowledge of wooden shipbuilding;
- 6) Laboratory for innovative and sustainable tourism – development of tourist offer outside of the tourist season of the Murter region;
- 7) Cooperative for the 21st century- founding of the integral cooperative Murter.

What does *Oživi održi otok* achieve for HNV farming?

- 20 success stories
- 2 workshops
- 7 project proposals



Achievements

Revival of local knowledge on nature protection and sustainable use of its resources. Incorporation of nature protection in development of island of Murter through sustainable tourism. Creation of a platform of people from the islands and their Parks for strengthened capacities of stakeholders on the topic ecosystem services; strengthened capacities of stakeholders for development of participative management of Natura 2000 areas; explored practices of participative management policies in protected areas on the model of French eco-museums; revival of local traditional practices of sustainable use of natural resources.

Economics of HNV farming

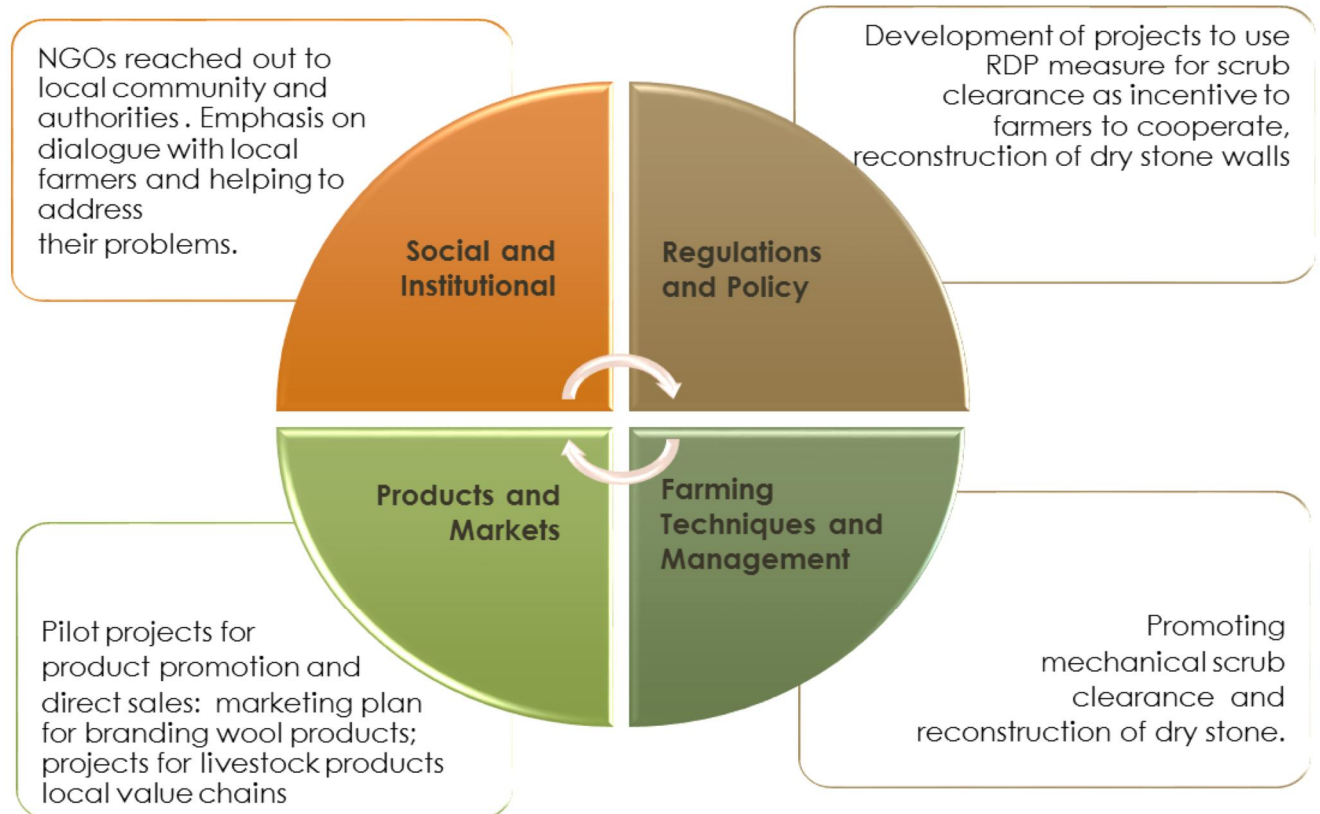
Data is not available on the economic impact of the programme for HNV farms.

Maintaining or improving HNVf values

The programme was not designed to achieve specifically HNV or conservation objectives, but probably had benefits as a result of maintaining extensive grazing systems and reducing scrub encroachment.

Potentially the programme could have been adapted to give it a more explicit HNV focus, for example, with greater involvement of the nature-conservation authorities.

How does “Oživi održi otok” respond to the HNV LINK innovation themes?



Social and institutional

Action plan is the project that is a creation of a collaborative local platform of stakeholder from civil and public sector and the farmers around the idea of developing a plan for sustainable use and revitalization of the Natura 2000 sites

Regulations and Policy

This action plan holds in itself concrete project proposals that aim at using RDP funds for implementing policies designated for HNV and Natura 2000 sites

Farming Techniques and Management

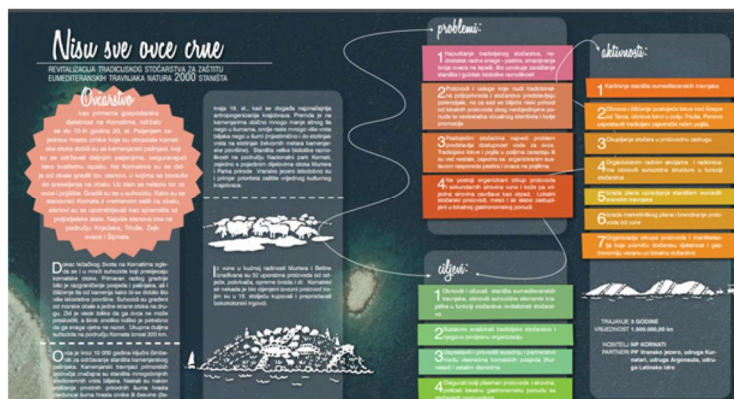
This action plan promotes traditional agricultural techniques of mechanical scrub clearance to prevent wild fires and reconstruction of dry stone walls for preventing erosion and also as a livestock management system

Products and Markets

Drafts and kick starts pilot projects for promotion and direct sales such as “Not all sheep are black” that aims at branding traditional wool products that are treated as waste and not as a resource.

The process that made it happen and critical factors for success

- Multistakeholder partnerships
- EU funding
- Youth enthusiasm
- Transgenerational collaboration



Actors and roles: This project was a result of a partnership collaboration of NGOs Argonauta, 4 Grada Dragodid, Feniks Arbor, Modrave Murter-Betina and public institutions National park Kornati and Nature park Vransko lake: local NGOs and local highly educated youth. Specifically, Murter NGO Argonauta opened lines of communication with public institutions and with the "holders of heritage" using formal and informal acquaintances to foster a long term multistakeholders, multi-islander platform for sustainable development that is still ongoing.

Institutional context that made it possible: The process of acquis harmonization of the Republic of Croatia and access to EU funding for Natura 2000 management plans available to NGO's and other civil society organisations.

Resources: Funding was available through EU funds, specifically IPA funds

Processes: The project that drafted the action plan lasted for 18 months but the activities related to its implementation kick started in 2015 and are ongoing.

Critical factors for success: Major factor was funding availability of EU funds and financial support that came from the Office for NGOs of the Republic of Croatia. Another factor was enthusiasm of all the people involved that created it using solely their own resources and knowledge.

Limiting factors, actual/potential problems, and how could they be overcome? Project based funding puts constraints on the number of actions that could be done as they are always unexpected opportunities and constraints for the implementation of the vision proposed.

Lessons learnt from this innovation example, and its potential replication

- Transgenerational collaboration
- Multistakeholders partnership
- Territorial approach to sustainable development



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

For HNV preservation of traditional landscapes and revitalization of agricultural practices in a way that it answers to the contemporary needs of the locals (incorporation of nature protection, revitalisation of landscapes and sustainable tourism)

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

It is an innovation that is replicable and that has been in some extent implemented in other areas (such is the Strategic development framework of the National Park of Mljet that functions both as a baseline assessment of the territory and an action plan with a set of project proposals to ensure its implementation)

Could it be rolled out on a bigger territorial scale?

Existing examples that have been mapped were focused on small to medium scales such is the territory of National park, Nature park and plans and projects that were developed as part of a wider international programme such was the COAST project (Conservation and Sustainable Use of Biodiversity in the Dalmatian Coast through Greening Coastal Development – COAST)

What would be needed to do this successfully?

For implementation of HNVf as a concept that will secure livelihood for the local stakeholders it is necessary to secure overheads for organizations that are local key holders of the concept in order to have long term education and collaboration in both implementing and promoting HNVf practices as well as branding its products.

Croatia – innovation example 2)

Multistakeholder organizations LAGs and Slow Food: fostering HNV products and practices

Location: Dalmatian islands

HNV system: mosaic agriculture and extensive grazing, mainly sheep on eumediterranean grassland

Scale of operation: LAG Brač, LAG Škoji, LAG 5

Timespan: From 2012 ongoing

Keys to success: EU funding, multistakeholder platform, continuous communication and collaboration with local stakeholders

For further info:

<https://www.facebook.com/sfpeljesac/>



Problems addressed by this example

Institutional support and promotion of HNVf practices and products.

Story in a nutshell

In the area of Dalmatian islands there are several LEADER organizations and other multistakeholder organizations that indirectly promote HNV friendly practices and its products. They represent partnership of public, private and civil sector established in order to get EU funding for local projects that foster rural development and benefit their agro-eco system. These multistakeholder organizations comprising representatives from public, private and civil sector serve as knowledge brokers and catalysts for the implementation of HNV values in local communities.

Movements such as Slow Food Convivium also contribute to international promotion and branding of such products. *Slow Food Pelješac Convivium* aims to encourage and promote local food production and consumption on principles of being good, clean and fair. Its main activities are encouraging nutrition based and seasonal produce, protection of biodiversity in their focused territory, documenting and reviving local recipes and foods that are endangered or forgotten, bringing the producers and consumers closely together, promoting organic farming that doesn't involve harmful herbicides and pesticides

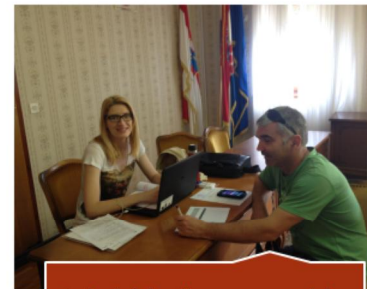
What do multistakeholder organizations as LEADER and Slow Food achieve for HNV farming?



Subsidies for livestock



Education on agrienvironmental measures



Administrative support for RDP subsidies



Branding and promotion of HNV products

Achievements

LEADER organizations play an important role in educating the farmers on available subsidies and helping them receive and administer those subsidies by implementing HNVf friendly projects such as buying livestock, building shelters for livestock, restoring extensive oil grove, restoring one-year crops on mosaic farmland and opening landscapes and planting local medicinal herbs. *Slow Food Pelješac Convivum* has organized several workshops and gatherings with the aim of promoting and educating the local stakeholders on the importance of local cuisine, on what we eat and how its linked to biodiversity.

Economics of HNV farming

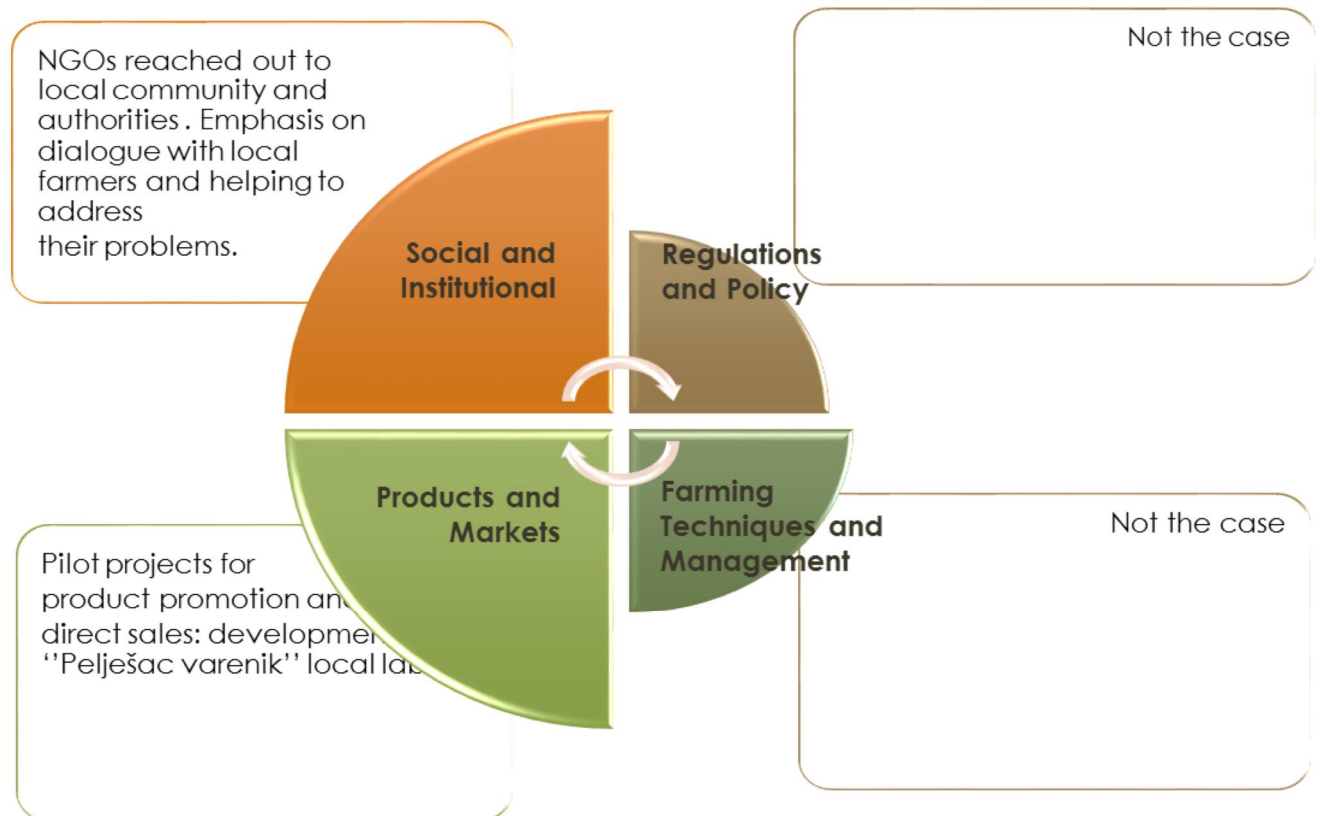
Several workshops and manifestations regarding the promotion of HNVf products and the Slow Food Concept.

Maintaining or improving HNV values through administrative support for 20 HNVf friendly projects.

The organizations and its projects and work programmes were not designed to achieve specifically HNV or conservation objectives, but probably had benefits as a result of maintaining extensive grazing systems and reducing scrub encroachment.

Potentially their work could have been more adapted to give it a more explicit HNV focus, for example, with greater involvement of the nature-conservation authorities.

How do multistakeholder organizations respond to the HNV LINK innovation themes?



Social and institutional

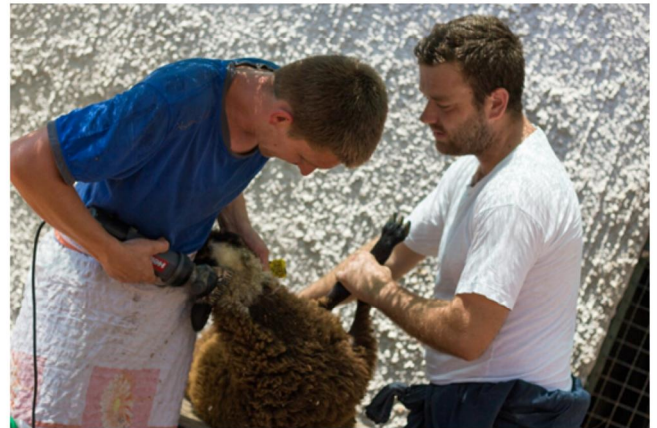
Multistakeholder organizations of different forms represent an important social innovation as they are a first step in creating institutional structures and avoiding a short-term project culture. These social innovations that are part of either international movements or rural development programmes are grounded in the social processes of the community and can best help create social value for that community.

Products and Markets

Multistakeholder organisations, both LEADER organizations work on developing new projects that will brand the territory (such as Active Adriatic South project of LAG 5 that connects local cuisine to cyclo tourism) and the products such is the initiative of the Slow Food Presidium "Pelješki varenik".

The process that made it happen and critical factors for success

- Multistakeholder partnerships
- EU funding
- Youth enthusiasm
- Transgenerational collaboration



Actors and roles: The role of the stakeholders and organizations themselves was defined by their local members from the private, public and the civil sector.

The establishment of the *Slow Food Pelješac* came as part of a LAG 5 project (LAG 5 Green Agenda) where the local stakeholders met and exchanged practices with the civil sector activists from *Slow Food Liburna*.

Institutional context that made it possible: The process of acquis harmonization of the Republic of Croatia and access to EU funding that fostered more field trips, exchange of best practices and networking.

Resources: Funding was available through EU funds.

Processes: The funding came from EU funds and the major factor was the process of harmonization with the EU acquis that put an emphasis on nature protection and bottom-up development.

Critical factors for success: Major factor was funding availability of EU funds and enthusiasm of all the people involved that they will be able to kick-start projects that will truly improve the life of their rural communities and their own businesses.

Limiting factors, actual/potential problems, and how could they be overcome? Project based funding puts constraints on the number of actions that could be done as they are always unexpected opportunities and constraints for the implementation of the vision proposed.

Lessons learnt from this innovation example, and its potential replication

- Territorial approach to local development as a policy framework to promote HNV
- Education and communication as a prerequisite for extensive farming



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

For HNV preservation of traditional landscapes and revitalization of agricultural practices in a way that it answers to the contemporary needs of the locals (incorporation of nature protection, revitalisation of landscapes and sustainable tourism) key is territorial approach to development that foster multistakeholder integrated engagement towards the realization of a unified vision.

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

It is an innovation that is replicable and that has been in some extent implemented in other areas.

Could it be rolled out on a bigger territorial scale?

Existing examples that have been mapped were focused on small to medium scales, in those terms the innovation is replicable on various scales.

What would be needed to do this successfully?

For implementation of HNVf as a concept that will secure livelihood for the local stakeholders it is necessary to secure overheads for organizations that are local key holders of the concept in order to have long term education and collaboration in both implementing and promoting HNVf practices as well as branding its products.

Croatia – innovation example 3)

HNVf as a tourist activity: SMS Vlaho Komparak, SMS Eko Škoji, Olive oil museum

Location: Dalmatian islands

HNV system: mosaic agriculture and extensive grazing, mainly sheep on eumediterranean grassland

Scale of operation: LAG Brač, LAG Škoji, LAG 5

Timespan: From 2012 ongoing

Keys to success: a broad spectar of products, tourism as product placement

For further info:

[https://www.facebook.com/](https://www.facebook.com/OPG-Komparak-171256756247800/)

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[http://www.culinary-](http://www.culinary-croatia.com/culinary-retreats/trpanj-b-b-peljesac.html)

[croatia.com/culinary-](http://www.culinary-croatia.com/culinary-retreats/trpanj-b-b-peljesac.html)

[retreats/trpanj-b-b-](http://www.culinary-croatia.com/culinary-retreats/trpanj-b-b-peljesac.html)

[peljesac.html](http://www.culinary-croatia.com/culinary-retreats/trpanj-b-b-peljesac.html)

<http://www.muzejuja.com/>



1864



Problems addressed by this example

Branding and promotion of HNVf products. Economic sustainability of HNVf

Story in a nutshell

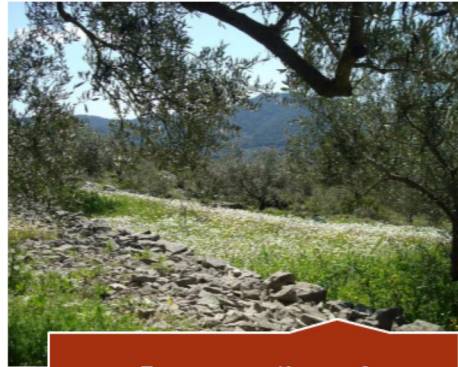
This innovation examples gather different stakeholder that have several things in common: they have all return to the cultivate agricultural lands of their ancestor and revitalize their heritage and their biggest shopper are tourists visiting the area..

- Kruno Cukrov who is the owner of the Olive Oil Museum, decided to renovate the old family mill and turn it in a museum. Museum presents the story of his family, visitors that came can participate in the work on the olive fields, sight see or buy and taste local food.
- Diana Marović, owner of Eko Škoji together with her husband left the capital of Croatia, Zagreb where they both lived and work to open an SMS that is today one of the best rated in the country.
- Vlaho Komparak, a student of Agronomy during his studies decided to come back to the island and translate all the theory in a practice of his own making.

What does HNVf as a tourist activity achieve for HNV farming?



Economic viability



Preservation of biodiversity



Maintenance of traditional agricultural landscapes

Achievements

Linking HNVf to tourism ensures the economic viability of these practices beyond subsidies and ensure its long term endurance. Presenting HNVf as a tourist activity helps increase its popularity and becomes a "in thing" both in tourism and agriculture.

Economics of HNV farming

Data is not available on the economic impact of the programme for HNV farms.

Maintaining or improving HNV values

These activities didn't come as an output of pro HNV measures but probably had benefits as a result of maintaining extensive grazing systems and reducing scrub encroachment.

The activities could have been adapted to give it a more explicit HNV focus, for example in terms of branding and HNVf labelling.

How does HNVf as a tourist activity respond to the HNV LINK innovation themes?

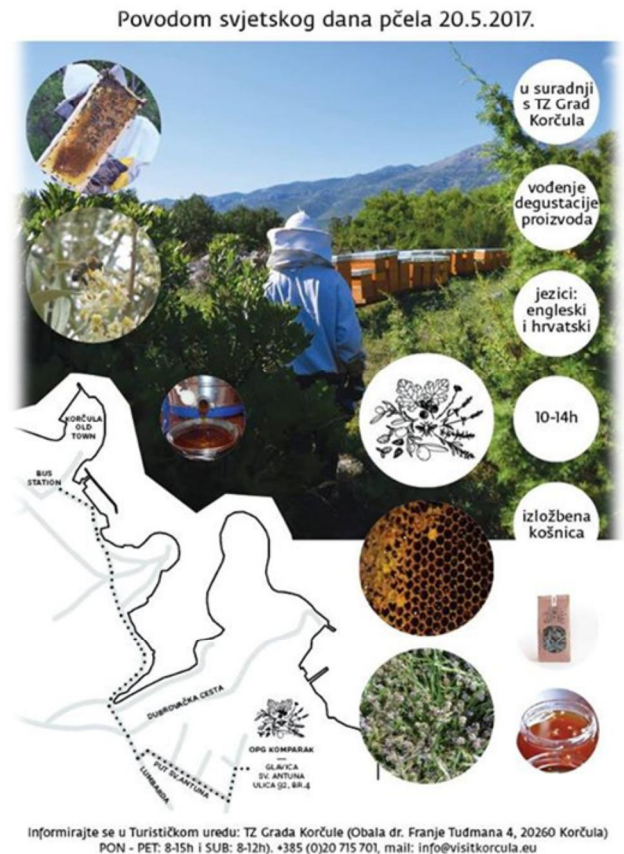


Products and Markets

Tourist demand and the biodiversity on the agricultural holdings helps in the creation of an array of diverse and unique local products that have added value with the labels such as PDO and ECO label. Additional support is necessary as there is a high unit cost in certification of these products as there are small number of units per product but a great variety of products. The existing administrative and fiscal burden is stopping additional certification that is necessary for creating and added value for these products.

The process that made it happen and critical factors for success

- Inheritance
- Entrepreneurial spirit and creativity
- Demand for authentic tourist experience
- Tourist demand for local products



Actors and roles: Key actors were enthusiasts and entrepreneurs that after a life in the city or schooling in a big city decided to come back to their island and cultivate their agricultural and cultural heritage. Institutional context that made it possible. Opening of Croatia to tourism that is based on local products and local tradition helped create a market niche that would economically valorise the added value of their agricultural products.

Resources: Major resources was their heritage, their own savings or a credit loan and a lot of their own hard work in the field, in the sphere of marketing and promotion and in dealing with bureaucracy.

Processes: These processes were kick-started in different times in the 2000s and are all still ongoing and improving.

Critical factors for success: Their success is a result of years and years of hard work with the sole support of their enthusiasm and their families. Critical factor being enthusiasm and will to persevere are the initial obstacles.

Limiting factors, actual/potential problems, and how could they be overcome? The administrative burden that has no flexibility for micro scale agribusiness in the islands is a major limiting factor. Lack of organised institutional support. National legislation in different sectors block a lot of integrate entrepreneurial ideas that would foster viability and promotion of HNVf (legislation for tourism, business and agriculture differ and there is a need of creating different legal entities). Coordinate action of institutional stakeholders on different levels and sphere of government is necessary in order to produce an administrative ease in doing this type of businesses.

Lessons learnt from this innovation example, and its potential replication

- Tourism as a boost for HNVf products
- HNVf as an unique tourist experience
- Tourism as a marketing tool for HNVf



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

For HNV preservation of traditional landscapes and revitalization of agricultural practices in a way that it answers to the contemporary needs of the locals (incorporation of nature protection, revitalisation of landscapes and sustainable tourism)

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

It is an innovation that is replicable and that has been in some extent implemented in other areas such as it has been presented in this example.

Could it be rolled out on a bigger territorial scale?

Existing examples that have been mapped were focused on small to medium scales such is the scale of an SMS.

What would be needed to do this successfully?

Administrative and fiscal easing of these type of HNVf friendly entrepreneurial activities.

Croatia – innovation example 4)

Drystone walls: keystone for mosaic HNV

Location: Croatian coast and islands

HNV system: mosaic agriculture and extensive grazing, mainly sheep on eumediterranean grassland

Scale of operation: islands, coast, coastal hinterland of Croatia

Timespan: The origins of the initiative go back to 2002 and is ongoing. Dry stone walls as a farming technique in the islands are over 2000 years old

Keys to success: enthusiasm, EU funding, EU recognition (Europa Nostra award)



Problems addressed by this example

Preservation and restoration of HNV habitats and grasslands. Protection from soil erosion and actions to prevent landscape closure. Transgenerational knowledge transfer and promotion of HNV friendly land management practices.

Respecting the knowledge and skill of our ancestor to manage natural resources in this vast and often arid karst area, making the best of it, we aim to promote sustainable ways of managing land and water resources. The aim is to re-establish dry-stone techniques as an efficient, aesthetic, humane and sustainable alternative to concrete in construction of simple buildings and objects in the Mediterranean, especially in areas such as national/natural parks and protected heritage sites. (Bubalo, 2017)

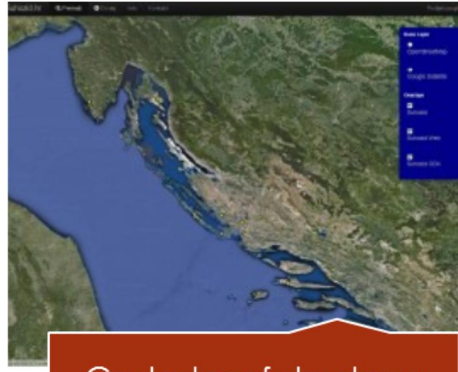
Story in a nutshell

NGO 4 Grada Dragodid is a group of enthusiasts who have established and organization that is promoting and re-actualising the dry stone skill and heritage through workshops, field research and media. They are making links between the bearers of knowledge and the audience: young professionals (agriculture, architecture, construction, tourism, etc.), heritage enthusiasts, tourists.

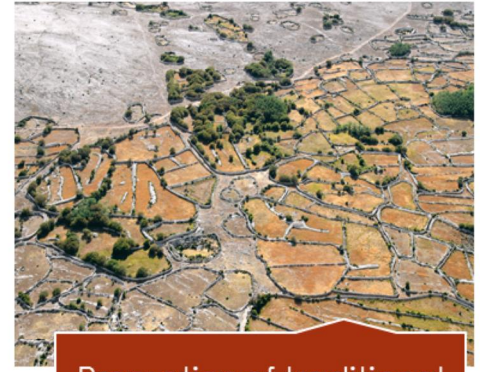
What do drystone walls and NGO 4 grada Dragodid achieve for HNV farming?



Education on dry stone wall heritage and techniques



Cadaster of dry stone walls of Croatia



Promotion of traditional agricultural landscape

Achievements

Revival of local knowledge on nature protection and sustainable use of its resources. Creation of a platform for reviving local traditional practices of sustainable use of natural resources and land management.

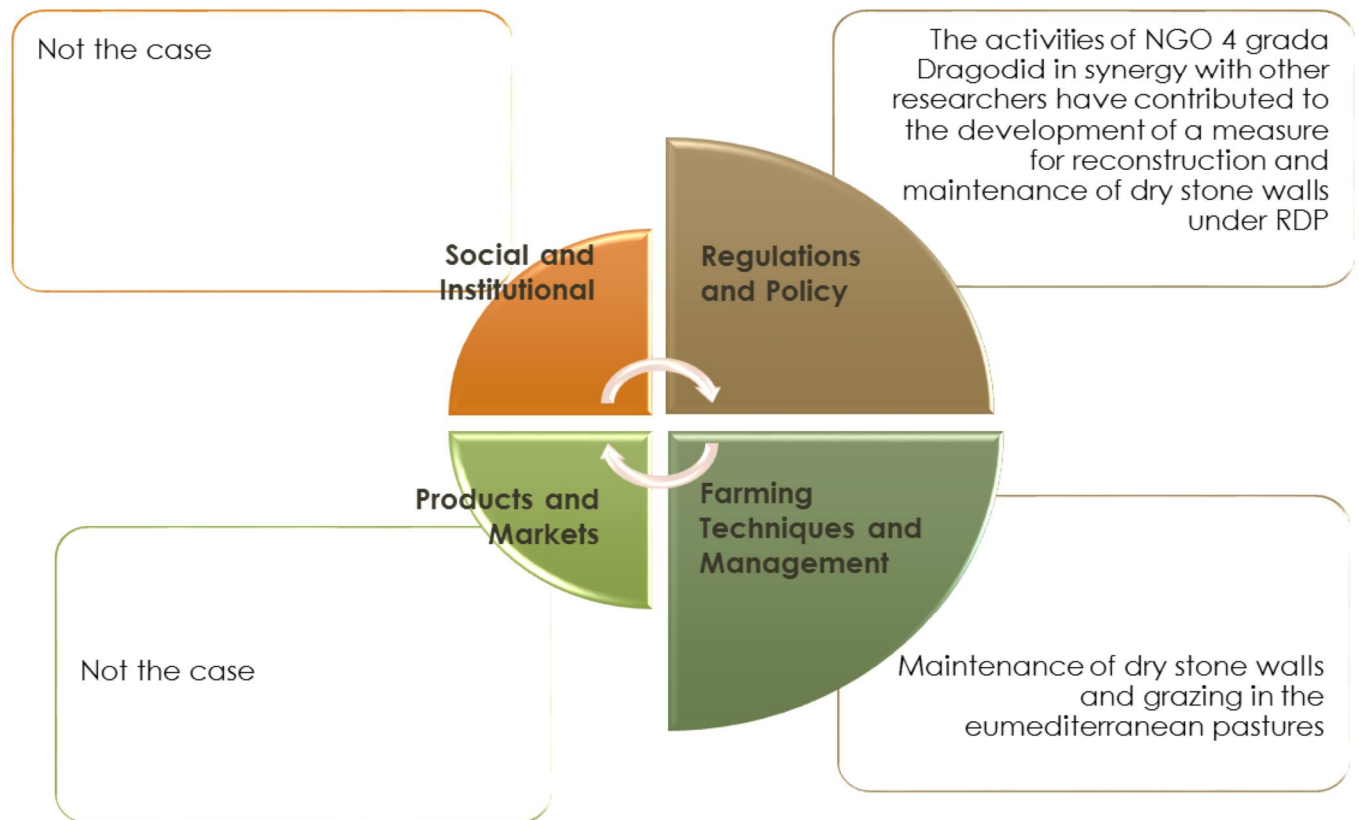
In the communities where the continuity of agricultural production was broken by the abandonment of the agricultural land during the 20th century, there is a noticeable generation gap between the elder, who are, if still alive, mostly retired, and the younger generations of agriculturists, who are revitalizing the agricultural practices in the new circumstances. Recently, this gap has begun to fill in with the activities of various organisations and enthusiasts that organize workshops and issue printed and digital handbooks and newsletters. Often such actions bring the elder masters "from oblivion", giving them the opportunity to show their skill and share their knowledge. Promoting the valorisation and protection of vernacular heritage as a growth asset in the region lead us to trans-national partnership with similar organizations, and interdisciplinary collaborations (home and abroad) resulted in UNESCO nomination for dry stone walling on representative list of the intangible cultural heritage of humanity. (Bubalo, 2017)

Economics of HNV farming

Data is not available on the economic impact of the programme for HNV farms but the overall mosaic agriculture in the learning area is fenced and managed through the system of several hundreds of kilometres of dry stone walls.

The programme was not designed to achieve specifically HNV or conservation objectives, but probably had benefits as a result of maintaining extensive grazing systems and reducing scrub encroachment. Potentially the programme could have been adapted to give it a more explicit HNV focus, for example, with greater involvement of the nature-conservation authorities.

How do dry stone walls and NGO 4 grada Dragodid respond to the HNV LINK innovation themes?



Regulations and Policy

The activities of this NGO that has been working on the promotion of dry stone walls have resulted in policy recommendations and have translated in concrete measures (4.4.1. and measure 10 of the Croatian RDP)

Farming Techniques and Management

Dry stone walls are one of the oldest and most effective ways of land management in the LA of Dalmatian islands. Promotion of this techniques and its transgenerational skill transfer is a key innovation in maintaining mosaic landscape.

The process that made it happen and critical factors for success

- Enthusiasm
- Volunteer work
- Main practitioners of dry stone walls: shepherds, vine and olive



Actors and roles: The key actors were local NGOs and local highly educated youth that wanted to find a way to connect to their heritage but also to be able to ensure its economical viability in the islander area. Institutional context that made it possible: The process of acquis harmonization of the Republic of Croatia and access to EU funding.

Resources: Volunteer work and funding available through different EU programmes.

Processes: The initiative started in 2002 and is still ongoing.

Critical factors for success: *The enabling factors were basically set of circumstances : participation in an international workshop on the island of Vis where we introduced to abandon village of Dragodid and the owner Mr. Andrija Suić, who taught traditional skills of dry stone walling. Our commitment for preservation and DIY aesthetics slowly led us to forming national network of partners (heritage professionals, institutions, local NGOs) and local stakeholders. With few national and one international award, it all fell into perfect timing and we were able to create momentum with numerous workshops throughout Croatia and abroad, making this traditional skill very popular on numerous events especially in rural areas. However, there is a need to establish some formal or semi-formal courses in order to make the knowledge and skills available, especially now that new measures for rural development (maintaining dry stone walls) have been approved. (Bubalo, 2017)*

Limiting factors, actual/potential problems, and how could they be overcome? Project based funding puts constraints on the number of actions that could be done as they are always unexpected opportunities and constraints for the implementation of the vision proposed.

Lessons learnt from this innovation example, and its potential replication

The dry stone as intangible cultural heritage of humanity is from the start the result of a dialogue among communities, groups and individuals that see the element as something they have in common and wish to cooperate in order to promote its significance and value, and therefore is applicable to every country included in project. By creating a platform for the future cooperation, except being a centre for distributing traditional knowledge, it would create attention to local, regional and national stakeholders of the importance of dry stone walls both as cultural and natural (biodiversity) heritage, and raising awareness of importance of using sustainable and traditional way of maintaining agricultural landscape.



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

For HNV preservation of traditional landscapes and revitalization of agricultural practices in a way that it answers to the contemporary needs of the locals (incorporation of nature protection, revitalisation of landscapes and sustainable tourism)

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

It is an innovation that is replicable and that has been in some extent implemented in other areas.

Could it be rolled out on a bigger territorial scale?

The innovation itself is already being implemented on different scales.

What would be needed to do this successfully?

Ensuring long term financial support as these activities are time consuming and require a lot of man power both in terms of research, education, mapping and reconstruction itself.

Croatia – innovation example 5)

Nursery of indigenous species "Anemona"

Location: island of Korčula

HNV system: mosaic agriculture and extensive grazing, mainly sheep on eumediterranean grassland

Scale of operation: island of Korčula and the surrounding area

Timespan: Founded in 2010. and is still running

Keys to success: service of knowledge and hard work. Constant listening to customers and local needs



Problems addressed by this example

Traditional practices and agricultural seedling that are indigenous to the area and foster HNV (not invasive).

Story in a nutshell

Anemona is a plant nursery and garden center that is constantly investing time and resources to research and monitor nature of island of Korčula. Lavandula from pupnat, rosemary, olives, tomato from Lumbarda, island cabbage, different products from Myrtus communis, Arbutus unedo, Salvia and a lot of other plants are the stories and products that Anemona holds. They are monitoring ascomycetes, dragonflies, fallow deer, Kočje natural reserve, island of Badija protected habitat, Kamenjak, Donje Blato habitats, protected forest Hober together with other partners and institutions. The gathered data and knowledge is shared with the local community and specially among children through collaboration with schools and the local radio station. One of the educational points is also the garden centre whose aim is to educate and to raise awareness among the islanders on the high nature value of the area.

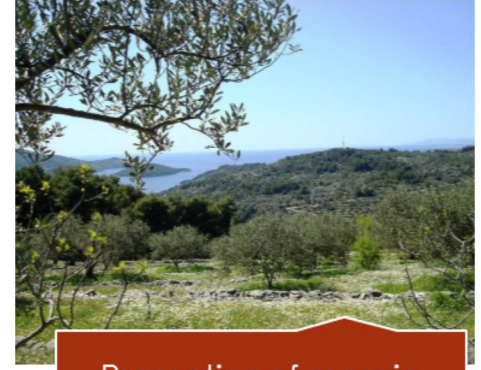
What does nursery of indigenous species “Anemona” achieve for HNV farming?



Education on indigenous
island species



Nursery of indegenous,
resilient species



Promotion of mosaic
agriculture

Achievements

Revival of local knowledge on nature protection and sustainable use of its resources.

Economics of HNV farming

Data is not available on the economic impact of the programme for HNV farms.

Maintaining or improving HNV values

The plantation house is improving HNV values of the area by producing seedlings for HNVf and raising awareness on the HNV of the area through education and promotion of mosaic agriculture.

The process that made it happen and critical factors for success

- Enthusiasm
- Research on indigenous species and habitats

ISTRAŽIVANJE JELENA LOPATARA NA OTOKU BADIJI*

INVESTIGATION OF FALLOW DEER ON THE BADIJA ISLAND

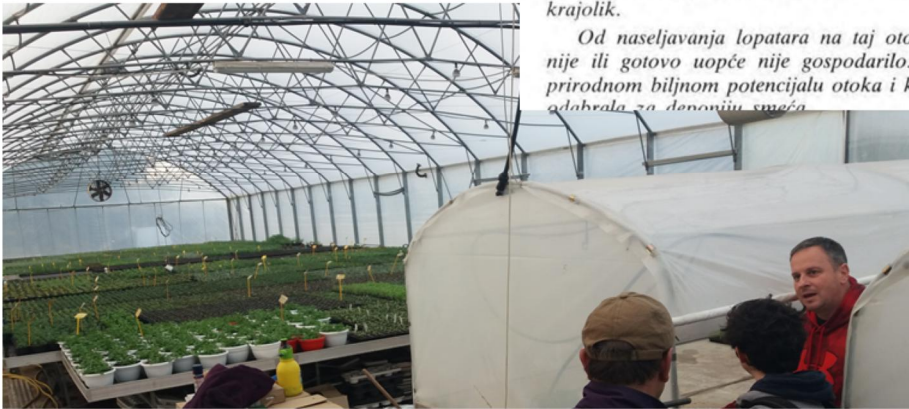
Milan VOJINOVIĆ i Denis MIOČIĆ**

SAŽETAK: Nešto poslije unošenja jelena lopatara u okolicu Mljetskih jezera (1958. g.), Uprava Brijunskih otoka naselila je dva para te isti divljači i na otok Badiju kraj Korčule.

Otok je površine nešto manje od 100 ha.

Rješenjem Zavoda za zaštitu prirode od 26. 3. 1970., otok Badija upisan je u Registar posebno zaštićenih objekata pod registarskim brojem 283., u kategoriju rezervata prirodnog predjela. Prema Zakonu o zaštiti prirode (N. N. br. 54/1976.) i danas važećem N. N., br. 30/1994., u kategoriju značajni krajolik.

Od naseljavanja lopatara na taj otok, sve do današnjih dana, njime se nije ili gotovo uopće nije gospodarilo. Jelenska divljač bila je prepuštena prirodnom biljnom potencijalu otoka i kamenolomu kojeg je HPT »Korčula« odobrila za eksploataciju smreke.



Actors and roles: Project started in 1988 by a teams of researchers Milan Vujinović, ing of forestry and Roman Ozimec, mag. biology with goal to achieve integration of human activity into nature. Since then Anemona has researched, produced and offered plants valuable for local markets and final production.

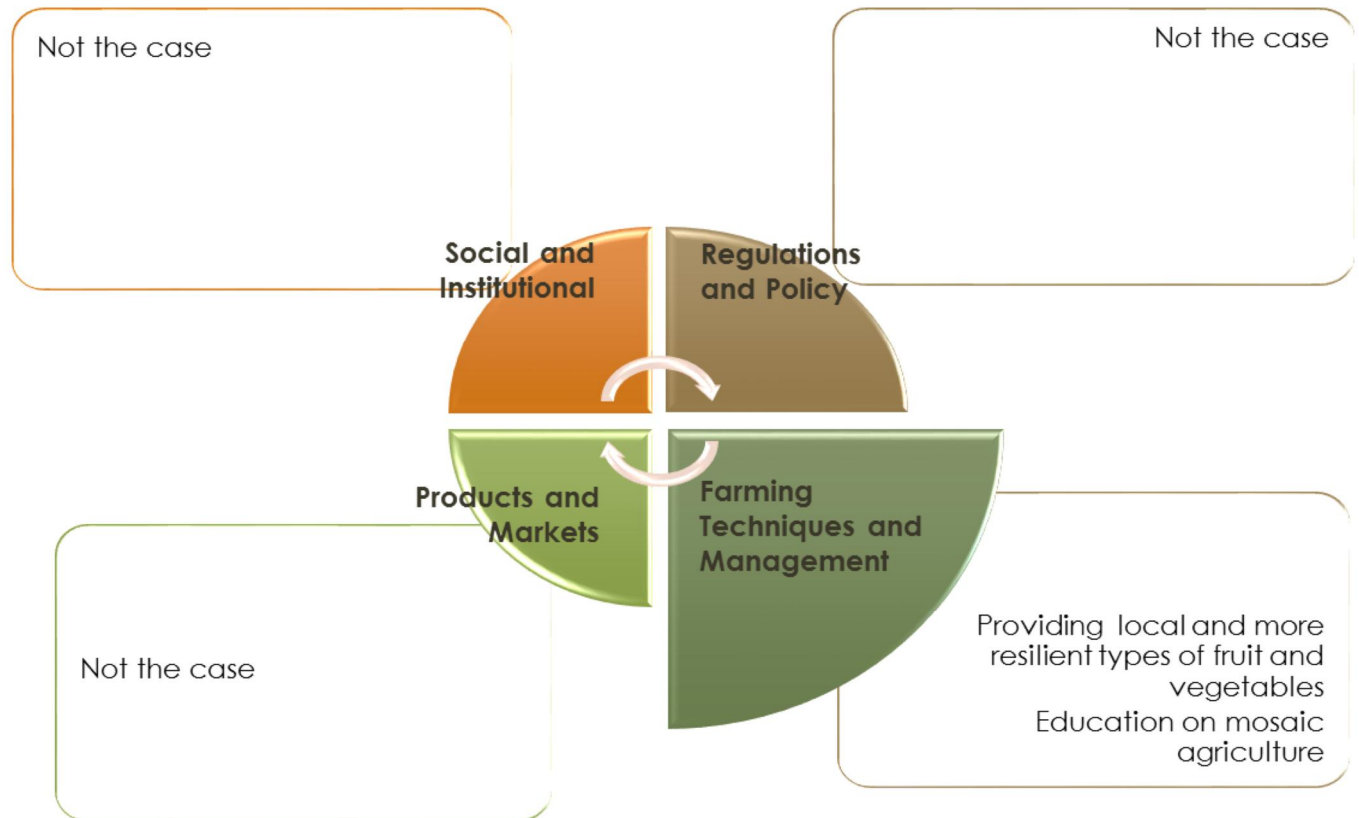
Institutional context that made it possible: There was no institutional support or structured support for the activities of Anemona plantation house although they participated in several EU projects as an example of good practices and held workshops presenting their work.

Resources: Bank loans and own resources.

Processes: Started in 1998 and ongoing.

Limiting factors, actual/potential problems, and how could they be overcome? Problems with waste management and high prices of resources needed for production. A lot of problem have been solved using renewables and recycling.

How do dry stone walls and NGO 4 grada Dragodid respond to the HNV LINK innovation themes?

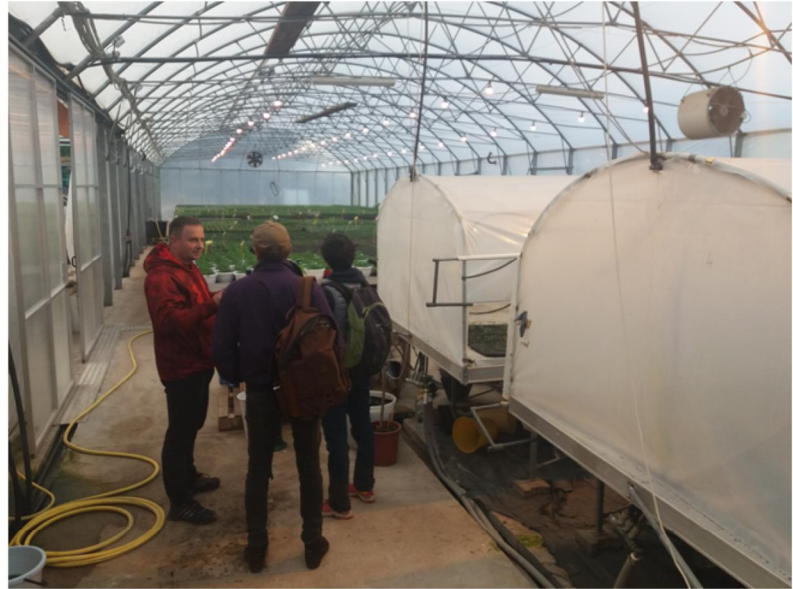


Farming Techniques and Management

Nursery plan "Anemona" provides resilient islander seedlings and education on how to plant them and manage the mosaic landscape of islander agricultural fields.

Lessons learnt from this innovation example, and its potential replication

- Local knowledge and skills to answer to the local problems in HNVf



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

For HNV preservation of traditional landscapes and revitalization of agricultural practices in a way that it answers to the contemporary needs of the locals (incorporation of nature protection, revitalisation of landscapes and sustainable tourism)

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

It is an innovation that is replicable and that has potential for replication into other areas.

Could it be rolled out on a bigger territorial scale?

It is possible to manage such a project on the level of an island or a region, depending on the agro-bioenvironmental characteristics of the area.

What would be needed to do this successfully?

Additional financial support for finalisation of the project called "*Center for agrobiodiversity of the island of Korčula*"

Photo credit

- Pero Poljanić
- SMS Eko Škoj
- SMS Vlaho Komparak
- Olive oil Museum
- NGO Argonauta
- NGO 4 Grada Dragodid
- Filip Bubalo
- LAG Brač
- LAG Škoji
- LAG 5

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