



Ecological Vineyards Governance Activities for Landscape's Strategies

Output T2.2

Transnational strategy for a
landscape and habitat approach to
reconciling viticulture,
conservation and other competing
land uses

Responsible Partner
ZRC SAZU

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Lead Author	Research Centre of the Slovenian Academy of Sciences and Arts, ZRC SAZU; SI (PP4)
Contributors	All project partners
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Project Summary

ECOVINEGOALS promotes sustainability and resilience in the winemaking industry by encouraging the transition of intensive viticulture towards agroecological management systems that protect natural habitats and landscapes, while reducing chemical and fossil fuel inputs and harmful emissions. The project aims to enhance stakeholders' skills in participatory local governance, to strengthen transnational cooperation and provide specific transnational instruments to promote, support and manage the agroecological transition.

Expected results

- Sharing between partners in the ADRION countries of fundamental concepts and practices necessary for the transition from intensive viticulture management systems, towards agroecological management methods.
- Improvement of the participatory local governance skills of decision makers and all other viticulture stakeholders, both public and private, to jointly develop and define strategies and plans aiming to protect natural habitats and rural landscapes.
- Transnational communication, cooperation, and exchange between regional authorities and civil society organizations concerning common objectives to protect vulnerable environments, to promote ecosystem services, to prevent or mitigate climate change, and to avoid social conflicts in land use.
- An increase in the number and quality of tools and strategies available to support the planning and management of the agroecological transition of viticulture systems in the region.

Partnership:

PP1- LP	LAG EASTERN VENICE, VEGAL (IT)
PP2	Autonomous Province of Trento, PAT (IT)
PP3	Chamber of Agriculture and Forestry of Slovenia, KGZS-Zavod GO (SI)
PP4	Research Centre of the Slovenian Academy of Sciences and Arts, ZRC SAZU (SI)
PP5	Agency for rural development of Istria Ltd. Pazin, AZRRI (HR)
PP6	Association for the promotion of employment, vocational training and education, INFORMO (HR)
PP7	Business Development Center Kragujevac, BDCKG (RS)
PP8	Foundation Business Start-up Center Bar, BSC BAR (ME)
PP9	Municipality of Bar, BAR (ME)
PP10	Mediterranean Agronomic Institute of Chania, CIHEAM MAICh (EL)

Associated Partners (APs):

General Union CISL Cultivators Venice (IT)
Bio district of production and biological community of central-eastern Venice - BIO VENICE (IT)
IAL - Innovation Learning Work S.r.l. - Social enterprise (IT)
AIAB-Italian Organic Agriculture Association (IT)
Agroecologiki SP (EL)
Municipality of Topola (RS)
Šumadija winemakers association (RS)
Ministry of Agriculture and Rural Development (HR)
Agroecology Europe (BL)

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1. STRATEGY VISION

The ADRIION region wants to tackle the negative effects of intensive viticulture systems and/or the abandonment/overgrowing of vineyards to improve viticultural landscapes and habitats.

1.1 Background

With regard to viticulture and wine production, which are the subject of the ECOVINEGOALS project, it was assumed that in the ADRIION area, **viticulture** is generally managed using intensive conventional systems with a large amount of chemical products and substantial modifications of the traditional landscape. This leads to negative effects on soil, water and air quality, on biodiversity and ecosystem services. In some regions, this has already led to explicit or latent conflicts between the resident population, farmers, and local administrators, and reduced the attractiveness of the territories for tourist activities. However, based on the research conducted in 7 pilot areas (see Figure 1 and Figure 2 and the [Reports on the results of landscape and habitat analysis for each pilot sites](#)), it turned out that there are actually **two opposing trends: a) intensification of viticulture** (as assumed), and also **b) abandonment of viticulture**. Both trends lead to the impoverishment of the traditional viticulture landscape in the ADRIION region.



Figure 1: ECOVINEGOALS pilot areas in the Adriion region.

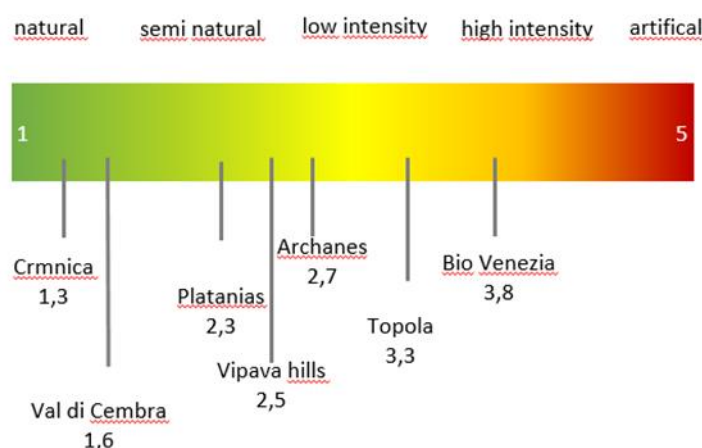


Figure 2: Level of naturalness of the individual pilot viticultural landscapes in the ECOVINEGOALS project.

a) intensification of viticulture

The first trend; the intensification of viticulture is typical of flat areas and of areas with low altitude. These areas are characterized by large vineyards. Many of them are newly planted in areas where there were no vineyards before, as the land there was dedicated exclusively to agriculture. In recent years, the area of new large vineyards has expanded in some places. The vineyards are cultivated conventionally, but some traditional methods are used with respect for nature and the protection of the ecosystem. In general, registered organic viticulture is rare, if existent at all. However, some regions promote organic viticulture and support local identity, research, and training in agroecological practices. Some agroecological practices are also used in viticulture. In some areas, biodistricts have even been established.

b) the abandoning of viticulture

The parallel trend is the process of abandonment and overgrowth of vineyards or even of entire vineyard landscapes. Somewhere the former cultivated landscape is completely overgrown by forest. A well established anthropologic term for this is the "green desert". This process is typical of hilly or mountainous areas, more extensive natural vineyards and wine-growing areas. Typical of these areas is a long history of wine and a growing interest in wine tourism. Organic viticulture is often practiced here, including biodynamic viticulture, which is DEMETER certified. Sometimes vineyards are also located in protected areas – e.g. NATURA 2000 areas, protected landscape area... Often the surroundings of the vineyards or the whole region is forested. Agricultural land is highly fragmented. In some areas most vineyards have a very small area – even less than 0.3 hectares. Land use changes are frequent. Many vineyards are also steep or terraced, often with dry stone walls, forming a unique agricultural landscape. These difficult growing conditions make mechanized viticulture almost impossible, therefore, large parts of the vineyards are cultivated according to the principles of heroic viticulture – by hand.

2. STRATEGY MISSION

The ADRION region wants to preserve and strengthen viticultural landscapes by obtaining relevant and authentic GIS data, diversifying the structure of viticultural landscapes so that they become more mosaic and contain more natural elements, and trying to incorporate as many agroecological practices in viticulture as possible.

2.1 Background

The ADRION region needs more traditional viticultural landscapes that are more structured and diverse, with a higher share of organic vineyards. A more diverse landscape provides more ecosystem services to multiple stakeholders, both residents and visitors. Agroecological practices in such a diverse mosaic landscape contribute additional diversification and additional food resources.

Despite the large regional differences and the specificities of each individual ADRION area; from the point of view of agroecological and organic viticulture, some common concerns emerged from the findings of the landscape analysis of the ECOVINEGOALS project case studies. A list of 29 best practices for the transition from intensive to agroecological viticulture management systems was compiled with the contribution from all project partners. The practices selected in the catalogue are applied in at least one of the project partners' study areas. The list is not exhaustive, it is purely indicative. A good practice description form was filled in for each practice, including a short description, aims and expected outcomes, suggestions for implementation, points for improvement/criticism, bibliographic references, and pictures. Many methods, techniques and useful ideas can be taken from the detailed presentation of the agroecological practices available at the [ECOVINEGOALS Catalogue of good practices](#) (2020).

3. THE PRINCIPLES FOR TRANSNATIONAL STRATEGY

The agroecological transition of viticulture in the Adriatic-Ionian cross-border area from conventional to the one based on the principles of environmental sustainability encourages the following aspects:

- Establishment of lasting relationships with local research institutes to have accurate and purposeful data for the wine sector. This includes the data collection on land cover status and its changes, as well as biodiversity and environment assessments.
- Social recognition of the agroecological approach and the farmer's role should be included in a wide perspective on landscape quality perception by insiders and outsiders, as well as the positive relationship with tourism activities that can be built by adopting agroecological best practices.
- Promotion of informed civic debate to increase social awareness of agroecological principles and the benefits of agroecological principles in viticulture for the landscape and the entire population.
- A high level of biodiversity within and outside the farm is essential for a successful application of agroecological best practices in viticultural landscapes. It is important to implement initiatives to promote ecological connections between the farm and the natural and semi-natural areas around it, and to diversify the farm structure as much as possible by establishing hedgerows, trees, buffer areas, and similar landscape elements.
- Viticulture should strive for a strengthening of interrelationships with the tourism sector to maintain and manage appealing viticultural landscapes that will also be valuable to tourists.
- The cooperative system should foster the link between wine tourism and wine export by adopting technical and organizational innovations and invest in the social dimension (corporate social responsibility), and promote new codes of sustainable practices at the local and regional levels, such as the establishment of biodistricts.

The principles of transnational strategy can be achieved through various forms of territorial alliance that can work positively in synergy with the principles of agroecology. The establishing of the Territorial Pact, Rural Pact or the Biodistrict is based on a contract between different levels of government (local, regional, national) of the same country or between different countries. This contract represents the relationship between governance and the widespread participation of different social groups to achieve various objectives (economic, social, and cultural) that contribute to the conservation or enhancement of viticultural landscapes and habitats. It is also a framework for cooperation between authorities and stakeholders at the European, national, regional and local levels. It aims to help achieve the common goals of the long-term vision for the EU rural areas. Some key elements of such a territorial alliance are to:

- define a common agenda in order allow different subjects/stakeholders to act together;
- define common measurement systems and a list of indicators to measure progress towards the goals of conserved or enhanced viticultural landscapes and habitats;

- define mutually reinforcing activities for each participant to undertake a specific set of activities in a way that supports and is coordinated with the actions of the others;
- ensure continuous communication among participants;
- create a backbone support organization, because collaboration cannot occur without a supportive infrastructure.

3.1 Background

The principles of the transnational strategy are based on agroecology. Agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agricultural and food systems. It seeks to optimize the interactions among plants, animals, humans, and the environment while also addressing the need for socially equitable food systems within which people can exercise the choice over what they eat and how and where food is produced. Agroecology is concurrently a science, a set of practices, and a social movement, and has evolved over recent decades as a concept that no longer focuses on fields and farms, but includes the whole of agriculture and food systems. It is now a transdisciplinary field that includes the ecological, socio-cultural, technological, economic, and political dimensions of food systems, from production to consumption.

Source: <https://www.fao.org/agroecology/overview/en/>

The 10 Elements of Agroecology are:

- 1. Diversity;** diversification is key to agroecological transitions to ensure food security and nutrition while conserving, protecting and enhancing natural resources
- 2. Co-creation and sharing of knowledge;** agricultural innovations respond better to local challenges when they are co-created through participatory processes
- 3. Synergies;** building synergies enhances key functions across food systems, supporting production and multiple ecosystem services
- 4. Efficiency;** innovative agroecological practices produce more using fewer external resources
- 5. Recycling;** more recycling means agricultural production with lower economic and environmental costs
- 6. Resilience;** improved resilience of people, communities and ecosystems is key to sustainable food and agricultural systems
- 7. Human and social values;** protecting and improving rural livelihoods, equity, and social well-being are essential to sustainable food and agricultural systems

8. Culture and food traditions; by promoting healthy, diversified and culturally appropriate diets, agroecology contributes to food security and nutrition while maintaining the health of ecosystems

9. Responsible governance; sustainable food and agriculture requires responsible and effective governance mechanisms at multiple levels – from local to national to global

10. Circular and solidarity economy; it reconnects producers and consumers and provides innovative solutions for living within our planetary boundaries while ensuring the social foundation for inclusive and sustainable development

Source: <https://www.fao.org/agroecology/overview/overview10elements/en/>



Figure 3: FAO, UN: The 10 elements of agroecology

Source: <https://www.fao.org/agroecology/overview/overview10elements/en/>

Individual agroecological practices are important at the farm level. As part of the ECOVINEGOALS project, we have listed 29 of them. Although they refer to the farm level, some of them are particularly important for the landscape level. Of the 29 best practices listed within the ECOVINEGOALS project, the following are important for the viticultural landscape level:

- Bio-district
- Maintenance of traditional elements of the “winescape” – Dry stone walls
- Participatory Guarantee Systems (PGS)
- Land Use Maintenance
- Wine routes as promotional tools for viticulture
- Strategy for the communication of agroecological products

Finally, we must not forget to preserve the production of local grape varieties.

In addition to the reduction of nutrient losses, the use of fertilizers and pesticides, the sale of antimicrobials and the increase in organic farming, the European Green Deal also provides for an increase in landscape elements of great diversity.

Source: Commission on 11 December 2019 (COM (2019) 640 final)

4. STRATEGIC GOALS FOR IMPROVEMENT OF THE STATUS OF WINE-GROWING LANDSCAPES IN THE ADRION REGION

Based on the landscape analysis and the Transnational guidelines for the enhancement of traditional landscapes and habitats in the wine-growing areas of the ADRION regions (Deliverable T2.3.3), we propose 3 Strategic Goals to be followed in the field of conservation or enhancement of viticultural landscapes and habitats in the ADRION region by 2033:

Strategic Goal 1: Acquisition of reliable GIS data on viticultural landscapes and habitats

Implementation framework:

- Time frame (1-2 years):
 - Creation of a GIS layer on conventional and organic vineyards
- Time frame (3-5 years):
 - Establishing relationships with local research institutes
- Time frame (6-10 years):
 - Continued work on landscape and other GIS analyses
- Target group: land registry offices, state planning services, municipal and regional authorities, the Ministries of Environment and Spatial Planning.

Strategic Goal 2: Sustainable governance and management of viticultural landscapes and habitats

Implementation framework:

- Time frame (1-2 years):
 - Developing communication materials to raise awareness and control mechanisms to prevent land abandonment
 - Up-to-date overview of the state of overgrowth of vineyard land, list of interested parties in renting vineyard land, and the monitoring of the situation
 - Planning for a more diversified viticultural landscape
 - Enhancement of biodiversity in viticultural landscapes
 - Efficient and sustainable use of natural resources (soil, climate of the area, water)
 - Efficient use of agricultural water resources through the introduction of deficit irrigation
 - Institutionalization of agroecological practices
- Time frame (3-5 years):
 - Specific “land-offering market”
 - Definition of specific landscape features to be used in defining viticultural landscapes
 - Restoration of dry-stone walls

- Planting and introducing new land uses
- Awareness-raising and advocacy activities to protect key landscape features that are crucial for the maintenance of the local microclimate
- Buffer areas
- Reducing runoff and soil erosion by planting natural ground covers and restoring dry-stone walls and terraces
- Increasing areas under certified organic vineyards with modern practices

- Time frame (6-10 years):

- The establishing of new vineyards
- Introduction of direct agricultural payments for the cultivation on terraces
- Planting and introducing new land uses
- Revitalisation of old vineyard terraces as a unique landscape feature of high historical and natural value
- Payments for ecosystem services for the cultivation of vineyards at higher altitudes and in Natura 2000 sites
- Protecting existing natural areas from uncontrolled urbanization and unsustainable and illegal use of natural resources
- Synergy and support of relevant institutions, research & development, and decision makers
- Continue to encourage the adoption of or transition to organic viticulture.

- Target groups:

For such a complex strategic goal, the cooperation of the following stakeholders is essential: farmers, winegrowers, nature conservation representatives, authorities of protected areas, environmental institutions, municipal authorities, land registry offices, state planning services, the Ministries of Environment and Spatial Planning, researchers (geographers, ecologists, foresters, agronomists, landscape planners), landscape planning officials, agricultural consultants, targeted research projects, teachers and pupils, university students, local residents, social movements

Strategic Goal 3: Meeting people's needs in viticultural landscapes and habitats

Implementation framework:

- Time frame (1-2 years):

- Annual events in the local community to raise awareness of landscape protection processes and foster activism
- Educational programmes on biodiversity and landscape protection
- Short lectures and talks several times a year on specific cases of the Natura 2000 sites
- Preparation of a brochure on the wine-growing area of the Vipava Hills
- Mapping, protection and promotion of viticultural landscapes
- Spatial planning initiatives

- Time frame (3-5 years):

- Setting up a participatory landscape observatory – territorial registry in the areas to support the knowledge, conservation and promotion of the cultural landscape
- Analyses of the route network and establishment or renovation of the wine routes designated as natural and cultural heritage

- Development and improvement of infrastructure to support wine tourism

- Time frame (6-10 years):

- Establishing a permanent training system

- Identification of a potential ecosystem tourist offer for the existing and new valuable sites and viticultural landscapes

- Production and marketing of local high-quality wine associated with viticultural landscapes protected as Natura 2000 sites

- Promotion of the use of the existing buildings

- Target group:

For such a complex strategic goal, the cooperation of the following stakeholders is essential: farmers, winegrowers, agricultural advisors, nature conservationists, environmental institutions, protected area authorities, researchers, secondary school teachers, competent tourism strategy makers, tourist agencies, development agencies, the AVINE network established under the ECOVINEGOALS project, municipal and regional authorities.

To achieve these three strategic goals, we proposed an ambitious Action Plan with 10 objectives and 40 actions for the conservation of landscapes and habitats in the ADRION region (Figure 3). Strategic goals, objectives and actions are all based on the participatory workshops in the pilot areas, 8 landscape analyses, and 8 local action plans for the pilot areas.

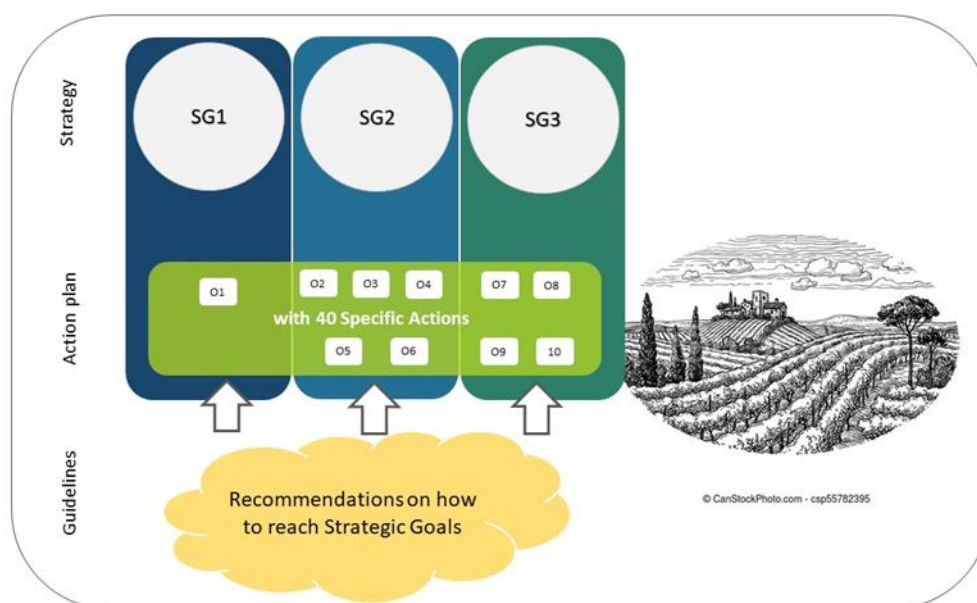


Figure 4: The interaction of the Strategy, Action Plan and Guidelines for the conservation of viticultural landscapes in the ADRION region in the ECOVINEGOALS project.

Strategic Goal 1: Acquisition of reliable GIS data on viticultural landscapes and habitats

Strategic Goal 1 is dedicated to the production of better GIS data on wine-growing areas - to obtain accurate data on the locations and area of vineyards and the percentage of organic production.

Strategic Goal 1 is elaborated in specific objective 1:

- **Objective 1: A need for better GIS data on wine-growing areas**

The Corine Land Cover database has insufficient accuracy. In many countries vineyards are included in the category 'mixed agricultural areas' or small vineyards are not included in the layer. The GIS data on organic vineyards exist only in a few countries.

The national/regional agencies responsible for digitizing land use should digitize land use. If this is not possible, we suggest 2 alternative options as potential sources for obtaining satisfactory land use data:

Potential Data Source 1: Sentinel-2 Land Cover Explorer

This land use data source does not provide the land use category “vineyards”, however, it does contain a land use category “crops”. The viewer allows viewing for the entire world and by year. Resolution approx. 10 m.

a) Accessibility of data:

Land use land cover (LULC) maps are an increasingly important tool for decision-makers in many industries and developing countries around the world. The information provided by these maps helps inform policy and land management decisions by better understanding and quantifying the impacts of earth processes and human activities. [ArcGIS Living Atlas of the World](#) provides a detailed, accurate, and timely LULC map of the world. The data is the result of a three-way collaboration between Esri, Impact Observatory, and Microsoft. For more information on the data, see [Sentinel-2 10m Land Use/Land Cover Time Series](#). One of the key features of this app is dynamic change analysis. The app provides dynamic visual and statistical change by comparing annual sections of the Sentinel-2 10m Land Use/Land Cover data as you explore the map.

Feature overview:

- Visual change analysis with either 'Step Mode' or 'Swipe Mode'
- Dynamic statistical change analysis by year, map extent, and class
- Filter by selected land cover class
- Regional class statistics summarized by administrative boundaries
- Imagery mode for visual investigation and validation of land cover
- Selected imagery renderings (e.g., SWIR to visualize forest burn scars)
- Data download for offline use

Attribution and Terms of Use:

- Sentinel-2 10m Land Use/Land Cover – Esri, Impact Observatory, and Microsoft is licensed under a Creative Commons by Attribution (CC BY 4.0) license.
- Sentinel-2 Level-2A Imagery – Esri, Microsoft, ESA, and the European Commission is licensed under the Esri Master License Agreement.
- Sentinel-2 Land Cover Explorer App – Esri is licensed under the Esri Master License Agreement.
- This app is provided for informational purposes. The accuracy of the information provided is subject to the accuracy of the source data.

b) Link:

<https://livingatlas.arcgis.com/landcoverexplorer/#mapCenter=13.545%2C45.991%2C16&mode=step&timeExtent=2017%2C2022&year=2022>

Potential Data Source 2: Sentinel imagery

This could be another general land use data source. There is no "vineyard" category, but there are satellite images that one can obtain and process. However, this is not directly for decision makers.

a) Accessibility of data:

With sentinel imagery, it is possible to monitor the Earth's surface in resolutions of 10, 20 or 60 m in different spectral bands. The combination of spectral bands can help us monitor vegetation characteristics, such as. NDVI (normalized difference vegetation index) that shows the amount of chlorophyll in leaves and the condition of vegetation.

FREE IMAGERY IS AVAILABLE AT: <https://scihub.copernicus.eu/dhus/#/home>
Geoinformatics knowledge required.

b) Link:

The Sentinel Hub application provides some tools for analysing Sentinel imagery <https://apps.sentinel-hub.com/eo-browser/>. Some functionality is freely available. At least some geoinformatics knowledge is required.

Implementation framework:

- Time frame (1-2 years):
 - Creation of a GIS layer on conventional and organic vineyards
- Time frame (3-5 years):
 - Establishing relationships with local research institutes
- Time frame (6-10 years):
 - Continued work on landscape and other GIS analyses
- Key target groups: land registry offices, state planning services, municipal and regional authorities, the Ministries of Environment and Spatial Planning.

Strategic Goal 2: Sustainable governance and management of viticultural landscapes and habitats

Strategic Goal 2 aims to slow down the intensification or to prevent the overgrowth of viticulture landscape, to enhance viticulture landscapes with focus on diversification, to conserve biodiversity, to raise awareness of the importance of viticulture landscapes, and ensure a long-term, sustainable, and environmentally-friendly management of viticultural landscapes.

Strategic Goal 2 is elaborated in 5 specific objectives:

• Objective 2: Preventing the overgrowth of viticultural landscape

Vineyards on sloping land and at higher altitude are becoming overgrown. This is loss of land for agriculture where it is difficult or even impossible to grow crops other than vines. The new vineyards which are being established, are mostly on the plain on lower altitude agricultural land – mainly meadows and arable land. These vineyards are more susceptible to disease in comparison to the ones in higher altitude areas and sloping land because of lower wind exposure, higher humidity, higher probability of frosts, and lower insolation. For these reasons, the vineyards in the plain on lower altitude tend to be more intensively cultivated.

Implementation framework:

- Time frame (1-2 years):
 - Communication materials to raise awareness and control mechanisms to prevent land abandonment
 - Up-to-date overview of the state of overgrowth of vineyard land, list of interested parties in renting vineyard land, and monitoring of the situation
- Time frame (3-5 years):
 - Specific “land-offering market”
- Time frame (6-10 years):
 - Establishment of new vineyards
 - Introduction of direct agricultural payments for cultivation on terraces

Key target groups: a special service for prevention of overgrowth of viticultural landscape (perhaps at the municipality level), farmers and winegrowers, municipal staff, land registry officials, landscape planning officials, state planning services, teachers and pupils, university students (particularly from the agricultural and wine sectors), local residents.

• Objective 3: Diversification, restoration and enhancement of viticultural landscapes

Intensively cultivated viticultural landscapes are usually monotonous with little perennial vegetation to minimize competition with crops and avoid hindering mechanization. A diversification effort through the planting of wooded areas and the development of tourist-recreational activities within them, for instance food and wine routes suitable for slow mobility is strongly recommended.

Implementation framework:

- Time frame (1-2 years):
 - Planning for a more diversified viticultural landscape
- Time frame (3-5 years):
 - Definition of specific landscape features to be used in defining viticultural landscapes
 - Restoration of dry-stone walls
 - Planting and introducing new land uses
- Time frame (6-10 years):
 - Planting and introducing new land uses
 - Revitalisation of old vineyard terraces as a unique landscape feature of high historical and natural value
- Key target groups: researchers (particularly geographers, ecologists, foresters, agronomists, landscape planners, and similar), landscape planning officials, agricultural consultants, farmers, winegrowers, nature conservation representatives, and other interested local residents.

- **Objective 4: Biodiversity conservation**

Viticultural landscapes strongly marked by well-preserved nature (preserved areas, Natura 2000 sites, natural heritage sites, and other sites of high naturalistic value) should promote the conservation of biodiversity linked to viticulture and agroecology. Viticultural landscapes should see nature protection and biodiversity conservation as an advantage rather than a threat to viticulture, even if protection imposes certain land management constraints. These protected areas, especially Natura 2000 sites, should be included as a nature conservation brand in the marketing programme and the creation of value-added products based on biodiversity conservation.

Implementation framework:

- Time frame (1-2 years):
 - Enhancement of biodiversity in viticultural landscapes
- Time frame (3-5 years):
 - Awareness-raising and advocacy activities to protect key landscape features that are crucial for the maintenance of the local microclimate
 - Buffer areas
- Time frame (6-10 years):
 - Payments for ecosystem services for the cultivation of vineyards at higher altitudes and in the Natura 2000 sites
 - Protection of the existing natural areas from uncontrolled urbanization and unsustainable and illegal use of natural resources
- Key target groups: targeted research projects, researchers from agro-environmental research institutions in cooperation with farmers, winegrowers, producer associations, agricultural consultants, landscape planners, protected area authorities, the Ministries of Environment and Spatial Planning, environmental institutions and municipalities.

- **Objective 5: Training and counseling to raise awareness of the importance of viticultural landscape**

Landscape should not be perceived as simply a background element in the context of viticultural landscape – it is much more than that. Establishing a permanent training system with different stakeholders and creating and sharing knowledge to support the importance and the special value of traditional viticultural landscapes is an important element in preserving the viticultural landscape.

Implementation framework:

- Time frame (1-2 years):
 - Efficient and sustainable use of natural resources (soil, climate of the area, water)
 - Efficient use of agricultural water resources through the introduction of deficit irrigation
- Time frame (3-5 years):
 - Reducing runoff and soil erosion by planting natural ground covers and restoring dry-stone walls and terraces
- Time frame (6-10 years):
 - Synergy and support of relevant institutions, research & development, and decision makers
- Key target groups: farmers, winegrowers, agronomists, agricultural consultants, research institutions, municipalities and ministries (of agriculture and environment) who should help provide the know-how, as well as the relevant authorities who can support and promote their adoption.

- **Objective 6: Management of viticultural landscapes and natural resources in a long-term sustainable and environmentally-friendly manner**

Incorporation of the principles of environmental protection into viticulture and the winemaking industry and adoption of agroecological/organic/sustainable practices. Focus on the comprehensive protection of natural resources, such as: prevention of soil degradation, desertification, and pollution; prevention of risks related to the loss of biodiversity and genetic resources in viticulture; valorisation of preserved landscapes throughout the development of certified organic viticulture; preservation of traditional and sustainable farming practices.

Implementation framework:

- Time frame (1-2 years):
 - Institutionalization of agroecological practices
- Time frame (3-5 years):
 - Increasing the areas under certified organic vineyards with contemporary practices
- Time frame (6-10 years):
 - Continue to encourage the adoption of or transition to organic viticulture.
- Key target groups: researchers, farmers and social movements, agricultural advisors, research institutions, ministries, and municipalities.

Strategic Goal 3: Meeting people's needs in viticultural landscapes and habitats

Strategic Goal 3 is aimed at bringing people closer to viticultural landscapes and habitats. Its aims are popularization of agroecological practices, promotion of organic viticulture, connecting viticulture landscapes and tourism, branding and promotion of specific areas and promoting the development of less developed viticultural areas.

Strategic Goal 3 is elaborated in 4 specific objectives:

- **Objective 7: dissemination of agroecological practices and promotion of organic crop management**

European Commission, with the Green Deal and Farm to Fork strategy, has set the target of allocating at least 25% of the EU's farmland to organic farming and thus significantly increasing organic aquaculture by 2030. The transition to organic farming is through agroecological approaches to agriculture. To disseminate agroecological practices and promote organic crop management, the ECOVINEGOALS project has established the web portal www.ecovineroads.com. The portal also presents individual agroecological practices in viticulture in individual viticulture pilot areas of the project. The information on the portal is available in English and in six local languages: Montenegrin, Croatian, Greek, Italian, Serbian and Slovenian. The information on agroecological practices from the web portal would reach winegrowers already in the short term (1-2 years) through agricultural advisory services. Beyond that, other activities are planned.

Implementation framework:

- Time frame (1-2 years):
 - Annual events in the local community to raise awareness of landscape protection processes and foster activism
 - Educational programmes on biodiversity and landscape protection
 - Short lectures and talks several times a year on specific cases of Natura 2000 sites
- Time frame (3-5 years):
 - Setting up a participatory landscape observatory – territorial registry in the areas to support knowledge, conservation and promotion of the cultural landscape
- Time frame (6-10 years):
 - Establishment of a permanent training system
- Key target groups: agricultural advisors (who know and present the agricultural and environmental aspects), nature conservationists (from organisations dealing with nature protection), environmental institutions, researchers, secondary school teachers.

- **Objective 8: Linking viticultural landscapes with tourism**

The spatial features of traditional viticulture landscapes are attractive to visitors due to their high degree of naturalness and mosaic structure, and offer good opportunities for recreation, e.g. cycling, electric and pedal bikes, hiking.

Implementation framework:

- Time frame (1-2 years):
 - Preparation of a brochure about the wine-growing area of the Vipava Hills
- Time frame (3-5 years):
 - Analyses of the route system and establishment or renovation of wine routes designated as natural and cultural heritage
- Time frame (6-10 years):
 - Identification of the potential ecosystem tourism offer for the existing and new valuable sites and viticulture landscapes
- Key target groups: tourist agencies, development agencies, farmers and winegrowers with support from research institutions (for valuable GIS material).

- **Objective 9: Territory branding and promotion**

Viticultural landscapes should strive to identify a brand and a territorial organization that enhances and promotes the materials and intangible resources of viticulture landscapes such as agricultural and handicraft products, cultural, landscape, and environmental heritage.

Implementation framework:

- Time frame (1-2 years):
 - Mapping, protection and promotion of viticulture landscapes
- Time frame (3-5 years):
 - Analyses of the route system and establishment or renovation of wine routes designated as natural and cultural heritage
- Time frame (6-10 years):
 - Production and marketing of local high-quality wine associated with viticultural landscapes protected as Natura 2000 sites
- Key target groups: special body (association or the AVINE network established under the ECOVINEGOALS project), competent tourism strategy makers, staff from environmental organisations and/or protected areas authorities.

- **Objective 10: Facilities and infrastructures useful to communities in less developed viticultural areas**

Identification of a coordinated set of initiatives to create, adapt, and maintain structures and infrastructures, public and private, that contribute to the enhancement and use of less developed viticultural areas by communities and their guests.

Implementation framework:

- Time frame (1-2 years):
 - Territorial planning initiatives
- Time frame (3-5 years):
 - Development and improvement of infrastructure to support wine tourism
- Time frame (6-10 years):
 - Encouraging the use of existing buildings
- Key target groups: farmers, winegrowers, municipal and regional authorities, the AVINE network

CONCLUSIONS

In this document, we have presented: the **Strategy vision** – the ADRION region wants to combat the negative effects of intensive viticultural systems and/or the abandonment/overgrowth of vineyards to improve viticultural landscapes and habitats; the **Strategy mission** – the ADRION region wants to preserve and strengthen viticultural landscapes by obtaining relevant and authentic GIS data, to diversify the structure of viticultural landscapes so that they are more mosaic and contain more natural elements, and try to incorporate as many agroecological practices in viticulture as possible; **the principles for Transnational strategy** and **3 Strategic Goals** to be pursued in the field of conservation or enhancement of the viticultural landscapes and habitats in the ADRION region. The 2 Strategic Goals are: **1) Acquisition of reliable GIS data on viticultural landscapes and habitats, 2) Sustainable governance and management of viticultural landscapes and habitats, and 3) Meeting people's needs in viticultural landscapes and habitats.** The Strategy will be publicly available.

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