

The Wine Industry as a Tool for Socioeconomic Development in the  
Vale do São Francisco, Brazil: Prospects and Possibilities

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**Abstract**

Developing countries are commonly known for economic dependence on raw commodities sold at low and fluctuating prices. For this reason, the concept of selling value-added commodities with higher profit margins seems favourable for development. This thesis looks at value-added agricultural commodities, specifically the wine industry, and its impacts on socioeconomic development in the Vale do São Francisco, Northeast Brazil. A combination of primary and secondary research was conducted for this paper. Qualitative interviews with twelve stakeholders in the Northeast Brazilian wine industry were interviewed and five local vineyards were visited out of a total of six currently in the region. Articles by academic and non-academic sources were reviewed to supplement field data, on issues such as: the challenges wine makers face and the obstacles those wishing to enter the market face, potentials of value-added products in developing countries, viticulture in Brazil, and geographically specific challenges and benefits/successes of this industry in Brazil. The research focuses on domestic wine production and consumption within Brazil. Based on the data, it appears that pursuing a value-added wine industry in the Northeast of Brazil is favourable for development, and the region could benefit greatly from an expanded and developed regional wine tourism industry. This paper hints towards future research of other value-added products and their potential to improve development in other developing countries.

Keywords: Wine, Brazil, Northeast Brazil, San Francisco Valley, Vale do São Francisco, Viticulture, Development, International Development, Socioeconomic, value-added agriculture, value-added industries, New World Wines

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## **Introduction**

Viable income streams are of major concern for developing countries. A common trend is that many developing countries rely heavily on agricultural commodities as primary sources of revenue, such as bananas or coffee. However, returns for agricultural commodities tend to be low and the commodities market precarious and vulnerable to fluctuation (UNDP).<sup>1</sup> The possibility of producing a product with value added to it generally eliminates this vulnerability, can be sold at a higher price, and leads to backward and forward linkages thus making it particularly interesting to development. In this paper I will explore how and to what extent developing a value-added agricultural commodity market can improve local socio-economic development in developing countries.<sup>2</sup> The value-added agricultural product I choose to focus on for this study is wine, which is made from the agricultural commodity of grapes.

Can a value-added wine industry potentially improve socio-economic indicators in developing countries? Why develop a wine industry as opposed to other value-added industries? I choose to focus on wine because it is a highly profitable global industry, has a long shelf life, and offers opportunities for tourism and the additional economic benefits it can bring with it. Additionally, locations where wine grapes can grow have unique climatic advantages that distinguish them from other wine regions and can be marketed as such; geography is important for many wine purchasers (Almeida et. al, 2015, p. 436). That being said, to me it seems logical to think that developing a value-added wine

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<sup>1</sup> For a look at how developing countries are affected by heavy dependence on the sale of primary commodities, see chapter 2 of the UNDP's 2011 report, *Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty*.

<sup>2</sup> To clarify, by "commodity" I am referring to anything bought or sold and by "value-added" I am referring to (in this case) raw products that have undergone certain processes, which add associated economic value to them and can be bought or sold at a higher price.

industry could be profitable and could benefit local communities where it is produced. This exactly what I hope to discern through this paper, and I shall look at arguments both for, and against pursuing value-added industries.

My research locale of choice is the San Francisco Valley region (in Portuguese known as the “Vale do São Francisco”) of Northeastern Brazil. This region is composed of five states through which the San Francisco River runs, including Minas Gerais (MG), Bahia (BA), Pernambuco (PE), Sergipe (SE) and Alagoas (AL), although the specific area I look at in this paper is in the state of Pernambuco bordering with Bahia, close to the city of Petrolina. For a map of where this region is located in Brazil, see **Figure 1** below. This region has been seen as a development model for the rest of Northeast Brazil largely due to the San Francisco River irrigation project which has made agriculture in the region quite prosperous (Murillo Dias et. al, 2016, p. 1). Aside from that, the region of Northeast Brazil is generally known for being one of the poorest and least-developed regions in the country, and suffers much prejudice from wealthier parts of the country. Interestingly, this region is also the second largest wine-producing region in Brazil next to Rio Grande do Sul, located in the south of the country. This, again, is thanks to the San Francisco River irrigation project. My research project seeks to find out how this highly profitable value-added industry (wine) is affecting, if at all, the local region of production and how this industry speaks to development at large.



*Figure 1. Map of Petrolina, located in Pernambuco, Brazil. Taken from Globo News article by Katherine Coutinho: Entre vinícolas e bodes, Sertão do São Francisco vira polo turístico [Between vineyards and goats, Sertão of São Francisco becomes a tourist attraction]. Globo News. 9/12/2011.*

## **Why Value-Added?**

I am particularly interested in value-added agricultural commodities because of their higher profit margins and added bonus of a longer shelf life than raw commodities (alcohol in particular has a longer shelf life). Additionally, there is potential for making value-added products from food waste, which is better for the environment, cuts costs and can increase profits at the same time. Value-added products produced from food waste, however, would be a separate thesis. Malik, et. al analyze this and associated obstacles in their book *Food Processing: Strategies for Quality Assessment*. Sharangi and Datta highlight value-addition as being important for growth and development of the horticultural sector, for reducing unnecessary food waste and for providing more variety to consumers, among other reasons. Particular to horticultural crop harvesting, they note, is that it is more labour-intensive than cultivation of cereal crops yet offers more opportunities for the development of value-added products. Value-added products thus seem to provide a variety of opportunities for development, as well as for sustainable development.

An added benefit of producing value-added products from raw agricultural products, such as fruit, is that aesthetics no longer become an issue since the raw produce will be processed into something else (wine grapes will be smashed up to make wine, for example). This eliminates unnecessary food waste of aesthetically displeasing produce and, because value is now added to the produce, it can be sold at a higher price. As previously mentioned, I focus on alcohol due to its widespread global appeal, long shelf-life and high profit margins, but instead of focusing on all alcohol I choose to focus specifically on wine production. Wine attracts a largely middle/upper class consumer

base (generally people with higher disposable incomes), the notion of location of production is attractive to buyers (in this case Brazil is an “exotic” location for wine) and the wine industry offers opportunities for wine tourism which leads to backward and forward linkages. How is this all playing out in Northeastern Brazil’s wine region and is it favourable to local socioeconomic development? Through my methods I seek the answer to this question.

### **Methodology**

The methods I have used to obtain data are a combination of primary and secondary research. For primary research, I conducted a total of twelve open-ended, semi-structured qualitative interviews with REB approval at five different vineyards in the San Francisco Valley region of Brazil. I interviewed stakeholders in the local wine industry including vineyard owners, managers, staff, and locals. My research is limited in that I spent a short amount of time in the region (five days). Had I been able to spend more time in the region, I would have liked to interview more people from various sectors of the industry, as well as compare with current processes in the wine industry in the south of Brazil. Nonetheless, in five days I was able to interview a wide variety of people.

For secondary research, I looked at mostly academic articles in English and Portuguese on topics such as: issues associated with starting a vineyard, grape production in Northeast Brazil, value-added products, value-added agricultural commodity production and general associated issues, as well as more location-specific articles regarding value-added agricultural commodity production issues in Latin America and

Brazil, including wine production in Latin America. My primary research helped me better understand how the wine industry may be affecting the region and to have a better understanding of the current situation there regarding wine production. Based on the information I received, I have synthesized it with the information retrieved from secondary sources in attempt to draw certain conclusions and recommendations to determine whether wine production can actually be a viable endeavour to improve local socio-economic development.

As a note to the reader, I chose to focus only on domestic wine production and consumption and *not* on export-oriented wine production. While a domestic market is not completely necessary for the success of a wine industry, due to the complexities and high entry costs involved with entering the global wine market, I think it is best to focus on the domestic market for the purposes of my research. Most of Brazil's wine is consumed domestically, after all (Camargo et. al, 2011, p. 144) and their domestic market is actually quite large due to their large population of 209.5 million (2016 estimate, World Population Review).

### **Literature Review**

Before discussing the current arguments regarding value-added agricultural products, I would like to inform the reader that in this paper I will not be reviewing raw commodity production. While there are overlapping issues in both topics such as labour, land, laws, regulations and transportation of products, other common issues associated with raw commodity production (such as price volatility) do not apply to the same extent to value-added products. I have thus deemed an overview of raw commodity production

not useful for my thesis. For an analysis of primary commodity markets, see Maizels: 1984.

Regarding wine production, there are a variety of issues any winemaker may face. First and foremost, access to land and water is needed to cultivate and grow grapes. Secondly, start-up costs must be considered, and it turns out starting a vineyard is quite capital intensive. Winemaking also requires lot of infrastructure and materials to process the grapes into wine and put it into bottles. It also requires labour to work in the fields and harvest the grapes, monitor the fermenting process, and work machinery, among other things such as marketing and consumer relations. Lastly, a successful wine business requires a market to sell its product.

What is the market like for value-added agricultural products? Sharangi and Datta attribute the rise in popularity of value-added foodstuffs to a rise in urbanization, an increasing middle class purchasing power, altering food habits and less people making homemade preserved products. Senauer and Goetz (2003) agree that the emerging middle class in developing countries is the biggest opportunity for growth of high-value food products, this being because the middle class tends to spend more money per month on more expensive foods and high value-added products, including imported food. In Latin America there is a rising middle class (World Bank, 2012) representing a significant market for value-added products, including wine. For alcohol, the global market is massive and increasing (Nugent, 2008).

What types of jobs are produced by the value-added wine industry and how do they differ from other agricultural jobs? For one thing, when an agricultural product is to be processed into something else (as opposed to just being picked off the vine and sold)

this creates more steps and processes and as a result more sectors and more jobs to delegate tasks.<sup>3</sup> In Canada, Terry Kremeniuk, the Vice-President of Farm Credit Corporation's Agribusiness Division, is quoted saying that "the growth of value-added brings markets closer to home for primary producers and creates jobs and economic growth in rural communities" (Canada NewsWire, 1991). This leads us to believe that value-added agricultural industries are positive when it comes to job creation, and one would be inclined to assume that higher profit margins translates into higher wages for those employed. Stefano Ponte argues that when big firms in the international market of a value-added industry<sup>4</sup> get involved in value-added industries of developing countries, the big firms impose so many rules and regulations that in effect become subtle forms of control over the industry, and as a result also over the jobs of those employed (Ponte, 2009, p. 237). This, he claims, results in "specific allocations of resources and distributions of gains" (ibid). This means that while profits may be higher, people may not necessarily be receiving higher wages.

While this may be true in Brazil, I focus on wine production for domestic consumption only, thus ruling out any international standards required for export (although two of the six vineyards in the San Francisco Valley do also export a portion of their wines). As we will see in my empirical section, the data I gathered does not entirely support Ponte's arguments, but perhaps his arguments are also not as valid with reference to wine production in Northeast Brazil as opposed to other much more developed wine regions such as South Africa, Chile or Argentina.

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<sup>3</sup> This is true unless the tasks are done mechanically, though there may be a case made for the creation of alternate job opportunities due to estimating purchase and maintenance of machines.

<sup>4</sup> Ponte focuses on the wine industry in South Africa as a case study.

As with any industry, the value-added wine industry provides many jobs in its many processes of production. How do these jobs compare to other types of jobs in rural regions of the world? There is certainly a difference jobs in artisanal or small-scale production versus industrial and large-scale production. The bigger an industry gets, the more its processes risk losing their humanistic elements and thus worker's humanistic relationships to their labour processes. This is a very simplified version of what Marxists argue to be the alienation of labour (Marxists Internet Archive). Does this occur in industrial wine production? One author, Robert Ulin, criticizes Marxist claims and instead argues that in France work in wine growing can actually contribute to self-identity (Ulin, 2002, p. 691). Ulin focuses on French wine growers who are members of cooperatives. Could it be that wine growing has the potential to cultivate more meaningful jobs [despite potential low pay] for workers in other, less-developed countries?

Along with agricultural labour exists the issue of land tenure, which more often than not tends to be in the hands of wealthy landowners. In Latin America these wealthy landowners are called "latifundistas." This struggle between labourers and land is a constant theme throughout Latin American history, and to-date struggles exist in attempt to "reclaim the land" (see Moyo and Yeros: 2005); land disputes are largely left unresolved and most land remains in the hands of a few. Through my research I have attempted to explore issues of land for wine production in Northeast Brazil, how unused land is being used, and if vineyards are doing anything to help local communities.

In Brazil there exists a large movement called Movimento Sem Terra (MST) which means "Landless Workers Movement," but I have chosen not to include this

movement to great extent in my thesis due to its complex political issues, internal tensions and regional discrepancies, as well as due to length restrictions for this thesis. I will acknowledge that land reform is undeniably an issue in Brazil, and that this movement exists.<sup>5</sup> However it is up to the Brazilian government to change its land reform policies, and whether or not the MST can spur that in a government resistant of power changes stemming from colonial times is uncertain.

Aside from land, crucial resources such as water are needed to cultivate crops. Because the San Francisco Valley is a semi-arid region of Brazil and water is a critical resource for agricultural production, water is another issue that was looked at with reference to this region. More details will be shared in the empirical section.

Whether it is more important for a country to focus internally on domestic wine production and consumption as opposed to externally (internationally) depends on various factors. Dominguez and Brenes analyze the impact of internationally oriented firms on development in Latin America. While a domestic market for wine helps, it is not crucial for the success of the industry. Important to note is that production levels should be quite high in order to export internationally, as there is a much larger market. It would be quite difficult for an artisanal vineyard to export without high production levels. Of all the vineyards I visited in the San Francisco Valley, only two currently export, and all of them sell mostly to the domestic market in Brazil.

There are important differences and growing tensions between small-scale, artisanal production versus industrial production of wine. In general, it can be said that small-scale production has less of an environmental impact than large-scale production.

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<sup>5</sup> For an in-depth review of the Landless Workers Movement in Brazil, see Carter, 2015.

This is the case with cheese production in Brazil (Nigri, et. al; 2014) viewed as a cultural patrimony. However in the case of wine production, industrial scale production can prove more efficient, note Fuensanta, Sancho and Marco (2015). Hammervoll, Mora and Toften note that at least in France, niche and mass-market wine production have been equally competitive since the financial crisis, suggesting potential for both markets. In the brewing sector, Peter Wells investigated small-scale versus large-scale production of beer and determined that the degree of *localism* is a key determinant of business sustainability. *Location* of production is also an important factor to many buyers (this is also true in the wine industry). To add, traditional and modern artisanal production of wine is closely tied to “vintage” (Glenn and Overton: 2010), which is in general highly esteemed for wines. In sum, there appear to be various pros and cons to each production type, neither being necessarily better or worse than the other.

What other barriers or challenges might developing wine regions face? Sharangi and Datta note that only 1 - 2.2% of total produce is processed in developing countries, whereas 40 – 83% is processed in developed countries. Meanwhile, Hallam claims that diversifying into higher value exports is not easy. Authors Mohan, Khorana and Choudhury attempt to explain why developing countries have experienced limited success in increasing exports of agricultural processed products by conducting a case study on coffee, tea and cocoa and analyzing tariffs and non-tariff barriers and how they may be impacting developing countries from exporting these products. What they found is that tariff escalation is actually not the main barrier, but rather it is non-tariff barriers (including domestic barriers) that limit the ability of developing countries to export value-added products. Días-Bonilla and Reca, in an analysis of trade policies in

developing countries, note that while national policies have been largely supportive in Asia, they have had mixed effects in Latin America and the Caribbean. They claim that in order for agro-industrial production and exports to flourish in developing countries, reforms must be made in agricultural trade policies “at home” such as export subsidies and tariff escalation, which largely thwart a “thriving agro industrial sector in LDCs” (Días-Bonilla and Reza, 2000, p. 228).

Many factors must be considered before pursuing a business in wine such as start-up costs, resources required and other factors. Some authors (Korchok and Ballen, et. al, for example) are not so optimistic, claiming that entering the wine business is both time consuming and very costly, with start-up costs reaching into the millions of dollars. Korchok and Ballen also claim that it is one of the most difficult businesses to get into. However, it can be very profitable, as the global demand for wine is massive. There are many options for creating a wine business, including having your own vineyard and processing the wine on-site, or having grapes supplied from elsewhere. Additionally, one can buy the grapes from elsewhere as well as have the wine made and bottled elsewhere, thus eliminating the need for one’s own vineyard or winery. Christine Larson (2002) claims, therefore, that because of these options, someone who wants to get into the wine business has the option to start slow and focus just on one aspect if necessary.

Starting a vineyard is costly, but all hope need not be lost. When talking about wine, it is difficult to ignore its association with class and status. Interestingly, this can be connected to investment for the industry. Overton and Banks talk about what they call “conspicuous production” with regards to wine in developing countries, which is: “investment decisions that seek status and reputation alongside or, in many cases, ahead

of profits” (Overton and Banks: 2015). They argue that this is a significant source of capital in the wine industry and possibly in other sectors of the economy, and they examine different examples of this.

Wine drinkers tend to highly regard “Old World Wines,” making it hard for “New World Wines” to make a name for themselves in the global wine market, although in recent years even “New World Wines” have gained much international appeal. Glenn Banks and John Overton argue that this New World / Old World terminology fails to represent the complexity of production and marketing in these two broad regions, and does not acknowledge the significant and rapidly expanding production and consumption of wine in ‘Third World’ developing countries. According to these authors, we need to change the way we think about wine in our modern day and age. This can have implications for the success of new countries, such as developing countries, entering the international wine market. Brazil, for example, is not well-known internationally (and arguably, nationally) for its wines. This is an important factor that affects the chance of success of Brazil’s wine industry. Banks and Overton also mention that established wine regions can serve as important sources of investment for new wine regions in the developing world.

Many researchers have evaluated the different techniques for the success of a wine business. One study focused on the assistance from local universities to help entrepreneurs successfully promote value-added products in the United States (Padilla-zakour: 2004). Ian Taplin discusses the utility of knowledge sharing through cooperative relationships among vineyards and wine makers, which he says underlies competitive

market formation and provides incentives for quality enhancement that in turn develop a wine's status (once again, alluding to the notion of class).

Entry costs into a market must also be considered, as they can have a profound impact on a company's (or country's) ability to participate in that market. Pedro Bento (2014) analyzes this impact. For large-scale endeavours, Merener et. al claim that optimal trading, storing and shipping policies for a firm is the solution to a maximize profits.

In sum, many factors must be considered to start a value-added business and even to enter the market for that value-added product. Further factors must be considered if one wishes to export that product as opposed to just selling it domestically. As a reminder, this thesis focuses only on *domestic* consumption and production of wine in Brazil. Now I will review the origins of wine-making in Latin America and Brazil before going into the empirical data.

## **Empirical Data**

### **Wine Production in Brazil**

In Latin America, wine-making was first introduced by European colonizers from Spain and Portugal in the 1500s (Wines of Brazil 2002). In Brazil wine was brought originally by the Portuguese colonizers and later by Italian immigrants who settled mostly in the south of the country. It is not surprising, therefore, that most of Brazil's vineyards are located in the south, specifically in the state of Rio Grande do Sul (RS), where there are approximately 751 vineyards (Almeida et. al., 2015, p. 434). However, there is also a sizeable amount of wine production in the semi-arid tropical San Francisco Valley region - my locale of research - where there are a total of six vineyards.

Enologists were brought to the region in the 1980's to experiment with wine grape cultivation, which is when the Valley of San Francisco started producing wine. Prior to that, extensive table grape cultivation existed and still exists: the San Francisco Valley provides 95% of Brazil's table grapes (Almeida et. al, 2015, p. 435) and is home to roughly 17 million inhabitants (IBGE 2016). Currently there are 89,000 hectares of land in Brazil growing wine grapes (Wines of Brazil) and the San Francisco Valley is the second largest site of wine production in the country.

### **Land and Resources**

Important factors for any agricultural commodity - whether it is sold raw or processed into a value-added good - are land, favourable climate, and sunshine. Brazil is the fifth largest country in the world (slightly bigger than Australia) and boasts ample arable land. Land is unevenly distributed, yes, but there is no scarcity of it. This is an advantage for Brazil. Regarding climate, Brazil is classified as a tropical country, and in the San Francisco Valley there is sunlight all year, which facilitates growing crops. As previously mentioned, the city of Petrolina is specifically known for its export of quality fruits to Brazil and to the rest of the world, which is what originally led to the construction of an airport there and subsequent development of the city and region. Since this region is classified as semi-arid, one can argue that the biggest challenge for growing crops there is water. This problem is overcome through a large irrigation project sourced from the San Francisco River (after which this fertile valley is named), although many households still remain without water and drought is an ongoing problem. Nonetheless,

agriculture still remains a huge industry for this region and a huge factor in regional development.

### **Domestic Market for Wine**

What is the market like for wine in Brazil? Although Brazil is not necessarily well-known for its wine production or consumption, between 2009 and 2012 it ranked 14<sup>th</sup> in global wine consumption and consumption rates are increasing with a rising middle class (Almeida et. al: 2015, p. 436). Per capita wine consumption in Brazil was 2.1 liters in 2012, according to the International Organisation of Vine and Wine's statistics. This appears low, but if we compare the population of Brazil to the population of other big wine consuming countries, it evens out somewhat (see **Table 1**). Note that Brazil's population is more than double that of the other countries listed. My point is that there is still a huge market in Brazil and a lot of room for domestic market expansion. In **Tables 2 and 3**, we see that Brazil is ranked 14<sup>th</sup> in both consumption and production of wine worldwide. Authors André Leão et. al (2011) admit that not only is there room for improvement of the wine industry in the San Francisco Valley, but in Brazil as a whole (2011, p. 25).

Country	Population (in 2015)	Per Capita Wine Consumption (in 2012)
<b>Brazil</b>	<b>207.8 million</b>	<b>2.1 liters</b>
China	1.371 billion	1.5 liters
South Africa	54.96 million	8.7 liters
Australia	23.78 million	28.8 liters
France	66.81 million	53.6 liters
Portugal	10.35 million	55.4 liters
Italy	60.8 million	43.2 liters
Argentina	43.42 million	32.3 liters
Chile	17.95 million	22.9 liters

**Table 1. Populations of various wine producing/consuming countries and their wine consumption.**  
*Wine consumption source: International Organisation of Vine and Wine (IOV); Population source: World Bank.* Notice that Brazil's population is more than double that of other major wine consuming countries and is growing at a very fast rate. Low individual consumption levels compare to China, which also has a very large and growing population and is a significant player in the global wine market, as well as a big purchaser of Brazilian wine. China's population is also significantly larger than Brazil's.

Country	Quantities			
	2009	2010	2011	2012
1) France	30,215	29,272	29,322	30,269
2) United States	27,250	27,600	28,425	29,000
3) Italy	24,100	24,624	23,052	22,633
4) Germany	20,224	20,200	19,707	20,000
5) China	14,514	15,180	16,339	17,817
6) UK	12,680	12,900	12,860	12,533
7) Russia	10,368	12,197	11,276	10,394
8) Argentina	10,342	9,753	9,809	10,051
9) Spain	11,271	10,894	9,894	9,300
10) Australia	5,120	5,351	5,325	5,375
11) Portugal	4,515	4,690	4,550	4,550
12) Canada	4,121	4,339	4,255	4,476
13) South Africa	3,384	3,463	3,527	3,616
<b>14) Brazil</b>	<b>3,508</b>	<b>3,686</b>	<b>3,805</b>	<b>3,399</b>

**Table 2: Biggest wine consumers worldwide (in 1000 hectolitres) 2009 – 2012**  
Organized according to the year 2012. Source: International Organisation of Vine and Wine (OIV).

Country	Quantities			
	2009	2010	2011	2012
1) France	46,269	44,322	50,757	41,422
2) Italy	47,314	48,525	42,772	40,060
3) Spain	36,093	35,535	33,397	30,392
4) United States	21,965	20,887	19,187	20,510
5) China	12,800	13,000	13,200	14,880
6) Australia	11,784	11,420	11,180	12,660
7) Chile	10,093	8,844	10,464	12,554
8) Argentina	12,135	16,250	15,473	11,778
9) South Africa	9,986	9,327	9,324	10,037
10) Germany	9,228	6,906	9,123	9,012
11) Portugal	5,868	7,133	5,610	6,141
12) Romania	6,703	3,287	4,058	3,311
13) Greece	3,366	2,950	2,750	3,150
<b>14) Brazil</b>	<b>2,720</b>	<b>2,459</b>	<b>3,394</b>	<b>2,917</b>

**Table 3: Biggest global producers of wine (in 1000 hectolitres) 2009 - 2012**

Organized according to the year 2012. Source: International Organisation of Vine and Wine (OIV)

Note: this does not reflect regional production in Brazil. We can assume that most of the wine produced is coming from the South of Brazil.

### **Wine Production in the San Francisco Valley**

The San Francisco Valley and specifically the city of Petrolina and its surroundings are known nationally and internationally for quality fruit production. Their agricultural industries, including both raw and value-added, have been huge contributors to regional development as well as initiated the need for an airport in the region (Senador Nilo Coelho Airport, located in Petrolina). As previously mentioned, this region of Brazil is seen as a development model for the largely poor Northeast of Brazil, which is why I find the wine industry there an interesting topic of choice for development studies.

Wine grapes were introduced to the region in the 1980's, initially experimentally, and the first wine from the region was produced in 1985. What started out as trial and error proved to be fruitful and there are many regional benefits of producing wine in the San Francisco Valley. Perhaps most striking is the fact that they can have up to three harvests per year, which is unmatched by any other wine region in the world. This is due to the presence of constant sunshine, making it so that seasons have to be simulated by

cutting off irrigation for controlled periods of time. So many harvests means that the production potential is quite high. One author notes: “Thanks to irrigation, it has been possible to produce wine and elaborate varieties in the tropical and semi-arid region of the San Francisco Valley in the Northeast [Brazil]. In this area the productivity of vine plantings is well above that obtained in temperate regions. Thanks to these aspects, this is a peculiar and unique case in the world [for growing wine grapes]” (Leão, et. al: 2011, 26. Translated from Portuguese).

It may seem surprising to produce wine in such a hot and dry region of the world, but it turns out that low rainfall and lots of sunshine are actually perfect conditions for growing grapes. Paired with a drip irrigation system sourced from the San Francisco River – mentioned by one interview respondent as the biggest irrigation project in Latin America - this semi-arid region is able to produce some of the best fruit in the world and now even great wine and highly esteemed sparkling wines.<sup>6</sup> The wines are typical of the region and its warm climate, according to the vineyards I visited, and the San Francisco Valley represents 15% of the national market (Global Wines). See below a map of the San Francisco River in Northeast Brazil (Figure 2).

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<sup>6</sup> The region is becoming especially recognized for its sparkling wines, I learned during my visit there and from reading various news articles on wine production in the region.

**Figure 2. The San Francisco River (Rio São Francisco), spanning 2914 kilometers.**  
Source: Karl Musser, USGS Data, Wikiwand, 2005.



### **Vineyard Data**

Five vineyards were visited in the San Francisco Valley out of the six present in the region, including: Fazenda Ouro Verde (under the Miolo company), Vinhos Rio Sol, Vinhos Garziera, Adega Bianchetti Tedesco LTDA, and Botticelli Vinhos. The only vineyard I was unable to visit was Chateâu Duccos, located directly in front of the Garziera vineyard which produces wine in bulk and is owned by the Brazilian São Braz Foods company. However, I was able to send my questions to this vineyard's manager and received a response, thus completing my interviews with all six vineyards present in the San Francisco Valley. See map on the next page of the vineyards in the region. All vineyards are within 1 – 1.5 hours driving distance from the city of Petrolina.

**Figure 3.**



In total, twelve stakeholders in the local wine industry were interviewed in January 2017, including vineyard owners, managers, staff, and locals.<sup>7</sup> The interviews were open-ended, semi-structured and qualitative, mostly seeking general opinions and knowledge of the local industry. All participants will be kept anonymous to protect their privacy, as ensured during my interviews. Workers were asked questions such as how they find the work conditions, if they enjoy their work, and how it compares to other

<sup>7</sup> Interviews were conducted in Portuguese. As such, all quotes from interviews are translated from Portuguese. Note that some expressions do not *directly* translate to English, but it is hoped that the reader can comprehend the main points conveyed by speakers.

agricultural jobs in the region. People in the community were asked for their general opinions of the vineyards and if they have noticed any changes since the onset of the vineyards. Managers and owners were asked about the obstacles their wine business faces, any changes they have seen in recent years regarding wine consumption, who is buying/consuming the wine, if the same families always owned the vineyards, what local perceptions are of the vineyards and of wine tourism, what successes they have experienced, what challenges one faces to start a vineyard in Brazil and what is required to start a vineyard in the region. Vineyard managers were also asked about what they do with organic wastes produced during wine production. These questions were asked in attempt to better understand the dynamics of the local wine industry, to learn what effects it has had, if any, on the local communities, and to evaluate prospects of further development of this industry in the San Francisco Valley region of Brazil.

Of all six vineyards in the region, only one has exclusively foreign ownership, and another is made up of partners within Brazil and abroad. That leaves the other four vineyards (more than half or two-thirds of the total) to exclusively Brazilian ownership, some of them family-owned. This allows us to assume that most of the profits of the vineyards do remain locally and in Brazil. The two vineyards with foreign or semi-foreign ownership are Rio Sol, owned by a Portuguese group called “Global Wines” (Rio Sol website, 2017) and Fazenda Ouro Verde, owned by the Miolo group which consists of various partners and projects in Brazil and abroad (Miolo Wine Group website, 2010 and Terra news article, 2010). These two vineyards are also the biggest and most developed of the six in the region, and the only vineyards currently exporting from the region to other countries. Additionally, these two vineyards had the most developed and

informative websites with clear visiting guidelines. The other vineyards either had no website, a website that did not work, or a website with no visitor information. Only Miolo (the wine group that owns Ouro Verde, also the biggest wine group in Brazil) had an English version of their website. See below a table of the vineyards in the San Francisco Valley region and their distinguishing features.

**Table 4. Vineyards of the San Francisco Valley, Brazil**

Vineyard	Location *BA= Bahia *PE= Pernambuco	Export?	Ownership	Distinguishing Features
Fazenda Ouro Verde	Casa Nova, BA	Yes	Miolo (Semi-foreign)	Owned by the biggest wine company in Brazil
Rio Sol	Lagoa Grande, PE	Yes	Global Wines, Portugal	Biggest in Pernambuco and best marketing
Garziera	Lagoa Grande, PE	No (used to)	Brazilian	Owner was first mayor of Lagoa Grande and started a regional wine festival, "Vinhuvafest"
Bianchetti	Lagoa Grande, PE	No	Brazilian	Smallest, organic (only organic in the region)
Botticelli	Santa Maria da Boa Vista, PE	No (used to)	Brazilian	Oldest vineyard in the region
Château Duccos (São Braz)	Lagoa Grande, PE	No	Brazilian	Bulk Production

### Public Opinions

In general, the vineyards were viewed locally in a positive light and no one I interviewed had anything negative to say about them, except for the fact that vineyards employ less people than in other local agricultural industries. As we will see in the next section on labour, however, the jobs at vineyards in general are better than other types of agricultural employment in the region; quantity is not necessarily better than quality.

Interviewees agreed that the presence of the vineyards in the San Francisco Valley brings more tourists to the region, improves the regional image, and provides jobs for locals. Regarding local perception of the vineyards and of wine tourism, one interviewee responded: “[Local perceptions] are the best possible, this always associated with other factors and the natural beauty of our region, such as the river, irrigation projects, business, cuisine, culture and folklore.” As such, the vineyards are yet another element of attraction for tourists to the region. Another respondent said, “there are many benefits, more jobs, and less crime” as a result of the wine industry. Not only are local perceptions of this industry positive, but workers at the vineyards also had positive things to say about their jobs.

## **Labour**

Approximately five million people are employed in agriculture in Brazil directly and indirectly (Fachinello et. al: 2011, 109). Based on my interviews, I learned that jobs at vineyards pay slightly more and include more benefits. At four of the vineyards, I was able to ask at least one vineyard employee his or her opinion of their work, and all responses I received were positive. Respondents included a vineyard tour guide, a receptionist / tour guide, a general staff member and a field worker. In addition, I asked two table grape street sellers their opinions of jobs at vineyards versus regular jobs collecting table grapes. They told me that at vineyards the pay is slightly more and there are more benefits, but that there are also more rules regarding hygiene and standards. Still, they both agreed that it was better to work at a vineyard. I learned that vineyards employ less people because they do not need as many people to care for the grapes’

aesthetics. For both types of jobs, more staff is hired at the end of the year as seasonal help. As an added perk, one vineyard interviewee mentioned that all employees receive two bottles of wine as a gift at the end of the year - something highly looked forward to by all employees.

“People in the region like agricultural work,” according to one respondent. “Lots of labour has held together the people of the region. People learn to work with grapes and wine.” Regarding unemployment in the region, one respondent said, “the only people who don’t work don’t want to work. There are plenty of jobs and good conditions,” while another respondent in a nearby town said “there is still a lot of unemployment” and “questions of unemployment are still difficult.” While I am unsure of the basis of this person’s statement, this is not surprising considering it is a rural and poor region of Brazil. However, based on all interviews, it is clear that one of the biggest successes of the local wine industry has been providing jobs for locals.

Indeed, the vineyards employ people locally from the region and employees are happy to work close to home. “I like so much working here,” one vineyard tour guide said. “Friendships, tourism, open and learning” were some of the benefits a tour guide listed. At some vineyards, more than one member of the same family was employed and/or the employee’s family had a history of working at the vineyards.

The only downside some workers noted about their jobs is that there is a lot of work with few days off, but that it is simultaneously dynamic and therefore they enjoy it. “There is lots of work, but good work,” one respondent said. The amount of workers varies from vineyard to vineyard. This ranges from 10 to at the smallest vineyard, around 20 at another, over 100 at another, 200 at another and “40 in each unit” at another. One

vineyard claimed that more people used to be employed but the company was affected by the economic crisis in Brazil and had to employ less people. Multiple interviewees confirmed that the local wine industry has kept people in the region by providing jobs for people who formerly had to go to big cities such as São Paulo for work. Thanks to local industry including but not limited to the wine industry, the growth of the nearby city of Petrolina has become a more local urban option for employment and higher education for people in nearby rural communities.

### **Opportunities**

Aside from valuable jobs for the region and its inhabitants, there are also now professional educational opportunities available in enology,<sup>8</sup> initiated by the presence of the vineyards in the San Francisco Valley. Brazil only has two schools of enology and one of them is located in the San Francisco Valley.<sup>9</sup> In Brazil, public higher education is free, so this provides more opportunities for people of all backgrounds to pursue this path. Some of the people I interviewed who currently work at the vineyards had studied enology at the local university, and others had a genuine interest in enology. In sum, not only do the vineyards employ people in manual labour, but now people can also study wine in-depth, offering the chance to pursue a professional path as well as the opportunity to gain practical experience while working at one of the local vineyards or in wine tourism.

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<sup>8</sup> Enology is the study of wine.

<sup>9</sup> The other is located in Rio Grande do Sul (Brazil's biggest wine producing region) and I was told this course took much longer to arrive there than it did in the San Francisco Valley.

## **Market**

The biggest market for the vineyards of the San Francisco Valley is the Northeast of Brazil, especially the coastal capital city of Recife, Pernambuco. The metropolitan region of Recife (population approximately 3.7 million according to IBGE)<sup>10</sup> is one of the three most developed gastronomic markets in the country, according to the Nucleus of Hotel and Tourism (NHT) of the Federal University of Pernambuco (in Leão et. al, 2011, p. 28). This is proof of the market potential in Recife alone. The average person knows that food pairs with wine, and having the ability to pair local cuisine with local wine is a delight to many tourists as well as those looking to consume regional products. That being said, more locally to the vineyards, the wines from the San Francisco Valley are also widely sold in Petrolina. In general, the biggest consumer base for wines is the middle class.

Most people in the Northeast tend to prefer sweet table wines.<sup>11</sup> This is what the bulk vineyard, Château Duccos by São Braz, has opted to produce as a way to distinguish itself from the other vineyards: to produce a more common table wine in bulk that most domestic consumers will prefer (as a reminder, this vineyard does not export). São Braz claims that their sweet table wine is consumed by 85% of the population. This is an interesting strategy, and one of the other vineyards I visited mentioned that they are also starting to produce more common wines and less fine wines. While fine wines sell for higher prices and are highly esteemed internationally, the majority of the Brazilian population appears to prefer sweet table wine.

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<sup>10</sup> IBGE is the Brazilian Institute of Geography and Statistics

<sup>11</sup> This is confirmed by people I interviewed as well as my own personal experience in Northeast Brazil.

One vineyard reported preferring to sell to smaller, local markets as opposed to big chains. The owner of this vineyard claimed that it is not worth it to expand their business and they prefer to keep it small and local. The labels and corking at this vineyard are also still done manually. Another vineyard reported that they sell to the supermarket chain Bom Preço (owned by Walmart) and that a lot of their wine is also sold within the San Francisco Valley region. Since many Brazilians do their shopping at the Bom Preço supermarket (especially the middle class) selling to a large chain like this can greatly increase sales regionally and domestically. Yet another vineyard mentioned that sometimes they have to get grapes supplied from other vendors in the region to satisfy demand, further alluding to the market capability of these local wines.

### **Challenges**

Winemakers in Brazil still face many challenges. Perhaps the biggest challenge for those interested in starting a vineyard are the high capital costs required. One vineyard manager said that around one million Brazilian Reals (approximately \$419,545 CAD) would be required to start a vineyard. Most people are not able to invest in such an expensive endeavour, and the Northeast is classified as a poor region of Brazil. Luckily, as previously mentioned, many Old World wine countries and developed countries are investing in wine production in the New World, such as in Brazil. This has led to the development and success of the Portuguese-owned Rio Sol vineyard and the semi-internationally-owned Fazenda Ouro Verde, but it is not to say that the other, locally-owned vineyards have not experienced success, and it is unknown if these vineyards have

received funding from abroad (especially for the vineyards that used to export and no longer do).

Speaking of capital, machinery required to start a vineyard is also expensive. It is even more expensive when it has to travel far distances. One respondent said that the greatest difficulty for starting a vineyard is inputs and machinery, which either have to be imported or purchased in the south of the country. If the wine industry is to expand in Northeast Brazil, there could be a large opportunity for industry to expand and create locally sourced equipment and machinery for vineyards, thus decreasing start up costs and providing more jobs. I elaborate on this further in my analysis and recommendations section.

Based on all of my interviews, it can be argued that domestic taxes are one of the biggest burdens for wine producers. Respondents at all vineyards raised this topic. What I was told is that in Brazil since wine is not considered a food, it is taxed at a higher rate.<sup>12</sup> For Brazilian winemakers, taxes take out a considerable amount of the final sale value of a bottle of wine, surpassing 50% of its value according to multiple vineyard owners. That is a big toll on the vineyards and explains why many domestic wines are more expensive than imported wines. It is worth mentioning that all vineyards also sold grape juice, which is rising in popularity and is non-alcoholic and thus taxed less.<sup>13</sup>

The burden of taxes certainly does not help Brazilian wines since imported wines are sold at a cheaper price. One interviewee stated that wines that enter Brazil through the

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<sup>12</sup> Apparently wine actually is considered a food in some countries and is thus able to be taxed less.

<sup>13</sup> Grape juice is becoming quite popular in Brazil and one vineyard noted the big market potential for it. Grape juice is another way for vineyards to earn profits, as well as provide a local and healthy alternative for non-alcohol drinkers, designated drivers, and those under the legal drinking age.

Mercosur<sup>14</sup> agreement enter as “food compliments” (not as alcohol) making it so that Chilean and Argentinian wines, for example, are able to sell at lower prices than Brazilian wines in Brazil. Indeed, Chile and Argentina are the two biggest competitors to Brazilian wine and it does not help that many Brazilians have a lack of faith in domestic wines, preferring to buy these imported wines which they believe are superior. In 2008, 77.5 million liters of fine wine were consumed in Brazil, 70% of which were of foreign origin (Mello 2008 in Leão et. al 2011: 25).

It is true that national and international reputation for Brazilian wines is lacking. One respondent also stated that there is a lack of divulgation of national potential - many Brazilian nationals do not even know about the vineyards in the Valley of San Francisco, let alone people from other countries. Another respondent mentioned, “Brazil doesn’t have a tradition for wine and is unknown to the world for wine.” More marketing of this region as a wine producing destination will lead to its establishment of a reputation worldwide.

Some interviewees stated that there is a lack of government incentives for investment, which might explain why a lot of people still do not know about the region and its vineyards. It is true that many vineyards were very hard to find and contact, and most visitors would find it at least slightly challenging to locate the vineyards and communicate with responsible personnel. If the wine industry is to expand in this region, more investment will certainly be required. Maybe this could come from the taxes already imposed on vineyards.

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<sup>14</sup> Mercosur is an economic and political trade agreement whose members include Brazil, Argentina, Uruguay, Paraguay and Venezuela.

Another inhibiting factor to the domestic wine industry in Brazil is the fact that the majority of the population prefers beer and cachaça (the national distilled beverage made of cane sugar). Brazilians in general do not have a habit of drinking wine and it is not originally part of their culture. Some respondents did mention this as a challenge for the wine business, one respondent claiming that “wine is not simple to be sold” and another mentioning that the target audience of wine is still small. Nonetheless, the articles I read and all the people I interviewed confirmed that wine consumption is steadily increasing, as is awareness of wine and the benefits that come with moderate consumption.

General bureaucracy is also a nuisance to the wine business, as well as to any business. One vineyard owner mentioned that “in Rio Grande do Sul it doesn’t seem to be as strict and complicated to start a vineyard.” More research would have to be done in that region to confirm whether or not this is true, but it is possible that opening up this type of value-added business is more difficult in the less-developed Northeast of Brazil where the industry is much smaller than in the south of the country. Días-Bonilla and Reca argue that domestic factors largely inhibit export development of value-added products in Brazil. However based on my data it appears that domestic factors also put a damper on domestic development, and even discourage many from starting a business in the first place. If Brazil wants to further develop its domestic wine industry it may have to re-evaluate the way it taxes vineyards *or* reinvest the taxes in ways that promote development. Corruption is another problem that cultivates strong resentment among Brazilian taxpayers. Below I have compiled a list of the main challenges respondents said they face with relation to wine production in the region:

*Table 5.*

Challenges to Wine Production in the San Francisco Valley	• Capital-intensive
	• Domestic taxes and bureaucracy
	• Cheap imported wines
	• Divulcation of national potential
	• Lack of wine-drinking habit in Brazil

None of the interviewees mentioned water being a challenge to production, however scholars such as Murillo Dias et. al do see water as a foreseeable problem for wine production in the San Francisco Valley, which is classified as semi-arid. Production levels may decrease over time due to water levels in the San Francisco River (Murillo Dias et. al, 2016: 11). Murillo Dias et. al recommend monitoring water levels to “avoid losses, to optimize and to control the water usage” (ibid). When asked specifically about whether or not water is an issue for the vineyard and if there is ever tension over water between vineyards and local community inhabitants, one interviewee responded saying that it is only a problem when the river is low, and that there are no conflicts with local community dwellers regarding water access. Another respondent mentioned that when the river is low, tourism is also low. How often the river gets low is unknown, but it is known that the water levels decrease during drought and that the river’s flow has decreased by almost one third of its original flow (data from October 2016 from the Brazilian San Francisco Basin Committee – CBHSF – in Murillo Dias et. al, 2016: 11).

## **Residual Space & Residual Waste**

Some readers might question the use of large parcels of land for wine grape cultivation instead of for local food consumption, and may wonder what is done with unused plots of land. It is worth noting that some of the vineyards I visited said they do grow things other than grapes on their land (such as other fruit or vegetables) and some even lease land plots to others who wish to grow crops, receiving a portion of the harvest as payment. It would be interesting to find out if other agricultural businesses in the area do the same, and what local perceptions are of these specific projects.

When asked what is done about waste by-products from wine production, all vineyards responded that they compost residual waste or re-use it in fertilizer, thus reducing the purchase of fertilizers. One vineyard interviewee also mentioned that water is treated and reused in the irrigation of grass for sheep. It does appear that the vineyards are conscious of water use and try to avoid unnecessary waste, many implementing drip irrigation which is the most water-efficient form of irrigation.

## **Strategies for Success**

As already mentioned, the São Braz vineyard solely produces wine in bulk, thus appealing to a larger consumer base in Brazil that tends to prefer sweet table wine. Other vineyards in the region (but not all) are also opting for this common wine strategy. Some of the interviewees at the vineyards visited mentioned that they cooperate with one another as opposed to compete. Regarding this cooperation, one vineyard respondent said, “you have to have it, if not, you don’t move forward.” Vineyards are partners, not competitors - they help one another. This mutual help network is likely to prove

beneficial moving forward, and is a healthy relationship to have between vineyards in a developing wine region.

### **Successes, Socioeconomic Growth & Regional Benefits**

The San Francisco Valley Vineyards have experienced many successes. For one thing, increased wine consumption in Brazil has helped the vineyards succeed. Secondly, national wines have greatly improved and some have even won international awards, thus improving Brazil's reputation as a wine producer. There has also been an increase in visitors and tourists as a result of the local wine industry; one vineyard claimed they receive tourists on a daily basis. More people are becoming aware of wine's health benefits, and the health benefits of grapes in general. The onset of the vineyards have been able to keep people employed in the San Francisco Valley region, who previously had to migrate to bigger cities such as São Paulo for work.

Testing my thesis statement, what kinds of socio-economic growth has resulted from the Valley of San Francisco wine industry? As mentioned previously, we can see that the wine industry provides jobs in many sectors and attracts investment, which leads to local development. Many people have been able to stay in the region instead of move to cities for work, thus lessening the burden of rural to urban migration. Further, there are now local public and professional opportunities in enology.

From my interviews I learned that some vineyard owners are involved in social projects. One vineyard owner provided the buildings and infrastructure of the nearby village, and its local school boasts the best index of IDEPE (Institute of Personal and Business Development) in the region, according to a vineyard tour guide. As for political

activity, the owner of the Garziera vineyard, Jorge Garziera, was the first mayor of the town where his vineyard is located, Lagoa Grande. He claims to have generated more than five thousand jobs directly during his time in the region (Sampaio, 2015). This suggests that there is at least some preoccupation with the welfare of local inhabitants. Jorge Garziera also created the “Vinhuvafest” in 1999, a wine festival which “attracted investors, creating roads, jobs, and placing Lagoa Grande on the map of Brazil and the world” (Sampaio 2015). Today, Lagoa Grande is considered the capital of wine grapes, one interview respondent told me.

An important and positive effect of the wine industry in this region is that it improves the regional image of Northeast Brazil, which is known for being the dirt-poor home of Brazil’s ex-slave population and also for marijuana cultivation, which has attracted stigma.<sup>15</sup> The wine industry is helping reverse these negative images while simultaneously adding a touch of sophistication. Considering all of these factors, it is not surprising that the local wine industry is viewed in a positive light. I argue that establishing positive reputations contributes to socioeconomic welfare.

As an added benefit, the wine industry has the potential to cultivate nationalism, since quality products of international appeal are something to be proud of. Aside from production and consumption, the wine industry also creates the opportunity for “wine tourism,” which has backward and forward linkages. Through wine production, value is added at so many different levels that go beyond simply the product itself. These are all reasons why I argue that wine production is a very effective way of adding value, and can be used as a tool for development in places like poverty stricken Northeast Brazil.

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<sup>15</sup> I learned this during my interviews.

## **Analysis & Recommendations**

Based on the information covered, my recommendation is for Brazil to invest in wine-focused tourism in the San Francisco Valley region, as opposed to expanding production for export. This is because as previously mentioned tourism has backward and forward linkages, in this case to the hospitality industry. Also, with unequal land ownership already an issue, this would maximize the effectiveness of land already being used for wine grapes instead of dedicating even more land to growing wine grapes. When you develop a tourism industry, you also develop a transportation industry, accommodations, and dining, for example. In addition, tourists are likely to buy more things in the region they are visiting, and this boosts the local economy. A ripple effect can be seen where more jobs are created in various sectors of the local economy. With the development of the local tourism industry, opportunities exist for expanding tourist networks to include more destinations, such as a “Brazilian Wine Route” or even a “South American Wine Route.”

As argued by Ian Taplin, cooperation and knowledge sharing are key factors of success for wine industries, which underlies competition and leads to improved quality. Currently, the vineyards of the San Francisco Valley cooperate with one another rather than compete against each other, and they note that this is a critical component to their success. This type of cooperation is likely to be just as important moving ahead, especially when paired with the tourism industry.

Thanks to the existence of multiple wine regions in Brazil, a large advantage they have is access to domestic sources of information that are culturally specific to Brazil as well as sensitive to rules and regulations already in place by the Brazilian government.

This could help new vineyards to get started and help existing vineyards develop further. Following my recommendations for tourism, another idea is to use wine tourism models already in place in the Serra Gaúcha region of south of the country to assist in the development of wine tourism in the Valley of San Francisco. As well, as discussed by Padilla-Zakour, help can be sought from the local universities to develop local tourism projects and other strategies for success for local the wine industry.

Speaking of tourism in the region, the coast of Northeast Brazil is already quite developed in its tourism sector, its main attractions being its beautiful beaches. This has led to the rapid development of cities such as Recife, Fortaleza, Joao Pessoa and Natal. While in the Recife airport there are brochures regarding wine tourism in the San Francisco Valley, upon arrival in the San Francisco Valley I found it quite challenging to locate the vineyards, find out their hours of operation or arrange a visit. Further, everything was in Portuguese, which limits which tourists can easily visit.<sup>16</sup> In sum, the average non-Brazilian and non-Portuguese speaking tourist would find it at least mildly challenging to visit the vineyards I visited, with the exception of the most widely-marketed vineyard in the region, Rio Sol (but even their website is solely in Portuguese). To have an idea, some of the vineyards are unable to be located using GPS or Google Maps. What also adds to the confusion is many of the vineyards go by multiple names, and some people know them by one name and not the other. This makes it difficult when asking for directions. More consistency and clarity is needed.

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<sup>16</sup> Considering that the two foreign-owned vineyards in the San Francisco Valley are also Portuguese-speaking (one from Portugal and one Brazilian and international) perhaps language also limits which countries invest in Brazil for value-added agricultural products, which can be seen as a benefit or a disadvantage.

At the present moment, the only way to visit all the vineyards in the region is to hire a private driver, which most likely speaks only Portuguese. I saw some Brazilian tourists visiting the vineyards in this way, but it is worth noting that I was the only non-Brazilian tourist. There is room for much improvement for wine tourism in this region, which could contribute greatly to local development. While there are some online articles explaining how to visit the vineyards in the region, once again they are all in Portuguese. Language accessibility needs to be expanded to begin to attract and accommodate international tourists.

I also recommend investing in locally sourced equipment which would boost local industry and provide even more jobs, as well as perhaps decreasing start-up costs for newcomers to the industry in the long-run by eliminating hefty shipping costs. If the region is able to produce quality equipment, this equipment could be sold to other developing wine regions and lead to an increase in GDP. Perhaps the wine machinery industry is less competitive than the wine industry with less competitors (I was unable to find out this information myself) and this could be a smart avenue for Brazilian industry to pursue. However, a solid reputation for Brazilian wines must first be established in order for people to have faith in their wine equipment. I argue that tourists are a key component to developing reputation for New World wines because they share their knowledge and experiences by word of mouth. This leads to establishing a reputation for these wines, especially with international tourists.

While foreign ownership and higher production levels lead to significant development of the business, as seen in Fazenda Ouro Verde (owned by Miolo) and Rio Sol (owned by a Portuguese group), this translates into less profits staying in the region,

because more players are involved in different countries. Additionally, as studied by Stefano Ponte, when big firms in the international wine business get involved, it can lead to a risky and unwanted amount of control over a developing wine business, such as those in Northeast Brazil (Ponte, 2009). In the Northeast of Brazil the biggest wineries also have the best visibility and marketing. While opening up to foreign markets can lead to significantly higher profits and higher visibility, it does not come without risk. As one interviewee mentioned, “When it comes from abroad, it doesn’t bring any benefits [to the region].” For this reason, I do not recommend that Northeast Brazil’s domestic oriented vineyards open up to exportation, although they also seem uninterested to do so. An advantage of this is that local ownership creates more of a “winescape,” so retaining local ownership could also be more favourable for wine tourism in the region.

If more vineyards come to the region, especially by foreign ownership, this will not help the problem of unequal land distribution, although it cannot be denied that agricultural industry has been one of the main factors that has led to the development of the San Francisco Valley. The website of Global Wines, which owns Rio Sol, claims that they take into account the sustainability and security of the whole process in their “Quality and Food Security” section of their website, so perhaps there is hope even with foreign ownership of vineyards. More research is needed to test the accuracy of this statement and other statements like these made by foreign companies of value-added agricultural products within Brazil.

A major challenge vineyards face is taxes imposed on them by the government, which surpass 50% of the value of a bottle of wine. Because of this, many Brazilian wines are more expensive than Chilean or Argentinian wines which enter the market

through the Mercosur agreement as “food compliments” and are thus taxed less. I advise Brazil to either reinvest its taxes more constructively to help local development of the San Francisco Valley and its vineyards, or to re-evaluate its current trade agreements which may be detrimental to their own domestic value-added industries. Underlying this recommendation is the need for a bigger reputation for Brazilian wines, which are presently outshined by their Chilean and Argentinian competitors.

### **Conclusions**

The last few decades have experienced a rise in the middle class in Brazil (and in the rest of Latin America) and an increase in wine consumption. As Senauer and Goetz claim, the middle class is the biggest market for value-added goods. This is favourable for wine industries in Latin America and specifically in Brazil, where there is a rapidly rising middle class. To conclude, I think that value-added production - specifically wine production - can add a lot to regional development and has the chance to increase GDP.

It is clear that the global market for alcohol is extremely large and growing, providing various market opportunities for those wishing to get involved. While it may not be easy to get involved in this market due to high capital required, it helps that people from abroad are investing in wine production in new wine-producing countries, and there is an increasing interest in “New World Wines,” as well as in wine tourism. Further, as Christine Larson suggests, one need not start an entire vineyard on one’s own to get involved in the wine industry, but can instead start with just one aspect of it. When the wine industry is paired with the tourism industry, this provides many avenues for people of different professional backgrounds to get involved.

Wine producers in the San Francisco Valley face some resource-specific challenges, such as the fact that their materials are not regionally sourced. They are, however, domestically sourced, but many people often forget how large Brazil is. A total of 3377 kilometers stands between Rio Grande do Sul in the south of Brazil to Petrolina, the city near the vineyards I visited. A local industry opportunity may exist for locally sourced wine equipment, which could provide even more jobs in the region as well as potentially be exported to other countries over time.

Another resource-specific challenge is water. For their water source, the region has an intricate irrigation system from the San Francisco River. Frequent drought caused by increasing effects of global warming could lead to problems down the road for this crucial water source. Therefore, agricultural industries such as the wine industry need to be efficient with their water use. Currently, many of the vineyards do utilize drip irrigation – a water efficient form of irrigation.

Regarding agricultural waste, all vineyards in the San Francisco Valley claim to compost the organic by-products produced during wine production and use it in fertilizers, thus reducing the need to purchase fertilizers. Further, an important benefit of value-added agricultural industries is the reduction of agricultural waste - in this case food waste – because the aesthetics of the agricultural inputs are not as important. This is a major advantage value-added agricultural industries have over raw agricultural industries, not to mention the fact that value-added agricultural products sell at higher prices than raw agricultural products.

Use of land for large agricultural endeavours such as growing wine grapes seems counterproductive to the existing problem of unequal land distribution, but it is noted that

multiple vineyards lease parcels of unused land to other planters, which is mutually beneficial for the vineyard owners as well as the planters. Also, at present the vineyards in the San Francisco Valley are able to have up to three harvests a year, which means a higher production potential in a smaller amount of space. Local opinions I received of the vineyards were all positive, further suggesting the positive impacts this industry has had.

The wine industry in the San Francisco Valley has provided many jobs in the region, and while the vineyards may employ less people, I learned that employees are paid higher than in other agricultural jobs in the region and they also seem to enjoy their work. This is certainly an indicator of socioeconomic welfare. Further, some vineyards are involved in social projects in their communities, and regional inhabitants now have the chance to pursue professional opportunities in enology close to home. More local opportunities brought by the wine industry have allowed people to stay in the region and has thus reduced rural to urban migration, as well as improved the formerly negative regional image of the Northeast.

Based on my research, I conclude that the wine industry in Northeast Brazil does promote local socioeconomic development and has the potential for greater contribution to Brazil's development. Future areas of research interest include the development potentials of the wine industry in Bolivia, which is the poorest country in South America and also produces wine, as well as other developing wine-producing countries and other value-added industries in developing countries, including value-added products produced from agricultural wastes. While the wine industry by no means offers a solution to the problem of unequal land ownership in Brazil (as in other Latin American countries) the

industry can: 1) be used constructively to cultivate more employment through various sectors when combined with the tourism industry, 2) attract investment in the region and 3) generate a sense of national and regional pride for its inhabitants.

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## **Appendix**

Portuguese information sheet for research participants in Brazil (see on next page).



**Projeto:**



## **Impacto Local Socioeconômico da Indústria de Vinho no Vale São Francisco, Brasil**

Você está sendo convidado(a) a participar, como voluntário, de uma pesquisa que tem o objetivo de entender a relação entre indústrias agrícolas de valores-adicionados (nesse caso, vinho) e prosperidade local. Procuro entender se o desenvolvimento de uma indústria de vinho no Vale do São Francisco tem melhorada a qualidade de vida dos moradores, e se essa indústria oferece melhor opções de emprego e negocio do que outras indústrias. Gostaria saber se a produção de vinho poderia ser um bom ferramenta de desenvolvimento positivo e sustentável.

Este estudo poderá ser um instrumento para o desenvolvimento das comunidades quais produzem vinho ou outros produtos de valores-adicionados. Durante a execução do projeto, se o sr. sra aceitar fazer parte dessa pesquisa, você responderá a uma entrevista, que duraria uma meia hora no máximo. Através de uma entrevista serão levantadas informações que ajudarão a entender a situação atual da indústria de vinho local e as perspectivas locais dessa indústria. Com essa informação, eu espero poder avaliar se essa indústria tenha afeitado positivamente a região e seus moradores, ou não, e se há chance dessa indústria trazer prosperidade de outras maneiras.

Durante a execução do projeto, riscos violação de sigilo e privacidade serão praticamente eliminados, evitando questões envolvendo informações hipersensíveis; respeitando as normas culturais das comunidades de interesse; evitando assuntos difíceis ou tabu. Os dados recolhidos serão confidenciais e protegidos de qualquer acesso de terceiros (não autorizado pelo entrevistado). Os dados serão compartilhados somente com o meu supervisor, Dr. Gavin Fridell, e, se necessário, o Conselho de Ética de Pesquisa da Universidade de Saint Mary no Canadá.

**Não há compensação financeira para este estudo.** Para algum questionamento, dúvida ou relato de algum acontecimento os pesquisadora poderá ser contatada a qualquer momento. **O sujeito não pagará nem receberá para participar do estudo;** será mantido a confidencialidade do sujeito e os dados serão utilizados só para fins acadêmicos; o sujeito poderá cancelar sua participação a qualquer momento.

Se você gostaria participar ou conhece alguém que tal vez interessa participar, entre em contato com a pesquisadora responsável, **Lydia Mazel,**

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