

# TERROIR AND SUSTAINABILITY: AN ANALYSIS OF BRAZILIAN VINEYARDS FROM A TERRITORIAL PERSPECTIVE

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## Abstract

In the concept of sustainable viticulture proposed by the OIV, it can be noted that enhancing *terroir* is also one measure of sustainability. Thus, the territorial approach may offer an interesting viewpoint from which to consider this issue in a multi-perspective way. This paper purposes to present an evaluation of sustainability, adopting a territorial approach. It is designed as a multi-case study of three Brazilian *terroirs*: *Vale dos Vinhedos*, *Campanha Gaúcha* and *Vale do Rio São Francisco*. The *Vale dos Vinhedos* was the first AOC in Brazil; the other two are engaged in ongoing projects. The data are extracted from literature reviews, technical visits and interviews. The three *terroirs* are analyzed in terms of five perspectives of sustainability (political, social, environmental, economic and territorial). Some examples of indicators include: the political perspective reveals the importance of associations to local actors in discussions about the *terroir*; the studies carried out to recognize the AOCs help to identify environmental risks and fragilities; the *terroir* highlights and values territorial resources. It is important to understand that this approach is not developed in order to undermine the environmental perspective, but to help to create relations in a territorial context. Evaluating sustainability is a challenge that requires the development of theoretical and methodological frameworks. In this sense, the territorial approach is not a definitive answer, but another way to understand this issue and to propose new projects to enhance *terroir* and its sustainability.

**Keywords:** *sustainable viticulture, Vale dos Vinhedos, Campanha Gaúcha, Vale do Rio São Francisco, territorial approach, terroir, sustainability, Brazilian viticulture*

## 1 INTRODUCTION

Sustainable viticulture is defined by the OIV as a “global strategy on the scale of the grape production and processing systems, incorporating at the same time the economic sustainability of structures and territories, producing quality products, considering requirements of precision in sustainable viticulture, risks to the environment, products safety and consumer health and valuing of heritage, historical, cultural, ecological and aesthetic aspects” (OIV 2008). In this concept, it can be noted that enhancing *terroir* is also one measure of sustainability.

The territorial approach is based on the idea that a territory is the result of a territorialisation process. The territory represents a combination of factors that may be physical, economic, symbolic and socio-political, where the differences between two “products” are due to an internal context, with its own characteristics, as well as relationships of each to the broader context (Albagli 2004). The territorialities have continuities and discontinuities in time and space; they are strongly attached to the place and, at the same time, they give it an identity and are influenced by its historical and geographical conditions (Saquet 2012). Territorialities may therefore be considered as a result and as a condition for social and spatial processes; they confer identity on a territory.

In terms of sustainability, this approach considers that the environmental crisis is a result of territorialities that disrupt the balance between natural, constructed and human environments. In this sense, thinking about sustainability involves understanding the relationships between nature, culture and history, i.e., how the society has produced and structured the territory, creating synergistic (or not) relationships with its environment, which are reflected in the quality of the ecological balance established (Magnaghi 2005). To summarize, sustainability is synonymous with the capacity of a system to reproduce itself; the territory highlights the ability of the territorialities to reproduce themselves and to reinforce local identity.

Thus, the territorial approach could offer an interesting viewpoint from which to consider sustainable viticulture in a multi-perspective way (political, social, environmental, economic and territorial), including the notion of *terroir*. This paper purposes to present an evaluation of sustainable viticulture from a territorial approach in three Brazilian *terroirs*: *Vale dos Vinhedos*, *Campanha Gaúcha* e *Vale do Rio São Francisco*.

## 2 MATERIALS AND METHODS

Sustainability viewed from the territorial perspective is based on three main ideas that guide our analysis. The first one is that sustainability is interdisciplinary and multi-scale, and that it cannot be reduced to the environmental dimension (although this is certainly a critical dimension). In this view, sustainability cannot be separated from its context and is directly related to the identity of place and history. Sustainability is therefore linked to the territory and its territorialities. In addition, it is at the local level, or in the territory, that many impacts are felt and where actions can be performed, even if the issues are global. Consequently, sustainability has to be contextualized in order to construct local actions and indicators (Flores and Medeiros 2013).

Following these guidelines, we chose to analyze sustainability in viticulture using five dimensions, or five “sustainabilities” (as proposed by Magnaghi 2000, 2005): political, social, economic, environmental and territorial. These dimensions expand the analysis based on the classical tripod of “social, economic and environmental” aspects and contextualize it in the territorial approach. In this sense, one contribution of this approach is to highlight the participation of social actors in the decisions and in the appropriation of territorial value.

The next step is therefore to select guidelines and indicators to represent each dimension of sustainability. Taking into account that originally this sustainability approach was constructed for an urban environment, it was necessary to consult other current frameworks to properly identify the issues concerned in the viticulture context. In this sense, the guidelines and indicators used in this research are based on the propositions of MESMIS and sustainable viticulture frameworks. The methodological framework MESMIS<sup>1</sup> focuses on sustainable agriculture and proposes guidelines and indicators to manage natural systems (GIRA 2012); the references used include a theoretical explanation and cases, offering a broad view of this framework.

In addition, the current context offers several frameworks to internalize sustainable principles to the wine world. In the following analysis, we used the guidelines and indicators from the main frameworks considered in the literature, such as those of South Africa (IPW and BWI), California (CSWA), Chili (National Code) and Terra Vitis (France). In general, the indicators are classified by themes and also in terms of vineyard, winery and commercialization. In the table that follows appears each sustainability dimension with its definition (based on Magnaghi 2000, 2005) and some examples of guidelines and indicators that can be used in this kind of analysis.

**Table 1: Dimensions of sustainability in the territorial approach**

Sustainability	Characteristics	Guidelines and indicators
<b>Political</b>	Decision capacity of the territory in relation to external territories and influences. It is related to the self-management of local communities, to the participation of citizens in political life and to their access to decisions, and to the territory’s capacity of adsorbing local value added generated	Presence and actuation of local associations; institutional organization
<b>Social</b>	Social indicators and social equity, ensuring that all stakeholders have access to the territory’s decision-making	Human resources indicators (such as safety and health); presence and actuation of local associations; relation with/between stakeholders
<b>Economic</b>	Production of territorial added value. Development plans should address activities that enhance the territorial and environmental heritage and the development of the local economic system.	Products that refer to and enhance local characteristics, local labels
<b>Environmental</b>	Self-sustainability and resilience; the territory’s ability to reduce its ecological footprint by restricting the water cycle, reducing energy and food consumption, improving product quality (in terms of environment and culture), restoring environmental systems, etc.	Set of indicators related to agricultural resources (water, energy, biodiversity, waste and effluents, pollution, etc.); buffer areas; use of agrochemicals
<b>Territorial</b>	Ability to promote and develop the reproduction of local identity, respecting local conditions; it includes actions such as stopping soil consumption and the profound exploration of territorial resources, systems to represent identity, rules that indicate changes to add territorial patrimonial value and tools for integrated assessment.	This dimension summarizes and creates relations with others, by means of a transversal perspective. It may use multi-scale indicators based on broad themes such as landscape and biodiversity.

<sup>1</sup> Marco para la Évaluación de Sistemas de Manejo de Recursos Naturales Incorporando Indicadores de Sustentabilidad

This paper is designed as a multi-case study of three *terroirs* in Brazil: *Vale dos Vinhedos*, *Campanha Gaúcha* and *Vale do Rio São Francisco*. This choice took into account areas in different Brazilian wine regions that are involved in Geographical Indicator (GI) projects (in terms of DOC or AOC in French): the *Vale dos Vinhedos* was the first AOC in Brazil, while the other two are engaged in ongoing projects in this sense. Moreover, we took examples from a consolidated *terroir* of the principal Brazilian wine region (*Serra Gaúcha*) and also from two emerging *terroirs*, thus offering a broad perspective.

The data are extracted from literature reviews, technical visits and interviews (with wine growers, wineries, experts and local institutions). For the *Vale dos Vinhedos*, data was sourced mainly by means of a literature review, confirmed by technical visits and interviews. The *Campanha Gaúcha* and the *Vale do Rio São Francisco* are newer *terroirs* and therefore subjects of less research in comparison with the first one; in these cases, in addition to the other procedures, we realized in-depth interviews with the main stakeholders, respecting the criteria of exhaustiveness and completeness, with a sample of at least 20% in each interest group established. In what follows, we introduce these *terroirs* and their “sustainabilities”.

### 3 RESULTS AND DISCUSSION

Brazilian viticulture originated in the Portuguese immigration around the sixteenth century, with an occasional production. The production gained in scale in the late nineteenth century, in the regions of Italian immigration, mainly *Serra Gaúcha*, which are responsible for 85% of Brazilian wine production. Today, Brazil has around 83,700 hectares located in tropical and subtropical climates. The main vineyards are *Serra Gaúcha*, *Campos de Cima da Serra*, *Campanha Gaúcha*, *Serra do Sudeste* and *Planalto Catarinense* (southern region), and *Vale do Rio São Francisco* (northeast region).

The *Vale dos Vinhedos* is part of *Serra Gaúcha*, as we can see, the main vineyard in Brazil and strongly attached to its Italian immigrant origins. Furthermore, this *terroir* is a true pioneer in terms of structuration, institutions and management. The *Vale dos Vinhedos* covers an area of 72.45 km<sup>2</sup>, between the cities of *Bento Gonçalves*, *Garibaldi* and *Monte Belo do Sul*. It was the first to earn a Geographical Indicator in Brazil, a process resulting from the organization of local actors interested in technical improvement and investment in quality products (Falcade 2007). These actors founded the Aprovale in 1995, an association to guide the geographical indicator process; the GI was obtained in 2002. After this process, the *Vale dos Vinhedos* underwent a significant transformation resulting from the *terroir* promotion and the growth of tourism. Proof of this is that the *Vale dos Vinhedos* hosted the highest concentration of wineries in Brazil, with 21 units in an area of 30 km<sup>2</sup> (Falcade and Medeiros 2006), a number that is still increasing. Following the GI process, this *terroir* experienced a significant improvement in infrastructure in general, including the modernization of housing conditions and the paving of roads. This process contributed to diversification of the economy and improvements in standards of living and revenues. At the same time, it increased urban pressure and environmental impacts, with higher levels of industrial and domestic waste and car/bus traffic, for example. Another important note is that the valley is the cradle of important Brazilian wineries that are expanding their activities to other regions (such as *Campanha Gaúcha* and *Vale do Rio São Francisco*) with new projects.

Since the year 2000, a movement of expansion and structuring in Brazilian viticulture has highlighted new potential borders. There are some wine regions that in the previous two decades have passed from an occasional production, or insipient initiatives, to a significant role in the national production. This structuration can be described in terms of expansion of the cultivated surface, quantitative and qualitative improvements in the wine production and the presence of new players. Important evidence of this movement is the increasing wine production in certain regions that were known as grape producers, which demonstrates the interest of local actors to create their wines and to invest in tourism, highlighting their *terroir*, diversifying their economy and appropriating a higher value production. The transition from occasional production to a structured *terroir* depends on institutional arrangements and the formation of local associations that organize local actors and, at the same time, provide support. These associations are also active actors in representing the *terroir* in larger contexts and lobbying for better structure (in technical and legal terms). The geographical indicator process contributes directly to reinforcing the structuration of these *terroirs* and to developing Brazilian vineyards.

In this context, the *Campanha Gaúcha* (also known as *Vinhos da Campanha*) is a region on the border with Uruguay that stands out for its special edaphoclimatic conditions in the vineyards. An occasional production in this area started in the seventeenth and eighteenth centuries with the Jesuits and the Portuguese, respectively, but this production was neither continuous nor structured. The suitability of the region's climate to European crops was already identified by research – as observed by the French botanist Saint Hilaire in technical visits carried out in the late nineteenth century – when studies led by the University of Davis (USA), in collaboration with local institutions, confirmed *Campanha Gaúcha*'s potential for wine production in the 70s. Supported by these results, multinational players in the sector launched projects in the 80s, based on large-scale and commodity products, concentrated in the city of Santana do Livramento. This initial impulse had an

important impact on the diffusion of the vineyards in the region to the extent that they materialized this idea, as an example to local entrepreneurs, and played an important role in technical qualification. In terms of human resources, these companies attracted specialists to work and provide training programs for local workers. At this point, it is interesting to note that many winegrowers today come from these companies (Flores 2011). From 2000 onward, significant growth in the surface and number of estates can be observed: between 2000 and 2010, the surface doubled, reaching 1100 ha and the number of estates grew from 7 to more than 100 (!). Compared to the pioneers, the new vineyards have a different profile in terms of structure, management and also localization. In this process, these vineyards have reached out to other cities in the region, involving new actors. Another mark of this period is that the wineries belonging to multinational companies were acquired by wineries from *Serra Gaúcha*. In 2010 the local association *Vinhos da Campanha* was created to represent the region and structure the on-going geographical indicator process. Along with obtaining the GI, the association aims to improve the visibility of this *terroir* and its physical and environmental conditions and, at the same time, project the *Campanha Gaúcha* as a wine *terroir* of quality products, contributing directly to the development of tourism as a support activity.

The third *terroir* is a representative of tropical viticulture. The *Vale do São Francisco* is in the northeast of the country with vineyards distributed in the states of Pernambuco e Bahia, in the Brazilian semiarid region. Like in *Campanha Gaúcha*, the vineyards on a commercial scale started up in the 80s, which placed the region as a pioneer in this activity in tropical regions, developing this new concept in the world of wine. The tropical climatic conditions allow continuous growth of the vine, without the period of "dormancy", conditions that allow more than one annual cycle, with the potential for more than one crop. It is important to understand that the tropical vineyards are not homogeneous in relation to climatic conditions; especially in the case of *Vale do São Francisco* the semiarid climate, alternating the dry season with low humidity, allows up to 5 crops every 2 years, an exception on the international scene (Tonietto and Pereira 2012). Another particularity is that pruning occurs between January and February and crops are harvested between April and December, which allows the local wineries to practice a production scheduling in which the property is divided into lots, each one at a different stage of plant development. In fact, this region is a tropical fruit production pole, irrigation based, mainly for export; the region has about 11,000 ha of table grapes and 23,000 ha of mango. Like the *Campanha Gaúcha*, the initiative to produce wines in the region came from a multinational industry; in this case, a partnership was formed with a local farmer to produce the first wine of the Brazilian Northeast, in 1985. A new project started in the 90s, but the main development took place in the 2000s, as evidenced by new wineries from two important players in the sector: a Brazilian and a Portuguese one. The region has already attained a production of 7 million liters per year and now has 360 ha and 5 wineries. In 2013 the GI process was officially launched, which should contribute significantly to the enhancement of this *terroir* and its identity.

Sustainability in a territorial approach has the specificity of requiring a contextualization of the issues in terms of environment, history and culture, which includes the choice of indicators and parameters. In this sense, the table below (Table 2) proposes some guidelines and indicators to discuss the sustainabilities of these three *terroirs*. Before going into detail, it is important to highlight that the indicators, in this sense, are points to discuss and analyze; they are not necessarily answers and/or positive or negative signs. Also, this analysis is not directed toward individual cases, but is a vision from the *terroir* perspective.

**Table 2: Sustainabilities in the Brazilian *terroirs***

Sustainability	Vale dos Vinhedos	Campanha Gaúcha	Vale do Rio São Francisco
<b>Political</b>	<ul style="list-style-type: none"> <li>• Presence of local association that represents the <i>terroir</i></li> <li>• Involvement of local association in the organization of actors and discussion of issues (such as planning the land use)</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of local association that represents the <i>terroir</i></li> <li>• Birth of associations, cooperatives and syndicates due to development of viticulture</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of local association that represents the <i>terroir</i></li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Involvement of local actors in the associations</li> <li>• Quality of life (infrastructure improvement)</li> <li>• Presence of family agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Involvement of local actors in associations</li> <li>• Quality of life (employment and income improvement)</li> <li>• Involvement of the family into new projects</li> </ul>	<ul style="list-style-type: none"> <li>• Involvement of local actors in associations</li> <li>• Involvement of the family in the new projects</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>• Economic diversification through wine tourism infrastructure</li> <li>• Added value in the products with <i>terroir</i> identity (wine and tourism)</li> <li>• Land valorization</li> </ul>	<ul style="list-style-type: none"> <li>• Economic diversification of the territory and perspectives to include wine tourism</li> <li>• Added value in the products with <i>terroir</i> identity</li> </ul>	<ul style="list-style-type: none"> <li>• Economic diversification of the territory and perspectives to include wine tourism</li> <li>• Potential to develop products with <i>terroir</i> identity and to generate added value</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Important environmental impact resulting from the intensification of economic activities</li> </ul>	<ul style="list-style-type: none"> <li>• Initiatives and potential to develop organic farming</li> <li>• Research on the region to identify</li> </ul>	<ul style="list-style-type: none"> <li>• Initiative with organic farming already certified and potential to develop it</li> </ul>

	<ul style="list-style-type: none"> <li>• Biodiversity: actions to monitor local fauna and flora are needed</li> </ul>	<p>the environmental particularities of the region and Pampa biome</p> <ul style="list-style-type: none"> <li>• Biodiversity: actions to monitor local fauna and flora are needed</li> </ul>	<ul style="list-style-type: none"> <li>• Biodiversity: actions to monitor local fauna and flora are needed</li> <li>• Water and energy consumption: actions to monitor and create control indicators</li> </ul>
<b>Territorial</b>	<ul style="list-style-type: none"> <li>• Promotion of terroir from GI process</li> <li>• Transformations allow maintenance of the terroir</li> <li>• Landscape valorization</li> </ul>	<ul style="list-style-type: none"> <li>• Local identity enhanced beyond this terroir</li> <li>• Products promote the region</li> <li>• Sectoral organization</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to develop terroir products, enhancing local identity</li> <li>• Sectoral organization</li> </ul>

Compared with the other two *terroirs*, the *Vale dos Vinhedos* is some steps ahead, which allows us to visualize different choices and foresee impacts. In terms of political sustainability, the local associations play an important role in structuring and representing these *terroirs*, being also an arena to discuss local issues. The *Aprovale*, from *Vale dos Vinhedos*, is considered a model for the other regions analyzed; the discussions and the role of this association advance according to the issues in which the *terroir* is concerned. In *Campanha Gaúcha* the presence of local associations, syndicates and/or cooperatives constituted around wine sector is highlighted, an interesting phenomenon because this region does not seem to have such a profile; barriers to this process are the large area and long distances between actors (possibly attaining more than 400 km). In the *Vale do São Francisco* the association is important in the process of obtaining the GI; in this case, the distances are smaller and the association has a real potential to bring together the actors and discuss the future of the region. The GI process is contributing directly to this perspective because it allows the *terroir* to represent itself in a way that is institutionally recognized.

In terms of social sustainability, it is evident that the local association is a way to invite the participation of local actors. Another question is the improvement in quality of life, which is represented from the local actors' point of view by infrastructures in the *Vale dos Vinhedos* and employment and income generation in the *Campanha Gaúcha*. In addition, the family seems to be another pillar of this perspective: along with family agriculture typical of the *Vale dos Vinhedos*, in the other *terroirs* the participation of the family in the new projects has been observed. From the economic sustainability perspective, diversification is a keyword: in *Vale dos Vinhedos* it comes from increasing wine tourism; in the other *terroirs*, the production itself can be considered a diversification on the territory scale. The younger *terroirs* also aim to increase their wine tourism, which will contribute to further diversify the territory's economy. In opposition to that, the *Vale dos Vinhedos* is becoming a victim of its own development to the extent that the land valorization has increased urban pressure and may put this *terroir* at risk.

In terms of environmental sustainability, it is important to know that this approach does not neglect the environmental perspective, but aims to create relations in a territorial context. The *terroirs* analyzed here are located in different and special biomes: Rain Forest, Pampa and Caatinga, respectively. In this sense, a common weakness is the lack of biodiversity monitoring and studies to identify local specificities (mainly in the younger *terroirs*); one good perspective is that the studies conducted in the context of IG recognition help to identify environmental risks and fragilities and may drive certain actions in the area. Furthermore, the new *terroirs* have a real potential in terms of organic farming: the *Campanha Gaúcha* is considered by specialists as the most adapted to the reduction of agrochemicals and the development of organic farming; at the same time, the *Vale do Rio São Francisco* already has a vinery certified in biodynamic agriculture (the second in Brazil), which testifies to a new perspective in the region.

The territorial dimension of sustainability groups the other dimensions and establishes a relation with local identity. In this sense, we have to consider that the *Vale dos Vinhedos* is a consolidated *terroir*, strongly identified with *Serra Gaúcha* and Italian immigration. The *Campanha Gaúcha* is a younger *terroir* that is constructing its identity based on local figures and "gaucho" culture (as analyzed in Flores and Medeiros 2012). On the other hand, the *Vale do São Francisco* is building its own identity, in the context of this new proposition, between local symbols and tropical elements. In all these cases, the GI is an important step in promoting and institutionalizing the *terroir* and in enhancing the reproduction of local identity. In the *Vale dos Vinhedos*, we can observe that, despite all the impacts and changes, the GI has ensured the permanence of vineyards in a familiar structure. Besides, the studies derived from the GI process highlight the particular landscape, an Etruscan heritage, which should be enhanced (Falcade 2011). In the *Campanha Gaúcha* the fusion between the vineyards and local culture is creating a new *terroir* that enhances the local identity. The *Vale do São Francisco* is in the process of structuring itself and it has a high potential to create a new and singular identity, in harmony with its particularities. To summarize, the *terroir* highlights and values territorial resources and contributes directly to the affirmation of local identity, which is an important element of sustainability in the territorial approach.

#### 4 CONCLUSIONS

In its essence, sustainability is a broad and abstract concept, an ideal to be achieved. In this sense, evaluating sustainability is a challenge that requires the development of a theoretical and methodological framework. From this perspective, the role of *terroir* as a pillar in sustainable viticulture can be highlighted. At the same time, environmental sustainability can be reinforced and highlighted in the GI process, which already promotes studies about environmental aspects and landscape, but has the potential to play a more effective role and drive actions in this sense, since the GI contributes directly to organizing and structuring the *terroir*. Finally, the territorial approach is not a final answer, but another way to understand these issues and to develop new projects to enhance *terroir* and its sustainability.

### **Acknowledgments**

We would like to thank the Chaire UNESCO “Culture et Tradition du Vin” for the important scientific and financial support provided for the development of this research. Also, we gratefully acknowledge the financial support provided by “CAPES Brasil”, beyond the program “Science Without Borders”, and the structure and the environment provided by IFRS.

### **5 LITERATURE CITED**

- Albagli, S. 2004. “Território E Territorialidade.” In *Territórios Em Movimento: Cultura E Identidade Como Estratégia de Inserção Competitiva*, eds. C. BRAGA, G. MORELLI, and V.N LAGES. Brasília: Relume Dumara, 25–70.
- Falcade, I. 2007. “As Indicações Geográficas (IG’s) E a Reorganização Do Espaço Rural Brasileiro.” In *Abordagens Teórico- Metodológicas Em Geografia Agrária*, eds. Gláucio José MARAFON, João RUA, and Miguel Angelo RIBEIRO. Rio de Janeiro: EdUERJ, 225–53.
- . 2011. “A Paisagem Como Representação Espacial: A Paisagem Vitícola Como Símbolo Da Indicação de Procedência de Vinhos Das Regiões Vale Dos Vinhedos Pinto Bandeira E Monte Belo Do Sul (Brasil).” Universidade Federal do Rio Grande do Sul.
- Falcade, I. and Medeiros, R.M.V. 2006. “Transformações No Vale Dos Vinhedos: Dinâmicas Urbanas No Rural?” In *Anais Do I Simpósio Nacional O Rural E O Urbano No Brasil*, ed. USP. São Paulo: Edusp.
- Flores, S.S. 2011. “Desenvolvimento Territorial Sustentável a Partir Da Vitivinicultura: O Caso Dos ‘Vinhos Da Campanha.’” Universidade Federal do Rio Grande do Sul.
- Flores, S.S., and Medeiros, R.M.V. 2012. “The Pampa and the Vineyard : Gaucho’s Natural and Symbolic Aspects in the Identity’s Constitution of ‘ Vinhos Da Campanha ’’s Terroir – RS / Brasil.” In *Proceedings of IXe International Terroirs Congress 2012*, Dijon/Reims, Burgundy/Champagne, France: UB & CIVC, 1–16;1–1–19.
- . 2013. “A Dimensão Territorial Da Sustentabilidade.” In *Estudos Territoriais Na Ciência Geográfica*, ed. Marcos Aurelio SAQUET. São Paulo: Outras Expressões, 129–44.
- GIRA. 2012. “MESMIS: Marco Para La Évaluacion de Sistemas de Manejo de Recursos Naturales Incorporando Indicadores de Sustentabilidad.” <http://mesmis.gira.org.mx/> (May 16, 2012).
- Magnaghi, A. 2000. *Le Projet Local*. Sprimont: Pierre Mardaga.
- . 2005. *The Urban Village : A Charter for Democracy and Local Self-Sustainable Development*. New York: Zed Books.
- OIV. 2008. *Resolution CST 1/2008 - OIV Guidelines for Sustainable Vitiviniculture: Production, Processing and Packaging of Products*. Verone/It.
- Saquet, M.A. 2012. *Il Territorio Della Geografia*. Milano: Franco Angeli.
- Tonietto, J. and Pereira, G.E. 2012. “A Concept for the Viticulture of ‘Tropical Wines’ .” In *IX International Terroir Congress*, Dijon/Reims, Burgundy/Champagne, France: UB & CIVC, 2–34;2–37.