



ORIGINAL ARTICLE

Oenotourism and conservation: a holistic approach to special interest tourism from a cultural heritage perspective – the Azienda Agricola Model

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Abstract - In wine producing countries viticultural and oenological practices and traditions, trades and crafts, the built and written heritage, the history, social structures, economy, a number of intangible values and the viticultural landscape constitute the cultural heritage of a wine region. Thus, the touristic products of oenotourism are complex attractions with a substantial number of educational elements, such as on-site wine appreciation courses, organized wine excursions on well-known wine routes, wine festivals, international sommelier days or agro-tourism in wine estates where tourists may have the opportunity to participate in the harvest and learn more about the wine making process. The main target groups of wine-tourism consist of educated, mostly middle aged people with reasonably good economy and a clear intention to learn more about the culture and history of the country and its viticultural areas in an informal, entertaining way. An increasing number of vintners expand their agribusiness with a complete product structure such as grape seed oil, grappa, fruit juice, cheese, olive oil, food supplements produced from grapes, accommodation facilities from bed and breakfast to hotels and restaurants, creating herewith ideal conditions for tourism, often utilizing the network of completing, additional tourist attractions in the neighborhood. Special attention shall be paid to the organic viticulture and wine production based on the maintenance of ecological cycles in the vineyard, because it can be the basis of eco-wine tourism, and even wine-heritage tourism due to the revival of certain traditional cultivation methods, trades and crafts linked to the historical routes of the wine industry. In this study we analyze the main aspects of wine-heritage and the terroir as source for touristic product development and propose a model for micro-region based sustainable oenotourism and eco-oenotourism with increasing economic viability.

Keywords - Azienda Agricola Model, agricultural heritage, ecological cycles, heritage marketing, terroir, viticultural landscape

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Introduction

Oenotourism (or wine tourism) is much more than “travelling for food and drink” linked to some other leisure activities and utilizing the usual touristic service facilities of a particular locality or region. Wine tourism is a very complex business, a unique variety of special interest tourism comprising a whole system of touristic products ranging from wine appreciation and gastronomy to the cultural heritage of a wine region. Due to its complexity and cultural context, wine tourism has a number of formal and informal educational elements providing hereby valuable means for the protection, development and revival of viticultural landscapes and their cultural heritage. Differentiating a particular viticultural area and emphasizing its uniqueness can be achieved through the diversity and quality of its grape varieties and wines, wine-related products, the land where they are grown and the built and intangible heritage of the territory. Therefore, the experiences of wine tourism must also include the natural beauty of the landscape and the rural enclaves among its attractions. The terroir, the holistic concept of

the particular place where the grapevines are grown, is a combination of soils, microclimates, and vine varieties, some of which are exclusive to the area, often is essential in wine and wine tourism marketing. Wine tourism is often a key factor for the viability of the European wine industry, since wine production around the world continues to exceed consumption. Techniques which create new brands and brand loyalty, increase sales and diversify markets need to be developed, including wine tourism combined with events and on-site sales particularly for relatively new businesses or areas, which are less known for the general public. This can be vital for those regions, which lost their reputation due to adverse political and/or economic circumstances but have a great potential for recovery (e.g. the great wine countries of Eastern Europe, which lost most of their quality wine production during the dark decades of the communist era and Soviet occupation). The European Union (EU-28) countries together are the largest wine producers in the world comprising almost half of the global vine-growing area and approximately 65 percent of production by volume.

France, Italy, and Spain are the largest EU wine producing countries, representing 81 percent of total output, followed by Germany, Portugal, Romania, Greece, Hungary, and Austria. Wine is an important sector also in Bulgaria, Croatia, and Slovenia (Bettini, 2015). In order to counteract the overproduction of uncompetitive wines and cut surpluses the European Commission decided to reduce the viticultural areas thorough the grubbing-up scheme, which involved voluntary withdrawal from vine growing. Thus, the vine-growing area of the EU-28 countries has been continuously shrinking over the past years (Fig. 1) with 175,000 hectares due to reducing margins and the implementation of the aforementioned new Common Market Organization (CMO) grubbing-up scheme and decreasing subsidies between 2009 and 2011. The programme included the compensation of producers for alternatives. However, during the last four years, the decline rate of EU vineyards has slowed significantly, probably as a result of an increased production of quality wines, which resulted in the stabilization of the productive viticultural area at 3,481,000 Ha in 2013 (Fig. 1; Bettini, 2015).

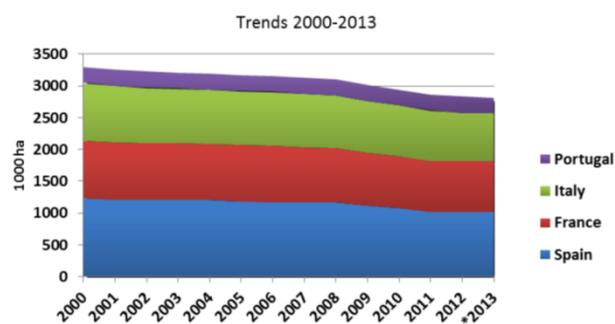


Fig. 1. Decreasing viticultural areas in Portugal, Italy, France and Spain from 2000 to 2013. From 2011 the decline rate slowed significantly. The total productive viticultural area for all EU countries is of course larger (3,481,000 Ha; source: OIV, International Organization of Vine and Wine, from Bettini, 2015)

Wine tourism has historical roots in Europe since the antiquity (Cambourne et al., 2000), but its fastest development took place from the early 20th century mostly in Germany, France and Italy in a rather spontaneous manner, since it has rarely been formally planned, in contrast to the wine regions of the New World in the United States, South America, Canada, Australia, New Zealand and South Africa. The impressive scale and political support for wine tourism in the New World can be interpreted in a historical context taking into consideration the relatively short period of time of the development of wine production in these countries, and the fact, that they had to compete with well-established European producers on the market. Furthermore, substantial research and continuous monitoring has been carried out into wine tourism in the New World countries in order to increase the viability of local wine production and

generally strengthen the wine business of the regions by developing new strategies (AHRRC-Northern Arizona University, 2011; Fountain and Tompkins, 2011; Forbes et. al, 2009; Carlsen & Charters, 2006; Getz & Brown, 2006). The research in wine tourism is still lagging behind in Europe but, due to a substantial increase of political interest and support, the number of publications from new research projects concerning wine tourism trends and sustainability issues in the classical areas of viticulture is growing (Boatto et al. 2013; Barber et. al. 2010; Correia, Passos Ascensão, & Charters, 2004). The increasing competition in quality wine production and exceptionally well organized wine tourism in the New World countries triggered a fast development of politically supported wine tourism even in Europe. In France, there is now a growing political interest in the development of wine tourism, strongly supported by the ministry of agriculture (Dubrule, 2007).

The structure of wine tourism

In practice, France, Italy and Spain are among the most popular tourist destinations in the world including wine tourism. However, wine tourism appears to be less well organized in these countries (and other EU countries as well) than in the new world and substantially less academic research about wine tourism has been conducted in Europe. Furthermore, the EU-28 countries had to face the economic difficulties caused by the 'crise viticole' (Demossier, 2005; Bettini, 2013, 2014, 2015), since many vintners struggled to sell their wines. Producers had to realize that trying to sell as much "vin ordinaire" as possible was not a viable way for economic survival and that they'd be better off making quality wines combined with on-site services such as wine tourism and event organizations. Ironically, while wine tourism in the New World constitutes an integrated part of the wine business, in Europe interest in wine tourism amongst producers only develops when there is a viticultural crisis due to a sudden drop in sales, and perhaps a crisis in rural development (Bonnieux & Rainelli, 2000). Indeed, several studies showed that wine tourism, both as a method of direct marketing and a possibility to increase on-site sales can have a positive impact on future wine sales (CNCCEF 2009; Bettini, O. 2013). Important factors in the development of wine tourism are the quality of service for tourists provided by the producers, brand loyalty developed by returning visitors and cooperation with local and/or regional authorities to develop a better infrastructure in order to enhance the accessibility of viticultural locations (Mitchell and Hall, 2004; Mitchell, 2006). However, in very famous wine producing areas where the producers export the main part of their wine, such as Champagne, wine tourism sometimes might be regarded as a source of useless expenditure and time costs in the light of their current success (Charters and Menival, 2011). From a strategic viewpoint it should be worth to investigate, if there is a relationship between wine

tourism and the behavior of consumers, which could influence the future export sales of high reputation wine.

The main attractions of wine tourism are the quality and uniqueness of wines, the famous brands, the complex product structure of the winery, the gastronomy, the terroir and the viticultural landscapes, the cultural heritage of the wine region, other touristic attractions, which can be included in programme packages (e.g. wellness recreation, health tourism, etc.), wine routes, accessibility, infrastructure and the quality and style of accommodation and other services, such as wine tasting courses, practical training: “make your wine”, personal treasure of wines, etc. (Fig. 2).

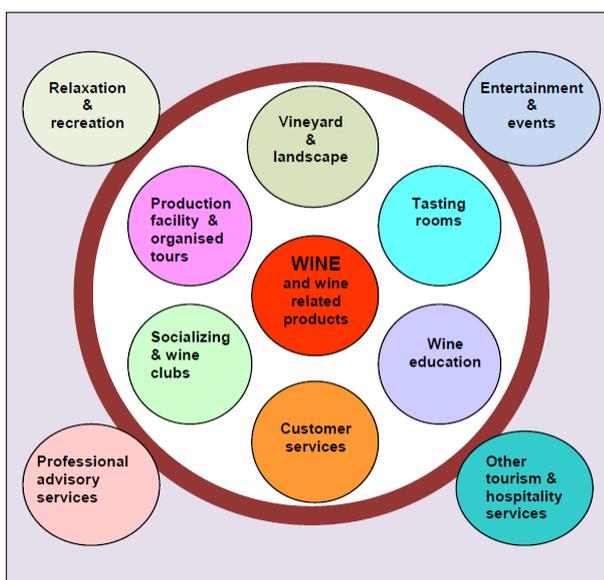


Fig. 2. Core, augmented and ancillary services in a wine region (Source: modified after Byrd et. al. 2016)

Wine tourism is therefore very beneficial not only for a number of individual wineries to sell their wines directly to the consumer, but at the same time improving the overall economy and infrastructure of an entire region. According to Byrd et al. (2016) there are three groups of touristic services/products in a wine region: the “core product” refers to the wine itself, “augmented services” include all services and activities within the control of the winery, such as vineyard and winemaking activities, customer service, and social or wine club events, and finally, the “ancillary services” refers to services and activities that are mostly out of control of the winery, including other regional tourist activities, local entertainment, lodging, and transportation. The results of recent research showed, that core benefits such as tasting the wine and purchasing wines were the most important factors to attract tourist to a wine region or a certain winery. Augmented benefits, i.e. other factors that can be controlled by the winery such as the vineyard setting or attending a winery

event, were the next most important factors while ancillary services like visiting a historical or cultural attraction or utilizing outdoor recreation services were considered important, though not nearly as important as all other core and augmented factors (Byrd et. al, 2016). A special branch of wine tourism is the eco-wine tourism. As organic wine production increases, the number of wine tourists interested in ecological farming is growing generating additional income for environmentally conscious, committed vintners.

Wine routes are also a type of promotion tools for wine tourism. Wine routes are touring routes taking in several wine service providers which are open to the public for wine tasting and the sale of wine. Wine routes have three different types: classic wine routes are the traditional trails which can be followed by tourists. Thematic wine routes have a certain topic which is linked with wine (like gastronomy, nature or culture) while open wine routes are a network of different places related to wine (Bujdosó & Dávid, 2007).

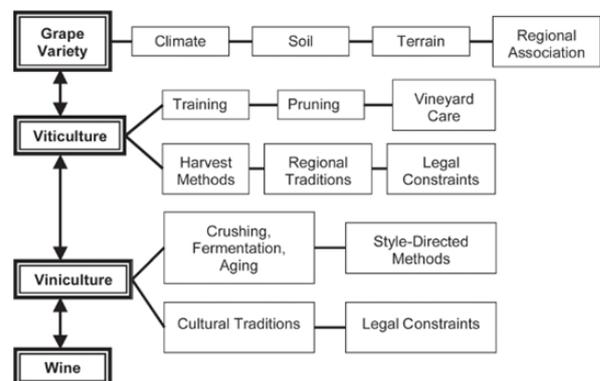


Fig. 3. The main factors, which determine the character and the quality of wine. Viniculture here refers to winemaking (oenology), cultural traditions and legal constraints related to wine quality and oenological practices (Source: Jones et. al. 2004)

The quality and uniqueness of wines and the terroir

The character and the quality of wine depend on the grape variety, the soil, the climatic factors, the viticultural factors, the oenological practices, the methods of maturation and ageing, the treatment, time and storage conditions (Fig. 3; Jones et. al. 2004). In order to define the main environmental factors of grape cultivation, the French concept of terroir has been introduced, which is the complete natural environment in which a particular wine is produced, including factors such as the soil, the climate with its often variable weather, exposure to sunlight and number of sunny hours, ambient temperatures in the air and in the soil, elevation and aspect, natural drainage, access to water and nutrients, the ability of the soil to retain water in the dry vintages and allow for natural drainage in the wet seasons and, sometimes, even the grape

variety and the cultivation method (Wilson, 1999; Fanet, 2004). These are some of the most important elements that alter the performance of the vines and the grapes in every vintage and determine how a grape will ripen, develop and taste.

Thus, in wine tourism the concept of terroir became one of the most important attractions, adopted worldwide, as it is determinative not only for the quality and character of the wines, but it is also an important component of branding, strengthening the image and the marketing of a certain producer or a whole wine region. A particularly interesting and determinative factor concerning the character of wines as selling arguments in the wine tourism business is any unique wine making method or technology, which results in a high quality, unique wine. There are a number of well-known examples from all viticultural areas of the world. We have previously mentioned the Champagne region in France, where the “Methode Champenoise” was borne and conquered the world or the passito technology in the Valpolicella region of Italy, giving excellent amarone and recioto wines, the Tokaj wine region in Hungary known of its aszú and szamorodni wines or the heavy ice wines of Germany and Canada or wines produced with the paleolithic kvevri-method in Georgia, etc. – the list can be very long and embrace all wine regions including their traditional and modern oenological technologies.

When analyzing the quality and uniqueness of wines, we shall not forget to mention the rapidly growing production of organic and biodynamic wines and the organic and biodynamic viticulture. The high-quality, additive-free wines, thriving vineyard landscapes and the cultural heritage of wine regions with substantial organic production constitute the main resource for many destinations of wine tourism. Tourists are increasingly interested in visiting unspoiled viticultural locations, which encourage vintners to apply ecologically sustainable practices and expand their business with touristic facilities. As the environmental knowledge of wine-consumers increases, their changing attitudes influence the perceptions of the environmental policies, product structures, branding and marketing strategies of vintners. Since sustainable consumption is based on a number of decision-making processes regarding the social responsibility of consumers, one possible opportunity of incorporating environmental responsibility in planning wine consumption and tourism is targeted marketing towards those consumers who are interested in protecting the environment and their behaviour leads to a reduction of the ecological footprint. Organic viticulture seeks to create robust and healthy soils and vines through proactive vineyard management in order to foster resilience, biodiversity and balance in the healthy agro-ecosystems of vineyards, even accepting lower yields (Némethy et. al. 2016). Another important aspect of organic viticulture is the revival of traditional

cultivation methods, in many cases the use of horses instead of machines in the vineyard, developing traditional crafts connected to viticulture and winemaking, restoring the built heritage of viticultural locations such as ancient wine cellars, farmhouses, manor houses or chateaus, and nurturing the intangible cultural heritage of the region. This will create the base of touristic products for sustainable wine tourism, which in this case can be regarded as a special ranch of ecotourism.

The aforementioned system of factors, which determine the character and the quality of wine, the main services of wine tourism and the cultural heritage of the wine region constitute the basis of all wine-related and wine heritage inspired touristic products, as it will be demonstrated in the following analysis with particular emphasis on the viticultural landscape.

Conservation and management of viticultural landscapes

Viticultural landscapes or winescapes are unique, structurally rich rural landscapes, that are shaped by the presence of vineyards, wine-making activities, the wineries and wine stores, the settlements and the infrastructure related to winemaking, and the terroir, the previously explained holistic concept that relates to both environmental and cultural factors that together influence the grape growing to wine production continuum. Thus, the viticultural landscape is shaped by both physical factors that influence the process of matching given grape varieties to their ideal climate along with optimum site characteristics of elevation, slope, aspect, and soil, the cultivation methods determined by these factors, the heritage of buildings and the built environment, a wide range of intangible factors, traditions, trades and crafts, visual arts and the written heritage. Furthermore, although previously mentioned, the importance of the vine elements of the landscape should be underlined, since the control system, trellising and pruning together compose the architecture of the vegetation. The importance of the vine as a compositional element of a vineyard landscape that changes with the seasons as an animated picture is obvious. Where viticulture is successful it transforms the local landscape into a combination of agriculture, industry, and tourism (Peters, 1997). It is also important to emphasize the role of healthy agro-ecosystems, which interact with surrounding natural ecosystems. From this perspective, the viticultural landscape can be interpreted as a perception of agro-ecosystems, valued for conservation and sustainable use as aesthetic, cultural, recreational and touristic products (Abraham et al. 2014). It is considered as an environmental service and cultural heritage according to the International UN Conference 1972 (Paris, France). Viticultural landscapes constitute a very special category of touristic products, which can be beneficial for the economy and the heritage

conservation of a wine-region but they are also sensitive to the adverse impacts of mass tourism.

There are a number of successful initiatives for the conservation of viticultural landscapes. One interesting example is the Mission Val de Loire organized by in partnership with InterLoire and the Loir-et-Cher Chamber of Agriculture in France. Val de Loire was listed as a “cultural landscape” in 2000, in fact a unique viticultural landscape since vineyards cover 15% of the Val de Loire World Heritage site and, therefore their preservation is a top priority. There are two threats to the viticultural landscapes of Loire: a weakened economic sector and uncontrolled urbanization developing to the detriment of rural areas. The Fontevraud International Charter was created in 2003 at the initiative of Mission Val de Loire and the Loire wines Interprofessional organization with the intention to protect these landscapes with the involvement of local authorities, state departments, and tourism and culture professionals. As a new development in 2009, the town of Montlouis-sur-Loire, in collaboration with the Côtes de Montlouis Viticultural Union, set up a Zone Agricole Protégée (ZAP – Protected Agricultural Area) in order to protect winegrowers from losing their farms by prohibiting urbanization in reserved sectors. The town also intends to enter into a partnership agreement with the Versailles School of Landscaping to highlight these landscapes which add so much to the Appellation’s appeal and fame.

World Heritage viticultural landscapes: the VITOUR Landscape Project

Inspired by the Mission Val de Loire, several actions started to preserve and manage (i.e. use and develop from an evolutionary perspective) valuable viticultural landscapes. Particularly important the VITOUR Landscape Project (INTERREG III C 2005-2007), which was launched in 2005 and brought together 7 vineyards from Italy, Austria, France, Hungary, Germany and Portugal in order to create innovative sustainable development policies and strategies for the effective safeguarding and management of European “UNESCO World heritage” wine growing landscapes:

1. Lead partner: the cross-regional organization, the Val de Loire Mission, in partnership with the joint-trade organization of Loire Valley Wines, InterLoire, France
2. The former Jurisdiction of Saint-Émilion, France
3. The Douro and Porto Wines Institute, Portugal
4. The World Heritage Association of Fertő-Neusiedler See, Austria
5. The Rheinland – Pfalz Region, Germany
6. The Cinque Terre National Park, Italy
7. The World Heritage Association of Tokaj, Hungary

After finishing the programme (VITOUR I) in 2008, four more viticultural sites were added, each of them bearing witness to Europe’s ancient viticultural and

oenological traditions: from Portugal the Pico island, from Italy Montalcino/Orcia Valley, from Austria the Wachau wine district and from Switzerland the famous Lavaux area to present a new INTERREG IVC project (VITOUR II) to further extend the protected landscapes and apply the outcomes of the previous successful programme. The purpose of the project is to verify locally/regionally the feasibility of transferring selected good practices to these areas, with studies, analyses and participatory planning processes including highly actual issues such as the effect of climate change on viticultural areas, changing viticultural practices and mass tourism. By the end of the project at least 5 partners should be able provide the first tools for a concrete and effective good practice transfer to their areas. The fact, that all of the ten VITOUR sites are on the World Heritage list as “living cultural landscapes” emphasizes the importance of a diversity of manifestations of the interaction between humankind and its natural environment. The World Heritage inscription requires a management, which respect the “Outstanding Universal Value” of the site and the authenticity and “attributes”. The purpose of the extended VITOUR project is to carry out a series of special "open laboratory of experiments" in good practices, still in progress, useful for other protected and/or endangered sites, taking into consideration emerging conflicts between conservation, the change of agricultural technologies, industrialization and mass tourism in order to collect, develop and deliver and tailor these good management practices to all areas concerned. Thus, the relationships between winegrowing, relief, water, settlement structures and infrastructural elements and the value of the built and intangible heritage of the landscape and its social structure and historical significance constitute the backbone of the project.

The studies revealed that the core geographical characteristics of these valuable sites can be at risk due to both natural forces and anthropogenic impacts:

- (1) The relief could be severely damaged by soil erosion, collapse of supporting buildings (such as stone walls) or flooding from tributaries and rivers;
- (2) Rivers and coastal zones can be exposed to flooding, coastal erosion or riverbed relocation and hydrogeological instability;
- (3) Demographic and economic changes might become one of the most serious challenges due to difficulties with managing the conservation of landscape elements dependent on human care in socially and economically declining areas suffering from depopulation and aging, or land use conflicts in rapidly developing regions characterized by urbanization, increasing population and/or growing pressure from mass tourism (all over the year, or during tourism season).

These risks are sources of the following conflicts, which are present in a number of regions of the VITOUR Landscape Project:

(1) Alteration of traditionally shaped wine hills

Re-shaping wine hills occur when the economic viability of winegrowing in certain areas requires changes in cultivation methods, increased mechanization and infrastructural development (roads, elevators, pipelines) resulting in changes in vine planting and slope structuring patterns. These changes might cause other problems, such as increasing soil erosion or alterations in previously well-functioning agro-ecosystems. The mechanization of viticulture in the Upper-Middle Rhein Valley in Germany substantially changed the landscape due to installation of a monorack railway system supported by EU-funds. Another example, where the original character of the terraced landscape was preserved is the Alto Duoro Valley. The construction of small roads only slightly altered the appearance of the viticultural landscape characterized by the skillfully constructed traditional dry stone terraces (Biagioli et. al. 2012).

(2) Relationship between water and land

When the co-existence of water, settlement and agriculture constitutes the key element of a landscape, risks and conflicts due to the aforementioned natural forces and necessary preventive measures may arise. In the Wachau wine region of Austria after the flooding in 2002 a flood protection system was constructed to keep out mud and water from the inhabited areas. In some cases this could be managed by relatively minor alterations (e.g. the Hundsheim walls) or more extensive changes for the protection of traffic infrastructure, which cut off villages and cities from the coastal areas. In many river valleys, lake shores and marine coastal areas accessibility and maintaining traditional views of great esthetical value is of great importance. Although in certain river valleys, where such separation of riverbanks resulted in the recovery of alluvial forests and reeds the ecological effects could be favorable, the changes of land use such as giving up horse and cattle grazing reduced the legibility of the cultural landscape and the connection of local people and tourists to the water as in Val de Loire (Biagioli et. al. 2012). Many cultural landscapes located at the seaside or at lakes also have to face similar conflicts arising primarily between the demand of access to the lakeshores or the seaside and the high aesthetical and ecological value of these sites, which must be preserved and utilized in a sustainable way. Typical examples are the reed belts of the Lake Neusiedl on the Austrian - Hungarian border, the Lake Balaton (Némethy and Molnár, 2014) in Hungary or the heavily populated and frequently used lakeshore zones along Lake Geneva.

(3) Conservation vs. exploitation in both depopulating and growing regions

Since the conservation of all cultural landscapes is a very complex issue, the limits of exploitation should be carefully evaluated and determined without compromising the economic sustainability of the area.

Thus, the economic prosperity of the local population is as important as conservation strategies, since the success of such strategies often are depending on sustainable local economic development (Lagerqvist and Bornmalm, 2015). Prosperity measures based on the local traditions and resources might make a better contribution to conservation goals than traditional conservation strategies, by enabling the local people to stay in the area and maintain it themselves, often by revitalizing traditional trades and crafts and services for sustainably organized tourism. Another type of conflicts can arise from the pressure on winegrowing areas with fast growing population and other types of utilization such as housing, industrial estates or even other type of agricultural activities (Biagioli et. al. 2012). This may be particularly pronounced in viticultural areas on flatlands with good infrastructure, since these regions are well suited for the construction of easily accessible industrial estates or service facilities, which require large, preferably flat areas (stadiums, other sport facilities, large shopping malls).

The Azienda Agricola Model

Wine grapes are a high-value specialty crop which shape the viticultural landscape and can both benefit from and contribute to conservation because producers and consumers increasingly value environmental stewardship. However, potential expansion of cultivated areas, either to meet future wine demand in an economically viable way or in response to climate change, means that decreasing the environmental impact of viticulture is critical for biodiversity conservation keeping in mind all the other components of the landscape including the built and intangible heritage. Viers et al. (2013) coined the concept of vinecology — the integration of ecological and viticultural practices — in order to create win-win solutions for wine production and nature conservation, where the goal is a diverse landscape that yields sustainable economic benefits, species and habitat protection, and long-term provision of a full range of ecosystem services. Similarly, the aforementioned risks identified in the VITOUR Landscape Project, which threaten the viticultural landscapes, should be taken into consideration in the construction of local or regional development plans. Therefore, we propose a holistic concept of wine landscape management (here we use this term as a synonym for the viticultural landscape), where based on the general sustainability issues of microregional management (Dinya, 2012; Némethy & Dinya, 2014) both the ecological aspects, the economical and societal factors and the conservation of the complex cultural heritage of the landscape from the viewpoint of wine tourism is reflected. We named this concept after the Italian tradition of agrotourism, which combines a number of products and services on site often involving educational elements: this is the "Azienda Agricola Model" (Fig. 4). This model is based on the complex

production structure of farms, where the main business is the production of wine and wine related products, in ideal case organic production, but many other products and services complete the profile of the viticultural enterprise, which has many natural resources that favour tourism.

The grapevine is a multi-functional plant regarding the number of products, which can be extracted from it: fruit, raisins (from special cultivars), grape juice, a whole range of wines, brandies, cognac, grape seed and grape skin flour and extracts known of their medical value, grape seed oil, grape marmalades and jellies, animal feed and, finally, plant fertilizers from those vineyard residues, which could not be used for anything

else. Polyphenols and stilbene compounds known for their anti-carcinogenic effects and usefulness for prevention of cardiovascular diseases were isolated from grape skin and grape seed. Furthermore, according to Rayne (2007) even grape canes as agricultural waste from commercial viticultural activities represent a potentially important source of the well-known medicinal and anti-phytopathogenic stilbene compounds trans-resveratrol and trans-e-viniferin, which can reach a concentration of up to 5 mg/g dw and 2 mg/g dw, respectively, and can be quantitatively extracted from the cane residue using low-cost, environmental benign, and non-toxic aqueous alcoholic solvent systems such as ethanol: water mixtures.

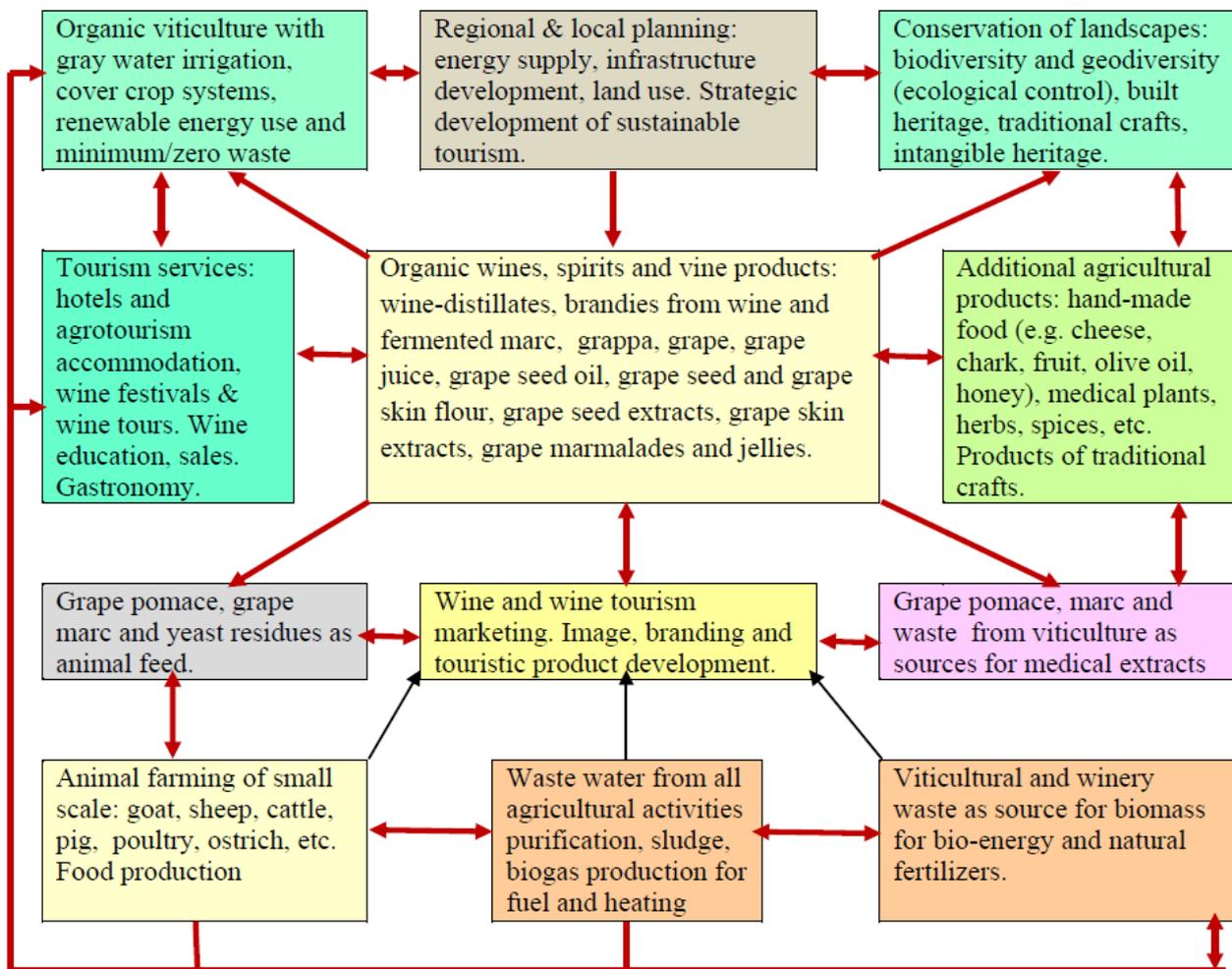


Fig. 4. The Azienda Agricola Model of organic wine production and integration of wine tourism into the management structure. Although this model is applicable even for the so called traditional (i.e. non organic) wine production, the value of organic image is increasing with the environmental awareness of tourists and wine consumers. The model clearly shows the connections between the possible activities and products of an organic wine business and its connections to planning and conservation of viticultural landscapes and their cultural heritage.

This holistic structure of agricultural production and management enables vintners to develop a complex product structure, which is a complement to wine and vine product range, utilizing everything that the farm can offer: in warmer countries olive trees, orange

plantations while in other areas useful cover crops, medical plants, spices and herbs, a wide range of handmade foods from small scale animal husbandry, honey and even artefacts, products of traditional crafts rooted in age-old agricultural traditions may enrich the

product range and contribute to the image of the wine estate. The interest in organic food and drinks is continuously increasing, even for the wine industry, since organic wines, after initial difficulties, have reached the highest quality standards. In this way old brands can be revitalized and new ones created, contributing to a successful development of touristic products for wine tourism.

Conclusions

Wine tourism is a complex branch of the tourism industry and requires a wide range of competences for touristic product development marketing and management. Wine tourism, when carefully planned according to the ecological, economic and social conditions of the wine region, may greatly contribute to the economic viability of wine estates.

The cultural landscape perspective is essential for the preservation, successful maintenance and enhancement of wine regions, which have to face a number of threats including both natural and anthropogenic factors. Particularly important risk factors and conflict sources are those, which can destroy or substantially change the appearance of the viticultural landscape and accessibility to ecosystem services and include alteration of traditionally shaped wine hills, impaired access to water (riverbanks, lake shore and marine coastal areas) and conflict between exploitation and conservation.

Organic wine production and, generally, organic farming, can be a very strong selling argument and constitute the core of new brands in the wine tourism, due to the increasing demand for organic, ecologically grown agricultural products. Organic wine tourism can be linked to ecotourism programs and informal environmental education alongside with wine appreciation training and wine fairs or international sommelier festivals.

The best strategy to develop a both ecologically and economically viable wine enterprise is to focus on organic production, use of cheap and environment-friendly renewable energy, the conservation of viticultural landscapes and the complex product structure of the farm, which include both wine and wine-related products, agro-tourism, and a range of other products and services, which can be made available in the agribusiness: this is the *Acienda Agricola Model*.

References

Abraham, L., Van den Bosch, E., Alturria, L., Hidalgo, V., Fioretti, S., Videla, E. and Comellas, E. (2014): *Viticulture and landscape, values for the society in Mendoza, Argentina*. BIO Web of Conferences 3, 03010; published by EDP Sciences, 2014
<http://dx.doi.org/10.1051/bioconf/20140303010>

AHRRC - W. A. Franke College of Business, Northern Arizona University (2011): *The Arizona Wine Tourism Industry Report*. 2011.

Barber, N., Taylor, D. C., & Deale, C. S. (2010): Wine tourism, environmental concerns, and purchase intention. *Journal of Travel & Tourism Marketing*, 27(2), 146–165.

Bettini, O. (2013): *Wine Annual Report and Statistics*. GAIN Report No: IT1307

Bettini, O. (2014): *Wine Annual Report and Statistics 2014*. GAIN Report No: IT1414

Bettini, O. (2015): *Wine Annual Report and Statistics 2015*. GAIN Report No: IT1512

Biagioli, G., Prats, M. and Bender, J. (eds. 2015): *European Guidelines for Wine Cultural Landscape Preservation and Enhancement*. Interreg IV C. Report. www.vitour.org

Boatto, V., Galletto, L., Barisan, L., Bianchin, F. (2013): The development of wine tourism in the Conegliano Valdobbiadene area. *Wine Economics and Policy* 2(2) 93–101.
<http://dx.doi.org/10.1016/j.wep.2013.11.003>

Bonnieux, F., & Rainelli, P. (2000), “Aménités agricoles et tourisme rural”. *Revue d’Economie Régionale and Urbaine*, Vol. 5, pp.803-820.

Bujdosó, Z. & Dávid, L. (2007), *Perspectives of wine tourism (in Hungarian)*. *Borászati Füzetek* Vol.18, Issue 3, pp. 28-29.

Byrd, E.T., Canziani, B., Hsieh, Y-C., Debbage, K., and Sonmez, S. (2016): Wine tourism: Motivating visitors through core and supplementary services. *Tourism Management* 52: 19-29.

Charters, S., and Menival, D. (2011): Wine tourism in Champagne. *Journal of Hospitality and Tourism Research* 35(1) 102-118.

CNCCF (2009): *Foresight. Wine in the world as we approach 2050. The 21st Century Market Challenges*. CNCCF Report. September 2009. pp. 1-30.
<https://www.cnccf.org/>

Dinya, L. (2012): The green local economy. *International Journal of Business Insights and Transformation* 2012(5) 84-91.

Dubrulle, R. (2007): *L’oenotourisme: Une valorisation des produits et du patrimoine vitivinicoles*. Paris: Ministère de l’Agriculture et de la Pêche.

Fanet, J. (2004): *Great Wine Terroirs*. University of California Press, ISBN: 9780520238589

Forbes, S. L., Cohen, D. A., Cullen, R., Wratten, S. D., & Fountain, J. (2009): Consumer attitudes regarding environmentally sustainable wine: An exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, 17(13), 1195-1199.

Fountain, J., and Tompkins, J-M. (2011): The potential of wine tourism experiences to impart knowledge of sustainable practices: The case of the Greening Waipara biodiversity trails. Paper presented at the Sixth International Conference of the Academy of Wine Business Research, 9-10 June, Talence, France.

- Famuyiwa, O. and Ough, C.S. (1982): Grape Pomace: Possibilities as Animal Feed. *Am. J. Enol. Vitic.* 33(1) 44-46.
- Jones, G.V., Snead, N. and Nelson, P. (2004): Geology and Wine 8. Modeling Viticultural Landscapes: A GIS Analysis of the Terroir Potential in the Umpqua Valley of Oregon. *Geoscience Canada.* 31(4) pp. 167-178; ISSN: 1911-4850;
- Lagerqvist, B. & Bornmalm, L. (2015): Development of new economies by merging heritage and entrepreneurship. The issue of preserving, using or developing – or all? *Ecocycles* 1(1) 16-21.
- Mitchell, R., Hall C. M., (2004): The post-visit Consumer Behaviour of New Zealand Winery Visitors, *Journal of Wine Research* 15(1) 39-49.
- Mitchell, R. D. (2006): Influences on post-visit wine purchase (and non-purchase) by New Zealand winery visitors. In: Carlsen, J. and Charters, S (Eds.) *Global Wine Tourism: Research, Management & Marketing.* CABI, Wallingford. pp. 95-109.
- Némethy, S., Lagerqvist, B. and Walas, B. (2016): Sustainable wine tourism can increase the viability of organic wine production and ensure the conservation of valuable viticultural landscapes. Károly Róbert University College, Conference of 15th International Scientific Days.
- Némethy, S. & Molnár, G. (2014): Sustainable management of lakes in connection with mitigation of adverse effects of climate change, agriculture and development of green micro regions based on renewable energy production. *EQA - International Journal of Environmental Quality*, ASDD-AlmaDL. ISSN 2281-4485; <http://eqa.unibo.it/> pp. 21-35
- Némethy, S. & Dinya, L. (2012): Sustainable energy management as a prerequisite for sustainable tourism and rural development. Environmental, economical and social implications. *Zeszyty Naukowe WSTiE, Sucha Beskidzka, Poland.* ISSN: 2084-8722. pp. 68-91.
- Peters, G. (1997): *American Winescapes: The Cultural Landscapes of America's Wine Country / Edition 1.* ISBN-13: 9780813328560; Westview Press, USA
- Rayne, S. (2007): High-Value Phytochemicals from Grape Cane Waste: Potential Value-Added Viticultural Sources of Trans-Resveratrol and Trans-ε-Viniferin with Medicinal and Anti-Phytopathogenic Applications. *Nature Precedings:* hdl:10101/npre.2007.636.1: Posted 7 Aug 2007
- Val de Loire - Loire Valley World Heritage (2011): How to preserve viticultural landscapes and develop oenotourism. <http://loirevalley-worldheritage.org/News/Articles/All/How-to-preserve-viticultural-landscapes-and-develop-oenotourism>
- Viers, J.H., Williams, J.N., Nicholas, K.A., Barbosa, O., Kotz, I., Spence, L., Webb, L.B., Merenlender, A. and Reynolds, M. (2013): Vinecology: pairing wine with nature. *Conservation Letters* 6(5) 287–299. <http://dx.doi.org/10.1111/conl.12011>
- Wilson, J.E. (1999): *Terroir - The Role of Geology, Climate, and Culture in the Making of French Wines.* Wine Appreciation Guild, ISBN 1891267221 (ISBN13: 9781891267222)