



Sustainable wine tourism and vineyards' environmental consciousness in Thailand

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Abstract

This study aimed to assess sustainable grape wine tourism industry practices and explore the environmental consciousness of the stakeholders in Thailand. As a newcomer to the wine industry and the wine tourism industry, Thailand is presently constrained to only a few working vineyards that generate grape wine for wine tourism and exportation, predominantly from Central Thailand. Hence, there has been very little research conducted in the area and there is insufficient knowledge of the environmental management of wine vineyard tourism in Thailand. A qualitative study was employed, using semi-structured face-to-face interviews with six of the nine Thai vineyard owners or managers, as well field observations by the researchers. This study identified several factors such as cost, lack of government support, lack of awareness by the vineyard owners and managers on the benefits of sustainable wine practices, as some of the variables that make it difficult for grape vineyards to practice sustainable wine tourism. These vital key issues can be addressed by the government and industrial stakeholders through innovative ideas and cooperation. In addition, government assistance can support the implementation of sustainable business practice and provide backing with the willingness for adoption of sustainable business practices in the wine tourism industry by offering various attractive subsidies including tax incentives to encourage the adoption of sustainable practices in the wine tourism industry in Thailand. This paper contributes to the limited research in Thailand and its findings provide useful information that can be used by the policy makers in addressing the economic and environmental concerns of stakeholders in the wine tourism industry of Thailand.

Keywords: Environmental management, environmental consciousness, sustainable vineyard tourism, wine tourism, oenology, viticulture, Thailand.

Introduction

Over the past decade, the attractiveness of the Kingdom of Thailand to foreign tourists has grown exponentially (Chomsri, Grossmann, Commins & Srisamatthakarn, 2012). This rise in popularity may be explained by a number of diverse reasons, the most important of which are Thailand's natural environment, its rich history, and unique national culture (Overton, Murray & Banks, 2012). It is commonly accepted that its appeal as a tourist hub is a key factor that



has contributed to the development of its emerging wine industry; indeed, there is something of a reciprocal relationship between these two areas of the economy (Commins, Asavasanti & Deloie, 2012). Nevertheless, the wine and vineyard tourism industry are still in a nascent stage and underdeveloped, compared to other Asian countries such as China and Japan (Jackson, 2008). However, nearly a dozen wineries have opened since the first one in 1995. Thailand's wine vineyards are still being discovered by oenophiles, aficionados and notwithstanding the connoisseurs of the world (Chong, 2017). As Thailand's vineyard industry is still in its embryonic stages (Commins et al. 2012), there is a dearth of peer-reviewed, empirical literature on the role of Thailand's vineyard industry with particular regard to its social and economic infrastructural development (Chomsri et al., 2012). Unlike the more popular destinations of Italy or France, tourists have not yet begun to associate the Kingdom of Thailand with wine tourism on a large scale (Commins et al., 2012) and the Tourism Authority of Thailand has only recently started promoting wine tourism. In addition, the lack of governmental support and the country's soil and climatic features can be viewed as barriers to the development of vineyards (Banks, Klinsrisuk, Dilokwanich & Stupples, 2013). These constraints have hindered the growth of the Thai sustainable wine tourism industry and currently the vineyards that generate wine for wine tourism and exportation are limited to just nine vineyards. Local growers produced approximately 450,000 tons of grapes in 2012 (Chungsiriwat et al., 2013). Unfortunately, no reliable recent data exist on the grapes and wine produced in Thailand. Although there are several large vineyards in the Kingdom of Thailand, smaller organizations form the overwhelming majority of all local wineries (Overton et al., 2012). In recent years, research has been conducted on the sustainable wine vineyard practices around the world (e.g., Zucca, Smith & Mitry, 2009; Cambourne, Macionis, Hall & Sharples, 2000; Alonso & Liu, 2012). Providing an argument in favour of sustainable vineyard practices, with finger pointing as to where the responsibility of development belongs, Gázquez-Abad, Huertas-García, Vázquez-Gómez and Casas Romeo (2015:106) say that "more education about sustainability, both for producers and tourists, should be paired with economic incentives to encourage greater sustainability".

The aim of this study is to investigate the impact of adapting a wine business culture that is centred on sustainability and environmental consciousness in Thailand. The paper focuses on Thailand as a new and still emerging wine producing and wine-charged tourism country. The findings of this study will hopefully provide a first step towards a roadmap for promoting sustainable business practice and environmental consciousness in the wine tourism industry in Thailand. Understanding the possibilities and hindrances of Thailand's vineyards and wine tourism enables one to develop suggestions in paving a way for a sustainable and productive future.

Literature Review

Vineyard tourism can be viewed as a prominent type of beverage tourism as discussed in the existing scholarly and empirical literature (Alonso & Liu, 2012). The most recent research into tourists' motivation to visit vineyards and other wine tourism sites discovered a wide range of elements and activities, which attract tourists to a certain destination. These activities include tasting wine, consuming wine, purchasing wine and learning about wine (Poitras & Donald, 2006; Jayawardena, Patterson, Choi & Brain, 2008). In turn, it is commonly accepted that wine-related factors, which include socializing, relaxation, having a day out in the relaxing country side and being entertained by vineyard activities, also draw visitors to a certain destination (Getz & Brown, 2006).

Wine, food, tourism and the arts collectively comprise the core elements of the wine tourism product and provide the lifestyle package that wine tourists aspire to, and seek to experience (Carlsen, 2004). Despite the fact that the majority of motivation studies related to culinary and

beverage tourism are aimed at food and wine, little attention has been given to the context of sustainable wine production and environmental consciousness in Thailand (Chomsri et al., 2012).

History of the vineyard industry in Thailand

Vitis vinifera were first introduced to the Kingdom of Thailand in the 17th century as a gift to King Narai (King of Ayutthaya Kingdom), from the people of France and its monarch (Chomsri et al., 2012). However, it was only in the latter half of the 20th century that the Thai wine industry started to develop with the first operations in this sector of economy dating back to 1995 (Chungsiriwat et al., 2013). Grapes were grown along the highlands of Phurua, which were then distributed to commercial markets in Japan and Europe. As the wine industry progresses, there are two major distinct wine industry regions in Thailand, Chao Phraya and Khao Yai. The sustainability of their products involves the satisfying services for the specific needs and interests of the clients. Their promotions not only focus on the wineries production but also on promoting culture through side trips to Buddhist temples, Khao Yai National Park, elephant rides, jungle safaris; while enjoying local cuisine for breakfast, lunch and dinner enhancing opportunities for locals to be trained as guides in which they can earn a living, thus promoting livelihoods and reducing unemployment.

The majority of commercial vineyards in Thailand were established around the same time – the 1990s (Hall, Sharples, Cambourne & Macionis, 2009). Thailand's nine commercial vineyards are located across the country; several areas, include: Loei, Phichit, Chiang Rai, Kha Yai, Hua Hin and Pattaya (see Figure 1). The scale of vineyard businesses in this industry ranges from private entrepreneurs' small-scale operations to large organizations' wine exports (Anderson & Wittwer, 2013). The natural environments for wine production differ across the sites due to the differences in elevation above sea level. Rainfall also varies between sites and influences mist and moisture levels (Chomsri et al., 2012). Most of Thailand's vineyard locations were chosen due to their elevation and humidity, meaning that considerable research had been put into their selection. Other locations were less well-planned and researched, which could threaten their ability to achieve high sustainability in a long-term perspective because of *Vitis vinifera* limited suitability to Thai climate (Banks et al., 2013).

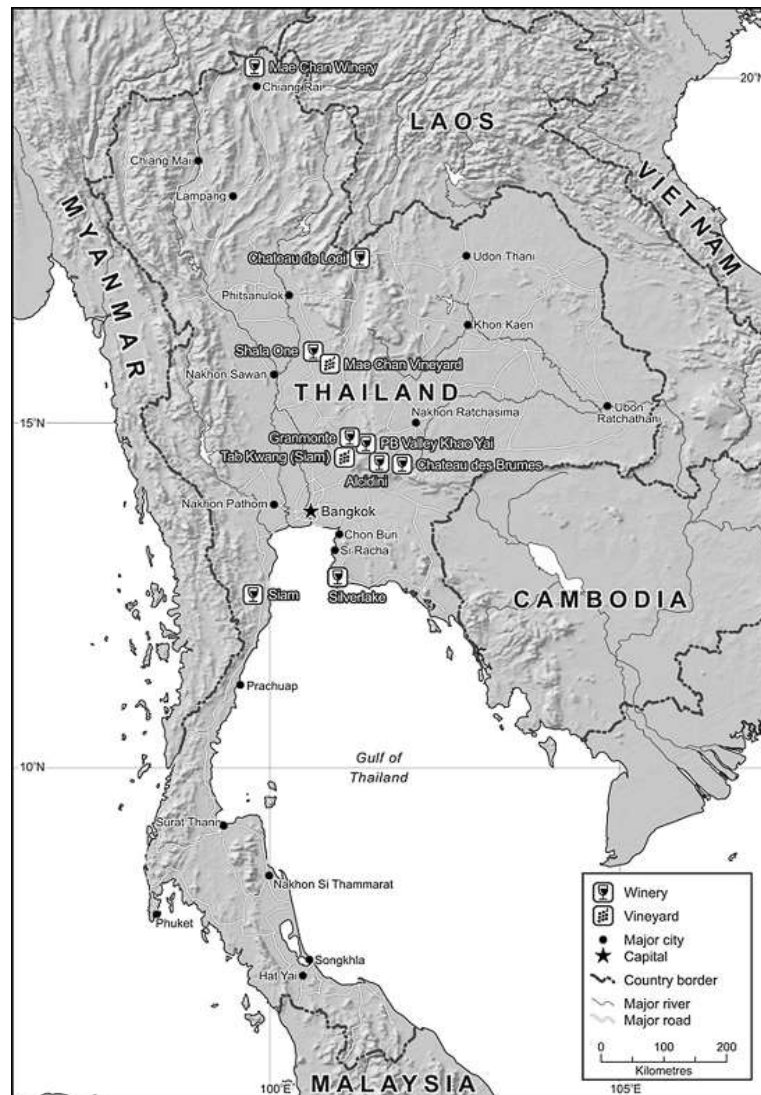


Image 1. Hua Hin Hills Vineyard

"A visit to the Hua Hin Hills Vineyard affords you the luxury of basking in the costal sunshine where you will learn more about viticulture and oenology while admiring the plush 200 rai Vineyard."

Source:http://www.winetourthailand.com/thai_wine_winery_tours/hua_hin_hills_wine_tours/hua_hin_hills_winery_tour_bk24.html

Figure 1. The Locations of Thailand's Wine Vineyards



Source <http://www.thaiwineassociation.com/>

Thai winemaking expertise in the Kingdom of Thailand is developing since more and more winemakers are being trained by French, Italian, German and Australian winemakers (Aizenman & Brooks, 2008). In accordance with Overton et al. (2012), Thai wine producers, who have received training under foreign winemakers are able to effectively manage the vineyards and wine production themselves. In addition, Thai wine producers are now actively contributing to regional and global expertise in wine production (Overton et al., 2012). However, despite the globalization of the wine industry and its growth in Thailand, there are still issues and challenges that hamper its development (Chomsri et al., 2012). As such, these issues do not allow local communities to further develop their economic and social infrastructure.

In accordance with Lee (2009), the recent growth in wine consumption in Thailand and other Asian countries can be viewed as a symbol of globalization. The researcher also emphasized that the alcoholic beverage industry is among the fastest globalizing industries in the world (Lee, 2009). There are two possible explanations for this rapid growth. First, Asian consumers have recently started to perceive that wine is a healthy alcoholic beverage, believing it does little harm to people's health, some research states it reduces heart disease when consumed



in moderate amounts, such as one glass per day (Chungsiriwat et al., 2013). Second, it is commonly accepted that Asian nations tend to imitate Western lifestyles (Friberg et al., 2011). Western countries such as the United States, France and Germany are well known for their high wine consumption. Thus, by consuming wine products, Thai consumers perceive themselves to be more 'Westernized' (Lereboullet, Beltrando & Bardsley, 2013; Corsi, Marinelli & Sottini, 2013). There is solid evidence that a wine culture is developing and growing in Thailand.

Environmentally sustainable vineyard tourism

Sustainability relates to all aspects of life. In a communal setting it is understood and accepted that there are certain functions that the environment provides to sustain life. Sustainability assumes that human needs must be met indefinitely without jeopardising organisms within the environment (van der Bank and van der Bank, 2019). One must also safeguard and control the community while maintaining the environment that sustains it.

Vineyards are usually characterized by high levels of environmental sustainability, since the process of wine production is not associated with high levels of harmful emissions (Banks et al., 2013; Park, Reisinger & Kang, 2008). Nevertheless, the sustainability characteristics of the vineyard industry are not limited to environmental issues. As argued by Chungsiriwat et al. (2013), the concept of organizational sustainability covers three key areas, namely environmental, economic and social sustainability. Just like other industries, the vineyard industry has to comply not only with governmental policies and regulations, but also with social objectives (Chomsri et al., 2012). From this perspective, the development of local communities and the vineyard industry are closely related to each other. They pursue the stakeholder approach by ensuring that the interests of all stakeholders in the industry are met through the use of collaborative networks. These collaborative networks are important in wine tourism as they ensure that it is sustainable by being conscious of the related environmental concerns.

The concept of sustainable development together with the marketing philosophies are at present used in different aspects, granting that it necessitates specific types of tourism and related niche functions like wine tourism. Studies are now more inclined into exploring impacts of the wine industry and its sustainability. Wine tourism is characterized in terms of activities with a purpose. As a case in point, visiting vineyards and wine growers, wine feast and shows that include wine tasting and social events are subjected to the features of a specific grape wine regions (Hall & Macionis, 1998; Poitras & Donald, 2006).

Sustainable vineyard tourism was defined by Getz (2000) as a combination of three well-thought-out perspectives: Consumers (travel and holiday behaviour); Wine vineyard (a distribution or sales instrument); The location in an area in which a plan of developing tourism is linked to the charm of wine, and in producing sustainable wine. Starting with the soil's productiveness, the effluences of water, and the possible use of pesticides, which could hamper the possibility of the loss of soil, and most importantly, the actual palatability of the produced wine. As such, environmentally sustainable tourism is becoming more popular with tourists all around the world (Bruwer & Alant, 2009).

The conservation aspect in a wine region refers to the product development task that deals with the teamwork initiatives and concrete planning of different entities. Specifically, those with unique resources, which include land and water, capital investments, manpower and the infrastructure that is needed to support grape production and wine the making industry. A certain type of wine development that covers activities or events for promoting wineries, themed centres, museums, villages and tour packages for a specific wine destination. These particular impacts caused by the wine tourism industry include inter alia, issues such as



congestion of traffic on roads, improvement of facilities and services offered in line with agricultural areas using up to date methods and cost-efficient patterns (Williams & Dossa, 2003).

The issue of cost is examined by Pomarici, Vecchio and Mariani (2015). They found that for wineries in California the overall economic benefits, resulting from the sustainable practices introduced by the certification scheme, outweighed the additional costs. In particular, older wineries were keener to assign a positive economic viability to sustainable practices. Furthermore, sustainable vineyard practices are highly rated by respondents in that study in terms of both perceived environmental and economic benefits. Wine tourism is found to have a role in advancing environmental sustainability, although there may not be a direct connection between tourism and the decision to engage in proactive environmental management (Leddy (2013). Wineries see positive effects from communicating their environmental sustainability to visitors in terms of building brand equity and creating what should become memorable visitor experiences. As a spillover effect, these positive effects may encourage other wineries to adopt environmentally friendly management strategies. Using wine tourism to educate visitors on the importance of environmental sustainability can also then serve to help build demand for sustainably produced wines (Leddy,2013).

Methodology

The main aim of this study was to identify the extent to which the Kingdom of Thailand can develop a sustainable wine tourism industry and environmentally conscious producers and consumers. Initially, all the nine major Thai commercial vineyards were contacted by sending them a letter and email with a request for an interview. The contact letter/email contained a brief explanation of the topic of the research, a standard definition of 'sustainable vineyard tourism' and the topics of the interview. Of the nine vineyards, six agreed to an interview. Four of them are located in Central Thailand (Khao Yai area), one in Southeast Thailand and one in the Southwest. Qualitative data were gathered by the use of semi-structured interviews with open-ended questions. Ethical considerations were observed throughout the study, and respondents remained anonymous throughout and were free to withdraw from the study at any time they saw fit to do so.

Semi-structured interviews were chosen because they allowed the respondents to present their perceptions beyond the questions captured in the interview. The questions were based on ideas by Carlsen (2004), Getz and Brown (2006), Leddy (2013) and Pomarici, Vecchio and Mariani (2015). The participants were interviewed via face-to-face interviews by the same interviewer, with each interview lasting between two and three hours. In the beginning of each interview, the interviewer made sure that respondents were aware of the standard features of sustainable vineyard tourism, to ensure that they had a good understanding of the topic at hand. In the days after the interviews, some of the respondents were contacted via Facebook or email for some clarifying questions to be answered. The gathered data were then analysed using content analysis, in order to identify major issues, attitudes and intentions regarding the introduction of sustainable environmental methods in the vineyards.

Results

The findings from the interviews on the importance of adopting sustainable vineyards indicate that most of the vineyards are averse to changes. Of the six vineyards that took part in this research study, four have not adopted sustainable vineyard practices overall and they are apparently comfortable maintaining their status quo. The overall main reason for not adopting sustainable wine practices is the cost, which they indicated is too high to maintain. Among the costs that are considered high are those of vineyard sustainable management and the initial



alternative energy layout. As an illustration, two vineyards said that sustainable practices are more labour-intensive than chemical and or mechanical agriculture. A respondent stated that it is not easy to maintain soil fertility by simply rotating the crops on limited available land, it should be chemically “enhanced” in order to provide a maximum number of crops. In addition, essentially, they do not perceive the economic benefits of sustainable practices as being more than the associated costs. They do not perceive sustainability as a way of generating new revenues. Instead they regard it as an additional expenditure that will reduce the level of their revenues. Respondents from two vineyards stated that income that is generated from sustainable farming is limiting because the land has to be used sparingly. In addition to this, one of the respondents stated that they do not regard sustainability as a method of strengthening their brand image or attaining an advantage over their competitors. The implication of these findings is that the vineyards are reluctant to adopt sustainable practices and are less convinced that they will derive economic benefits that could provide higher revenues and enhanced fame.

Five of the six vineyards are also concerned about the need to maintain the unique taste of their wines, and as such, are not willing to change, given that this would require them to alter such tastes, which may lead to a loss of their current customers. The respondents from two vineyards said that they have a unique taste in their wine, and that their customers like it and it is their desire to maintain what they perceive as a consistent and superior quality wine. Notably, one vineyard imports grape from Australia for wine production and sales in Thailand.

A respondent from a vineyard that practices a sustainable vineyard system asserts that their desire is to be as sustainable as possible to ensure that there is continuity and a sustainable future for Thailand in general. They are aware of the benefits that are associated with sustainable practices, especially with regards to the environment. They have adopted sustainable methods of managing disease, controlling pests, managing water and weeds. The vineyard considers recycling as one of the most effective ways of providing a future beneficial and reliable environment. In addition, the benefits of recycling are higher than the economic costs of the recycling process and as such, it is one of the first sustainable practices to be adopted by the vineyard. Therefore, the vineyards that started out using sustainable and environmentally friendly practices are likely to continue on that path, as the owners seem content with things the way they are. The findings make it clear that the vineyards make their decisions based on the perceived benefits and costs affecting their vineyard businesses. The vineyards that perceive sustainable practices as a source of attaining competitive advantage and strengthening their brand image have adopted them, while those that perceive it as an unnecessary additional expense, have chosen to uphold their unsustainable practices position.

Discussion

Sustainability is an important aspect for the policy makers, as they want more firms to adopt sustainable business practices. However, there is need to balance the social and environmental benefits with the overall profitability of the business enterprises in order to persuade more firms to adopt sustainable practices. From the findings of this research study, it is clear that the high implementation expenses are the main factors why vineyard businesses are reluctant to adopt sustainable business practices. The use of alternative energy to sustain the operation of the vineyards remains limited among the sampled vineyards. A possible motivation for this is the low cost of fossil fuels, which is more economical for the vineyards than the use of green energy technology such as solar panels, which only become cheaper in the long run. The government and the policy makers could make green energy more affordable, and additionally, encourage the vineyards to start using self-produced energy sources for their farms.



Lack of governmental support for the vineyard industry was identified by Cross, Plantinga and Stavins (2011) as an important factor that inhibits its growth. The situation in Thailand can be contrasted with that of another new wine producer, the Republic of India. Contrary to Thailand, as an example the Indian government is very supportive of the wine industry, which is still at the introduction stage of its life cycle (Getz & Brown, 2006). For instance, the Indian government helps to establish viticulture research centres all around the country in order to facilitate the development of the emergent wine industry (Dodd & Beverland, 2001).

Security of tenure and taxes are also among the most considerable challenges to the Thai wine industry. As the findings show, the less environmentally-aware vineyards refer to “cost” as the most hindering obstacle, followed by the quality of products produced. There is a need for the government to provide more support to the wine industry in order to persuade the vineyard owners to adopt sustainable practices. In the findings, none of the vineyards really resists the idea of sustainable practices, but they cite the different obstacles that make it difficult for them to change these practices. As it stands, the majority of the stakeholders in the wine industry perceive the costs of sustainable wine practices as being higher than the associated economic benefits. This is what has led to the low rates of sustainable wine practices among the vineyards in general.

As vineyard tourism increasingly gains momentum as a source of revenue, van der Bank and van der Bank (2017) state that it is important that countries have a comprehensive, clear and effective public policy that can suitably inform its activities relative to the sustainable development of tourism. In order to assist in facilitating this outcome the government can help the wine industry by addressing concerns through policy change, tax incentives and subsidies to ensure that the vineyard owners see the importance of adopting such sustainable practices.

In agreement with Commins et al. (2012), vineyards would benefit by an offering of tax incentives or a rebate stimulus for the practicing of sustainable vineyard farming. Providing these tax measures were implemented, the vineyard would be able to offer wine products at an affordable price to Thai consumers in order to continue to cultivate and create a wine consumption culture, which would in turn also stimulate the tourist curiosity and consumption. However, this objective cannot be achieved under the current Thai government tax regime. The current tax has increased the cost of production, thereby, leading to higher prices. Paradoxically, these difficulties have contributed to the growth of the wine tourism industry, since they have encouraged local wine producers to develop wine tourism ventures as an additional source of income. In addition, today around 10% of the population consumes wine products on a regular basis, which also proves that the Thai vineyard industry is growing, albeit from a low level (Assanangkornchai, Sam-Angsri, Rerngpongpan & Lertnakorn, 2010). Nevertheless, the Thai vineyard industry is still at its emergent stage, making it ‘invisible’ to the potential domestic and international wine lovers who tend to travel abroad to vineyards in inter alia, South Africa, France, Italy, New Zealand, Australia and the United States.

Furthermore, some of the Thai wineries recognize the importance of maintaining the quality of their wines and the health of their vines. However, these wineries have different concerns that vary depending on their location, size and their production processes. Some vineyards are located in areas with poor infrastructural support and this makes it difficult for vineyards to produce and distribute their products effectively and efficiently. Therefore, any new tax policy measures could incorporate the sustainability farming practices while educating and incorporating the locals in initiatives in order to be more effective. This could be the decisive stimulus to motivate more vineyards to join sustainability structures. These principles could be clearly expressed to the vineyards because currently, most of the vineyards are not even aware of the principles of sustainable practices. It is this lack of awareness on the economic and technical aspects of the sustainability process that is making it hard for the vineyards to



adopt sustainable practices. A better comprehension of the specific sustainable practices and their economic costs and benefits will persuade more vineyards to adopt sustainable practices.

In 2016, Thailand was visited by 32.58 million tourists representing a 9% rise. It was forecasted to rise in 2017, which it did, to 35.38 million tourists, the equivalent to half of the country's population with a revenue exceeding the prediction of \$49.8 billion. The government anticipates a steady and continued growth (Thakral & Sriring, 2018; Temphairajana, 2017). There has been no relative statistical informational gathering of wine tourists visiting Thailand. The exceptional high number of tourists in the country has led to the exploitation of Thailand's natural resources and as a result, this has put an enormous pressure on the environment (Davis & Morais, 2004). Sakellari (2014) arrives at the conclusion that activities such as camping and trekking, which are usually undertaken in rural areas, contribute to environmental pollution. Banks et al. (2013) are also convinced that tourist hotels could spoil much of the local scenery. Poor management identified by Ajagunna and Crick (2014) as having negative impacts on rural areas is also a concern.

The lack of effective environmental management could result in Thai villages being overrun by foreign tourists with different values. As a result of these actions, local culture could be disrupted. This statement of findings correlates closely with those produced by Ogaboh Agba, Ikoh, Basse and Ushie (2010) according to whom, local community members' culture is extremely vulnerable to foreign tourists' cultures. Although Commins et al. (2012) discovered the major obstacles facing the future development of the vineyard industry in Thailand, the researchers failed to identify specific issues and advantages for the development of the local communities. It would be interesting to examine the extent, to which the growth of vineyard tourism contributes to higher employment rates, increased income and more developed infrastructure (Climent-López, Sánchez-Hernández, Canto-Fresno, Alonso-Santos, Ramírez-García, Rodero-González, & Ruiz-Budría, 2014).

There is a need for continued government education on the local levels in the communities and villages on the need of being far more environmentally conscious and consuming a variety of products produced from the vine. Displaying vineyard products that have fewer negative impacts on the environment is critical. As people become more environmentally conscious, they are likely to prefer vineyard products made from vineyards that engage in sustainable practices. Wittwer, Berger & Anderson (2003) have shown that wine tourists can serve as a good motivation for local managers to improve their practices and make their vineyards more sustainable and customer-oriented.

The findings of this study have shown that the level of environmental awareness among the consumers in Thailand still remains low, as the producers face very little environmental queries from the consumers compared to the developed economies. Increased interest in wine that is produced using methods that are environment friendly will influence the vineyard producers' approaches towards embracing the use of sustainable wine practices. This can be done by using certification and labelling systems that show the consumers the wines that have been produced using sustainable practices such as water and energy conservation, avoiding the use of synthetic pesticides or additives, and use of renewable resources. According to Voltes-Dorta, Jimenez and Suarez-Aleman (2014), sustainable tourism industries must also meet social and economic objectives. Bearing in mind this statement, it is relevant to assume that community development and tourism development are interrelated concepts.

Conclusion

Sustainable tourism is the forward way of thinking and farm managing for any economy, including that of Thailand. Sustainable development must embrace the needs of all people



both locals and tourists, thus building upon a genuine understanding of the concerns and values. Depriving the environment of a healthy lifecycle, will diminish a prosperous future. This study identified factors such as cost, lack of government support, lack of awareness on the benefits of sustainable wine practice, as some of the variables that make it difficult for vineyards to practice sustainable wine tourism. The findings were based on interviews with managers and owners of several major Thai vineyards. Future studies can adopt a quantitative approach and they could collect data from tourists visiting the vineyards. This will help avoid the bias of this study having the vineyard owners assessing their own sustainability measures.

The issues identified in this research can be addressed by the government and industrial stakeholders through innovative ideas and cooperation. The government needs to provide strong support and a willingness for the adoption of sustainable business practice in the wine tourism industry by offering attractive subsidies and tax incentives to encourage adoption of sustainable practices in the wine tourism industry in Thailand. The findings of this study provide useful data that can be used by the policy makers in addressing the concerns of stakeholders in the wine tourism industry.

References

- Aizenman, J. & Brooks, E. (2008). Globalization and taste convergence: the cases of wine and beer. *Review of International Economics*, 16(2), 217-233.
- Ajagunna, I. & Crick, A. P. (2014). Managing interactions in the tourism industry—A strategic tool for success: Perspectives on Jamaica tourism industry. *Worldwide Hospitality and Tourism Themes*, 6(2), 179-190.
- Alonso, A. D. & Liu, Y. (2012). Old wine region, new concept and sustainable development: winery entrepreneurs' perceived benefits from wine tourism on Spain's Canary Islands. *Journal of Sustainable Tourism*, 20(7), 991-1009.
- Anderson, K. & Wittwer, G. (2013). Modeling global wine markets to 2018: Exchange rates, taste changes, and China's import growth. *Journal of Wine Economics*, 8(2), 131-158.
- Assanangkornchai, S., Sam-Angsri, N., Rerngpongpan, S. & Lertnakorn, A. (2010). Patterns of alcohol consumption in the Thai population: results of the National Household Survey of 2007. *Alcohol & Alcoholism*, 45(3), 278-285.
- Banks, G., Klinsrisuk, R., Dilokwanich, S. & Stupples, P. (2013). Wines without Latitude: Global and local forces and the geography of the Thai wine industry. *EchoGéo*, (23).
- Bruwer, J. & Alant, K. (2009). The hedonic nature of wine tourism consumption: an experiential view. *International Journal of Wine Business Research*, 21(3), 235-257.
- Cambourne, B., Macionis, N., Hall, C. M. & Sharples, L. (2000). The future of wine tourism. *Wine tourism around the world: Development, management and markets*, 297-320.
- Carlsen, P. J. (2004). A review of global wine tourism research. *Journal of wine research*, 15(1), 5-13.
- Chomsri, N., Grossmann, M., Commins, T. & Srisamatthakarn, P. (2012). Research and development plan for fruit wine production in Thailand using Makiang as a case study. *Asian Journal of Food and Agro-Industry*, 5(01), 39-44.



- Chong, K. L. (2017). Thailand wine tourism: a dream or a reality? *Asia Pacific Journal of Tourism Research*, 22(6), 604-614.
- Chungsiriwat, G., Grossman, N. & Pichitmarn, P. (2013). *Thailand at Random*. Didier Millet.
- Climent-López, E., Sánchez-Hernández, J. L., Canto-Fresno, C. D., Alonso-Santos, J. L., Ramírez-García, S., Rodero-González, V. & Ruiz-Budría, E. (2014). Measuring quality conventions in the food industry: Applications to the wine sector in Spain. *Geoforum*, 56, 148-160.
- Commins, T., Asavasanti, S. & Deloire, A. (2012). What is tropical wine and what defines it? Thailand as a case study. *Asian Journal of Food and Agro-Industry*, 5(2), 79-95.
- Corsi, A. M., Marinelli, N. & Alampi Sottini, V. (2013). Italian wines and Asia: policy scenarios and competitive dynamics. *British Food Journal*, 115(3), 342-364.
- Cross, R., Plantinga, A. J. & Stavins, R. N. (2011). The value of terroir: Hedonic estimation of vineyard sale prices. *Journal of Wine Economics*, 6(1), 1-14.
- Davis, J. S. & Morais, D. B. (2004). Factions and enclaves: Small towns and socially unsustainable tourism development. *Journal of Travel Research*, 43(1), 3-10.
- Dodd, T. & Beverland, M. (2001). Winery tourism life-cycle development: a proposed model. *Tourism recreation research*, 26(2), 11-21.
- Friberg, R., Paterson, R. W. & Richardson, A. D. (2011). Why is there a home bias? A case study of Wine. *Journal of Wine Economics*, 6(1), 37-66.
- Gázquez-Abad, J. C., Huertas-García, R., Vázquez-Gómez, M. D. & Casas Romeo, A. (2015). Drivers of sustainability strategies in Spain's Wine Tourism Industry. *Cornell Hospitality Quarterly*, 56(1), 106-117.
- Getz, D. (2000). *Explore wine tourism: management, development & destinations*. Cognizant Communication Corporation.
- Getz, D. & Brown, G. (2006). Critical success factors for wine tourism regions: a demand analysis. *Tourism management*, 27(1), 146-158.
- Hall, C. M. & Macionis, N. (1998). Wine tourism in Australia and New Zealand. In: R.W. Butler, C.M. Hall and J.M. Jenkins (eds) *Tourism and Recreation in Rural Areas*, Sydney: John Wiley and Sons, 267-298.
- Hall, C. M., Sharples, L., Cambourne, B. & Macionis, N. (2009). *Wine tourism around the world*. Routledge.
- Jackson, R. S. (2008). *Wine science: principles and applications*. Academic press.
- Jayawardena, C., Patterson, D. J., Choi, C. & Brain, R. (2008). Sustainable tourism development in Niagara: Discussions, theories, projects and insights. *International Journal of Contemporary Hospitality Management*, 20(3), 258-277.
- Leddy, M. A. (2013). Investigating the relationship between wine tourism and proactive Environmental Management at wineries.



- Lee, K. (2009). Is a glass of Merlot the symbol of globalization? An examination of the impacts of globalization on wine consumption in Asia. *International Journal of Wine Business Research*, 21(3), 258-266.
- Lereboullet, A. L., Beltrando, G. & Bardsley, D. K. (2013). Socio-ecological adaptation to climate change: A comparative case study from the Mediterranean wine industry in France and Australia. *Agriculture, ecosystems & environment*, 164, 273-285.
- Ogaboh Agba, A. M., Ikoh, M. U., Basse, A. O. & Ushie, E. M. (2010). Tourism industry impact on Efik's culture, Nigeria. *International Journal of Culture, Tourism and Hospitality Research*, 4(4), 355-365.
- Overton, J., Murray, W. E. & Banks, G. (2012). The race to the bottom of the glass? Wine, geography, and globalization. *Globalizations*, 9(2), 273-287.
- Park, K. S., Reisinger, Y. & Kang, H. J. (2008). Visitors' motivation for attending the South Beach wine and food festival, Miami Beach, Florida. *Journal of Travel & Tourism Marketing*, 25(2), 161-181.
- Poitras, L. & Donald, G. (2006). Sustainable wine tourism: The host community perspective. *Journal of Sustainable Tourism*, 14(5), 425-448.
- Pomarici, E., Vecchio, R. & Mariani, A. (2015). Wineries' perception of sustainability costs and benefits: An exploratory study in California. *Sustainability*, 7(12), 16164-16174.
- Sakellari, M. (2014). Film tourism and ecotourism: Mutually Exclusive or Compatible? *International Journal of Culture, Tourism and Hospitality Research*, 8(2), 194-202.
- Thakral, S. & Sriring, O. (2018). 'Thailand plans for even more tourists as numbers top 35 million'. *Reuters*, 16 January, World news Business.
- Temphairojana, P., (2017). 'Thailand Expects Tourism Revenue of Nearly \$50 Billion in 2017'. *Reuters*, 9 January Lifestyle 1.
- van der Bank, M. & van der Bank, C. M. (2017). South Africa: The need for a legal and sustainable Tourism Policy. *African Journal of Hospitality, Tourism and Leisure*, 6(2).
- van der Bank, M. & van der Bank, C. M. (2019). Rethinking our relationship to the natural environment through legally compliant sustainable tourism. *African Journal of Hospitality, Tourism and Leisure*, 8(2).
- Voltes-Dorta, A., Jiménez, J. L. & Suárez-Alemán, A. (2014). An initial investigation into the impact of tourism on local budgets: A comparative analysis of Spanish municipalities. *Tourism Management*, 45, 124-133.
- Williams, P. W. & Dossa, K. B. (2003). Non-resident wine tourist markets: Implications for British Columbia's emerging wine tourism industry. *Journal of Travel & Tourism Marketing*, 14(3-4), 1-34.
- Wittwer, G., Berger, N. & Anderson, K. (2003). A model of the world's wine markets. *Economic Modelling*, 20(3), 487-506.



Zucca, G., Smith, D. E. & Mitry, D. J. (2009). Sustainable Viticulture And Winery Practices In California: What Is It, And Do Customers Care? *International Journal of Wine Research*, 1, 189-194.