

# Ecological Vineyards Governance Activities for Landscape's Strategies

Deliverable

## T 1.2.1: Structural analysis of selected areas and vineyard mapping – final version

Project Partner

Institute of agriculture and forestry Nova Gorica

**FINAL VERSION**

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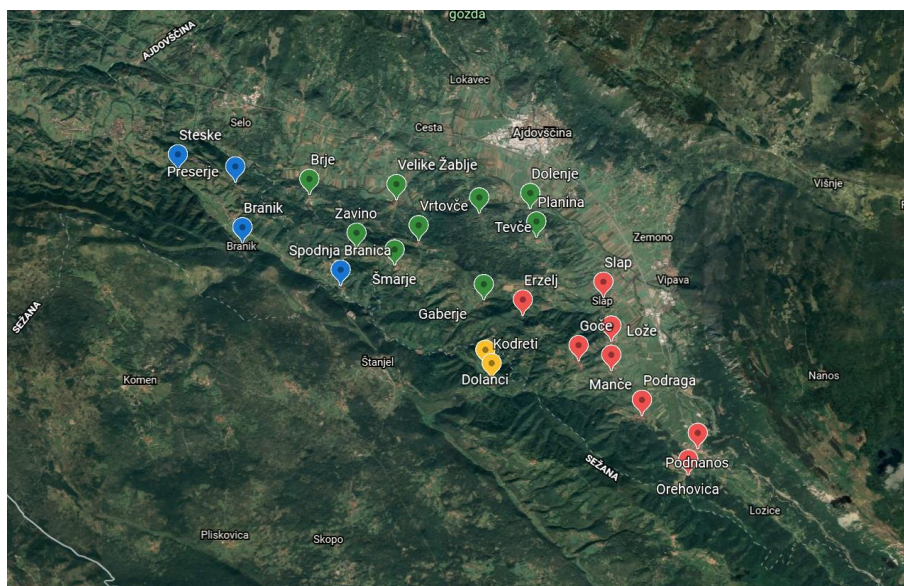
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## 1. DESCRIPTION OF THE SELECTED PILOT AREA “VIPAVA HILLS”

The ECOVINEGOALS project in Slovenia will focus its attention on the Primorska wine growing region which is situated in the southwestern part of Slovenia where it bordered with Italy and Adriatic Sea. It is divided into four wine growing districts: Vipavska dolina, Goriška Brda, Kras and Slovenska Istra whereby each of them has its own natural conditions and land structure. The selected pilot area covers the east part of Vipava Valley, a micro-regional unit Vipava hills. It is bounded in the west by Branica River, in the north by Vipava River and in the east by Upper Vipava Valley with Močilnik - a tributary of Vipava River. On the sunny slopes of Vipava hills and at the edge of the valley there are intensive vineyards and numerous orchards, while the shady areas are mostly covered with shrubs and forests.

Pilot area includes 23 settlements in four municipalities, namely in the municipality of Vipava: Erzelj, Goče, Lože, Manče, Slap, Podraga, Orehovica, Podnanos, in the municipality of Ajdovščina: Dolenje, Gaberje, Planina, Vrtovče, Šmarje, Velike Žablje, Zavino, Brje, Tevče, in the municipality of Komen: Dolanci and Kodreti, and in the City Municipality of Nova Gorica: Preserje, Branik, Steske, Spodnja Branica (**Figure 1**). Of these, 21 settlements are fully included in the pilot area, while the settlements Branik and Steske are only partially included.



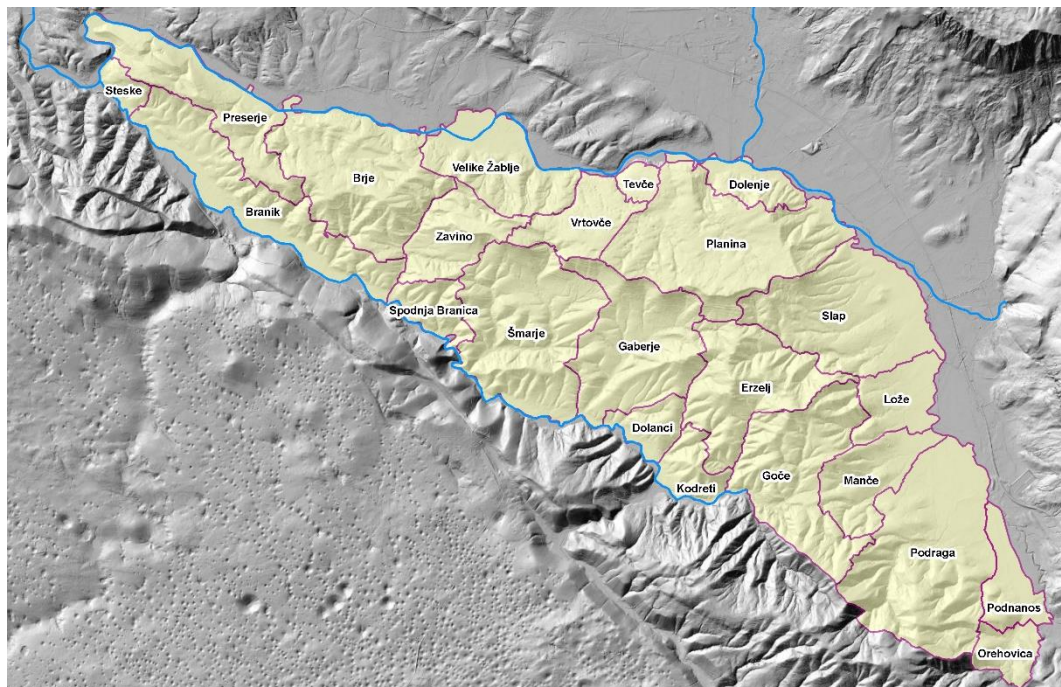
**Figure 1:** Pilot area Vipava hills (Red marks - the municipality of Vipava: Erzelj, Goče, Lože, Manče, Slap, Podraga, Orehovica, Podnanos; Yellow marks - municipality of Komen: Dolanci and Kodreti; Green marks - the municipality of Ajdovščina: Dolenje, Gaberje, Planina, Vrtovče, Šmarje, Velike Žablje, Zavino, Brje, Tevče; Blue marks - City Municipality of Nova Gorica: Preserje, Branik, Steske, Spodnja Branica)

### 1.1. CLIMATE AND RELIEF (prepared by the team from ZRC SAZU)

The pilot area is located in the west of Slovenia in Vipava Valley, a "bay" of Mediterranean climatic influences that extends into the karst interior. The characteristics of the Mediterranean climate are reflected in characteristic temperature fluctuations, the amount and distribution of precipitation and wind conditions. The average annual temperature is 11.8°C. Summers are moderately hot with an average July temperature of 20.9°C. In winter, the strong influence of the cold air masses in the interior of the country is noticeable, so that the long-term January average is barely 2.9°C. The Vipava Valley receives an average annual precipitation of about 1500 mm.



The predominant relief category is the hills, while the lowlands are relatively small (**Figure 2**). Due to the predominant flysch area, Vipava hills is densely interspersed with smaller streams that cut into distinct valleys and divide the area into ridges. Only in some places there are spots of limestone, so that the surface there resembles a plateau. A typical example is the area of the Planina settlement, south of the confluence of the Vipava and Hubelj rivers.



**Figure 2:** Relief of selected pilot area

## 1.2. AREA, INHABITANTS, ARCHITECTURE (prepared by the team from ZRC SAZU)

The Vipava Valley is a densely populated region, but the selected pilot area is sparsely populated as it is characterized by a significant population decline. The pilot area covers an area of 68.69 km<sup>2</sup> or 6868.92 ha. In 2020 5.188 inhabitants lived in the above-mentioned settlements in the pilot area. The scattered settlements with smaller scattered hamlets are partly located at the transition from the alluvial plain to the flysch hills and in the center mainly on the slopes, but there are also a few places on the ridges and in the valley bottoms; the latter are mainly on the south and east side of Vipava hills.

Agriculture is still a very important activity. In the area of the central Vipava hills there is no employment center, so people go to work in factories in the vicinity of Nova Gorica and in Ajdovščina. The core of Vipava hills has poor transport connections. Roads lead from the individual settlements to the valleys, but the settlements are not connected. Better roads actually surround the core.

The most compelling cultural heritage belongs to the settlement and architectural types, as the traditional settlement form there are still well preserved there, although many houses would need renovation. Attractive elements are also small churches on hills from which one has a wonderful view on the surrounding landscape. Some settlements are architecturally and morphologically so exceptional and attractive that they have been declared urban monuments. In the area of the pilot site these are the settlements of Goče (**Figure 3 and 4**) and Šmarje.



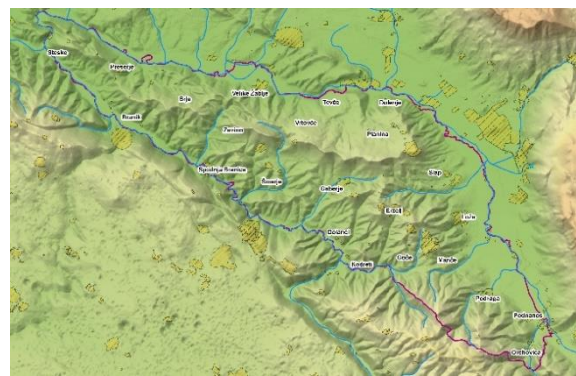
**Figure 3:** Goče settlement on the southern side of Vipava hills (Photo: Maja Topole 2020)



**Figure 4:** The church of the Mary of Snow (Marija Snežna) in a hill above the Goče settlement (Photo: Maja Topole 2020)

### 1.3. NATURA 2000 (prepared by the team from ZRC SAZU)

A significant part of the pilot area is part of Natura 2000 (**Figure 5a and 5b**), which is important for habitat of endangered species. The most valuable habitats in Vipava hills belong to semi natural element such as dry meadows, areas with junipers and extensive orchards. The natural values include some karst caves in the central hilly part, heritage trees usually growing next to churches or old homesteads, and few geological sites due to diverse geological bases. The area is also rich with water springs, so it is not surprising to find a hiking trail called "Between hamlets and springs".



**Figure 5:** The presence of Natura 2000 in Vipava hills is marked with green pattern (a) and areas of cultural heritage marked with yellow pattern (b)



## 1.4. VINEYARDS

The large proportion of vineyards on the slopes and their high fragmentation are important characteristics of viticulture in the pilot area (**Figure 6a and 6b**). The surface of vineyards in pilot area is 900 ha of which 60% are placed on terraces. The share of vineyards on terraces varies considerably within the area and in the settlements of Gaberje, Erzelj and Vrtovče, winegrowers have a share of vineyards on terraces greater than 80%. Total number of all the vineyards is 1800. The vineyards are cultivated by more than 500 winegrowers, which means that the average size of the vineyard per winegrower or a vineyard farm is 1.5 ha.



**Figure 6a, 6b:** Viticulture landscape in the pilot area (Photo: Maja Topole 2020)

In addition, the area is characterized by a very diverse varietal composition, stemming from a long tradition of production. From white varieties, which predominate (65 % of all varieties) the following were found in the pilot area: Malvazija, Rebula, Sauvignon, Laški rizling, Chardonnay, Zelen, Beli pinot, Pinela, Zeleni sauvignon, Rumeni muškat, Pikolit, Poljšakica, Klarnica, Glera, Vitovska grganja and Pergolin. Of the reds it grows: Merlot, Barbera, Cabernet Sauvignon, Modri pinot, Cabernet franc, Refošk, Syrah and Pokalca. However, the most represented are eight white varieties: Malvazija, Rebula, Sauvignon, Laški rizling, Chardonnay, Zelen, Beli pinot and Pinela, and three red varieties: Merlot, Cabernet Sauvignon and Barbera.

A significant share of 17% of all vineyards is occupied by local, autochthonous varieties of Rebula (**Figure 7**), Zelen (**Figure 8**) and Pinela (**Figure 9**) whose share of production is still increasing recent years. These is recognized as representative feature and specialty of the wine-growing area.



**Figure 7:** Rebula



**Figure 8:** Zelen



**Figure 9:** Pinela

Within the pilot area there is also a collection vineyard, which is supplied by Institute of agriculture and forestry Nova Gorica and where more than 80 old local varieties are planted, collected in the entire area of Primorska. We enable winegrowers to visit the vineyard, get to know the old varieties and, by agreement, propagating material is produced for further planting by the winegrowers.

However, the whole area is characterized by the fact that grapes have been grown since Roman times, as evidenced by numerous historical sources. Production technologies and varieties have changed, and the vine as a cultivated plant and wine have been a constant companion of the inhabitants of the area. Over the centuries, wine was actually the only marketable commodity and crop sold far outside the local environment, as the wine trade was developed in the Middle Ages and Vipava wines were known as far as Vienna and Prague.

### 1.5. VINE TRAINING SYSTEMS

The grapevine belongs to the *Vitaceae* family and is a perennial liana. Throughout history, the cultivation of vines has led to the many different training and pruning systems. The training system affects the yield and the quality of the grapes. and plays a key role in light energy capture, water use, and microclimate of ripening grapes. Additional benefits of utilizing particular training systems could be to facilitate mechanization of certain vineyard tasks such as pruning, irrigation, applying pesticide or fertilizing sprays as well as harvesting the grapes.

The most common training system in the pilot area is a Guyot - double and single variant.



**Figure 10:** Single Guyot

It also appears Guyot with tied down canes (**Figures 11a and 11b**) and spur-pruned single cordon (**Figure 12**).





**Figure 11a, 11b:** Guyot with tied down canes



**Figure 12:** Spur-pruned single cordon

High training systems are also represented such as Sylvos and Sylvos – Casarsa (**Figure 13**).



**Figure 13:** Casarsa

Very rare training system is horizontal pergola (**Figure 14**).





**Figure 14:** Horizontal pergola

## 1.6. WINES

In general, the wines of Primorska wine growing region tend to be dry and rich in minerals with moderate acids and a subtler bouquet. In **Table 1** more detailed description of the most typical wines of the Vipava Valley is found.

**Table 1:** Detailed description of the most typical wines of the Vipava Valley

WHITE WINES	
<b><u>Rebula</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is straw yellow with greenish hues</li> <li>- the aroma is characteristically intensely fresh and fruity - figs, and ripening in barrels develops the smell of dried fruit and spices</li> <li>- taste nice, fine, fresh, lively, harmonious; usually dry wine; it happens that the taste of cedar is also expressed (suitable maturity)</li> </ul>
<b><u>Malvazija</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is straw yellow with greenish hues</li> <li>- the aroma is varietal characteristic of floral (acacia), fruity (apricot, peach), vegetable (mint)</li> <li>- the taste of the wine is full, harmonious, rich in glycerol and alcohol; often a little bitter and reminds us of almonds</li> </ul>
<b><u>Sauvignon</u></b>	<ul style="list-style-type: none"> <li>- early to medium variety</li> <li>- the color is greenish yellow, straw</li> <li>- the aroma is varietal characteristic of plants (elderflowers, cut grass, green peppers, asparagus), floral (boxwood, iris, daffodils)</li> <li>- the taste of the wine is full, slightly higher acidity gives it fruitiness, freshness, which is pleasantly complemented by plant notes and gives the wine a pleasant harmony and long decline</li> </ul>
<b><u>Laški rizling</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is light yellow with green undertones, with aging the straw and golden yellow tones are expressed</li> <li>- the aroma is discreet, perceptible with plant notes (acacia, linden flower) and fruit notes (apples, lemon, dried fruit) and nuts (walnuts)</li> </ul>

	<ul style="list-style-type: none"> <li>- the taste is warm, with a delicate perceptible aroma, pleasant acidity and pooliness give the wine harmony, freshness and full decline</li> </ul>
<b><u>Chardonnay</u></b>	<ul style="list-style-type: none"> <li>- early variety</li> <li>- the color is yellowish green, obtained with aging amber and the color of old gold</li> <li>- the aroma of the wine is elegant with fruity notes (apples, pears, peaches, dried fruit, banana), plant notes (acacia) and nuts (hazelnuts)</li> <li>- the taste of the wine is full, extractively rich, warm, harmonious with a long setting</li> </ul>
<b><u>Beli pinot</u></b>	<ul style="list-style-type: none"> <li>- early variety</li> <li>- the color is light yellow</li> <li>- the aroma of the wine is gentle and very special with fruity notes (quinces, apples) and notes of nuts (hazelnuts, walnuts)</li> <li>- the taste of the wine is full, harmonious, with a soft tone</li> </ul>
<b><u>Pinela</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is yellowish green</li> <li>- the aroma of the wine is characteristic, elegant, with a floral or fruity character</li> <li>- the taste of the wine boasts freshness, which is aided by acid, and its slimness is enabled by slightly lower alcohol, which has a pleasant and warm effect</li> </ul>
<b><u>Zelen</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is yellowish greenish</li> <li>- the smell of wine is characteristic, namely floral scents and fruity tones (apples, pears) are expressed in youth, and with ripening aromas of dried flowers and teas appear.</li> <li>- the taste of the wine is varietal, dry, rich in extract, full, aromatic, with a long decline</li> </ul>
<b>RED WINES</b>	
<b><u>Merlot</u></b>	<ul style="list-style-type: none"> <li>- medium late variety</li> <li>- the color is dark ruby red, which turns into brick and brown shades with age</li> <li>- the aroma of the wine is elegant with a fruit bouquet (cherries, raspberries, plums, currants, mulberries, mandarins)</li> <li>- the taste of the wine is rich, full, harmonious with slightly lower acidity, fruity, velvety, slightly tannin like young, but over the years it matures and becomes velvety</li> </ul>
<b><u>Barbera</u></b>	<ul style="list-style-type: none"> <li>- late variety</li> <li>- the color is ruby red, turning ripe to pomegranate red</li> <li>- the aroma of wine is gentle, discreet, reminds us of forest fruits such as currants and mulberries</li> <li>- the taste of the wine is full, fruity; sometimes we are slightly disturbed by the higher acidity, which is lost when the grapes are ripe</li> </ul>
<b><u>Cabernet sauvignon</u></b>	<ul style="list-style-type: none"> <li>- late variety</li> <li>- the color is ruby, dark red to purple, acquires brick shades with age</li> <li>- the aroma of young wine is reminiscent of black currants, green peppers, and as it matures, the smells of forest undergrowth and spices appear.</li> <li>- the taste of young wine is mostly astringent, but with maturation it gains in softness, milkiness, harmony</li> </ul>



## **1.7. STAKEHOLDERS**

Given the state of covid-19 and the closure of our country, more time to conduct research among stakeholders using the proposed questionnaire was needed. However, our survey included 33 interested stakeholders i.e. farmers, winegrowers and winemakers, who also signed the consent form to participate in the ECOVINEGOALS project. The questionnaires were completed at the end of March 2021, while more detailed information on the results is provided in report T1.2.2.