# Sustainability: A tale of two New Zealand wineries

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***Abstract:***

*Purpose*: This paper examines and compares how the sustainability concept is defined and practiced in two small, representative New Zealand wineries.

*Design/methodology/approach*: This study employed a grounded field research methodology to collect qualitative data from the owners of two wineries.

*Findings*: The findings show that the wineries are similar in terms of how they define sustainability but there are clear differences in how they have chosen to implement sustainability. These differences are particularly apparent with regard to their use of environmental management systems; one winery follows organic and biodynamic practices and the other bases their actions on the science of ecology.

*Practical implications*: Although sustainability is practiced in different ways, the two wineries demonstrate that the concept is in reality both an ideology and a set of practices. This paper provides support for earlier research that has suggested there is no single set of sustainable practices that are best for every producer in every situation; the implementation of sustainable practices is determined by each individual wine business and depends on the nature of their unique environment. There is no definitive evidence that one set of practices is any more or less sustainable than any other set of practices.

Keywords: Sustainability, wine, definition, practices

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## 1. INTRODUCTION

There are two major issues associated with sustainability: the lack of a single, standard definition for the concept and the disparate practices that are implemented by businesses under the guise of sustainability. These issues exist across all sectors, including the wine industry, and they affect the trust that consumers place in sustainability claims on products. This paper provides a comparison of two 'sustainable' New Zealand wineries. In terms of sustainability, one winery has adopted an approach based on the owners' personal convictions and emotions about organic and biodynamic production methods. This is a small, family owned company based in Marlborough, New Zealand's largest wine region. The other winery has approached sustainability based on their knowledge of the science of ecology. This winery is also a small, family owned company and is located in Hawkes Bay.

## 2. LITERATURE REVIEW

Although sustainability has been around for several decades, the forming of a single, clear definition for the concept is continuing to prove a challenge. Owens (2003) stated that there is no single, meaningful definition of sustainability and a number of other authors have variously described the concept as vague, woolly, toothless, or all-encompassing (e.g. Aras and Crowther, 2009; Hrivnak, 2007; Jabareen, 2008). The most often cited definition comes from the Brundtland Report and refers to sustainable development as that "which meets the needs of the present without compromising the ability of future generations to meet their own needs"(WCED, 1987, p. 1). This was followed by the introduction of the term 'triple bottom line' by Elkington (1997) to suggest that sustainability contains environmental, economic and social dimensions.

This lack of a firm foundation for the concept is all the more surprising given the deluge of sustainability literature in academia since the 1980s (Toman and Pezzey, 2002). Whilst the business community initially rejected sustainability as being detrimental to the pursuit of economic profitability, it is now increasingly incorporated into business models and annual reports. This is evidenced by the growing membership of companies in the Dow Jones Sustainability Index (Dow Jones, 2014). Just as the concept is now widely accepted as important to academics and businesses, so too is it an increasingly important one to consumers. In particular, consumers are concerned by ethical, environmental and health issues they associate with conventional agriculture (e.g. Brugarolas et al., 2005; Vermeir and Verbeke, 2006). These concerns have led to an increased demand for 'green' or 'environmentally friendly' products (D'Souza et al., 2006; Williams, 1992). However, it is argued that consumers are (a) confused by environmentally sustainable labels, (b) sceptical of 'green' claims, and (c) unable to process complicated agricultural information (e.g. Bhaskaran et al., 2006; Vermeir and Verbeke, 2006; Warner, 2007). The lack of a single definition for the concept of sustainability almost certainly contributes to consumer confusion and scepticism of sustainable product claims.

Sustainable agriculture is a related and equally popular term. As with the concept of sustainability, however, it has been noted that the literature offers numerous definitions for sustainable agriculture (Fretz et al., 1993). Schaller (1993) suggested that sustainable agriculture is a code word for environmentally sound, productive, economically viable, and socially desirable agriculture. Keeney (1990) suggested that most definitions of sustainable agriculture include themes such as maintenance of natural systems, adequate economic returns, optimal production with lowered inputs, and the provision of the social needs of farmers and wider society. Hansen (1996) reported that sustainable agriculture can be viewed either as an ideology or as a set of strategies. In other words, some see it as a philosophy or system of farming that integrates responsible land stewardship with farming, whilst others see it as a range of strategies, practices and technologies that are used to reduce the issues associated with agriculture. These issues include: (a) contamination of water, (b) hazards to humans and animals from agri-chemicals, (c) loss of biodiversity, (d) destruction of habitats, (e) increased resistance to agri-chemicals, (f) soil degradation or loss, (g) food safety and quality concerns, and (h) depletion of non-renewable resources (e.g. Fretz et a., 1993; Hansen, 1996; Ikerd, 1993; Schaller, 1993). Despite the increasing focus in the marketplace on issues arising from conventional agriculture, there remains no single, widely accepted definition or set of optimal practices relating to sustainable agriculture.

Gips (1988) proposed that sustainable agriculture is an umbrella term and one that encompasses several ideological approaches to agriculture, including organic, biological, ecological, low-input, biodynamic and regenerative farming, thus suggesting that the term relates to a documented set of practices for producers to adopt. These sets of practices are often focused on environmental sustainability and are generally referred to as Environmental Management Systems (EMSs). A number of formal EMSs have been developed at a national or regional level in the global wine industry. For instance, the Californian wine industry developed a Code of Sustainable Winegrowing in 2002 (Warner, 2007) and the South African wine industry has a voluntary EMS entitled the Integrated Production of Wine scheme (Renton et al., 2002). Sustainability is also an important concept to the New Zealand wine industry. The national industry body, New Zealand Winegrowers, define sustainability as "delivering excellent wine to consumers in a way that enables the natural environment, the businesses and the communities involved, to thrive" (nzwine.com/sustainability). New Zealand Winegrowers introduced their Sustainable Winegrowing (SWNZ) programme in the late 1990s. SWNZ is designed to provide an optimal model of environmental practices, provide quality assurance from the vineyard to the winery, address consumer concerns, and protect New Zealand's reputation in its export wine markets (Renton et al., 2002). Aside from SWNZ, many New Zealand wineries have adopted other formal EMS's such as ISO 14001, Bio-Gro (organic), CarboNZero, Demeter (biodynamic), Cemars and CertNZ (Forbes and De Silva, 2012).

Despite the development of these various environmental programmes, Ikerd (1993) stresses that one set of farming practices is not inherently more or less sustainable than any other set. He introduces the idea that agricultural sustainability depends on the nature of the whole farming system, and as such is very much specific to an individual farmer and their unique

farm environment. This approach is centred on the knowledge of an individual farmer to manage the physical, biological and financial components of their farming system in order to achieve the goal of long-term sustainability. Similarly, Schaller (1993) also stresses that it is almost impossible to define a single set of sustainable farming practices, given that the optimal practices will not be the same in every location and circumstance and that a farmer's individual beliefs and values play a critical role in determining what sustainability means.

Following from this literature review, this study seeks to address the following research questions:

*How do wineries define the concept of sustainability?*

*How do wineries put the concept of sustainability into practice?*

*What is driving sustainable behaviour in wineries?*

## 3. METHOD

A semi-structured interview technique was used to obtain information from the owners of two New Zealand wineries. The interviews focused on the owners' views regarding sustainability, the sustainable practices they had implemented, what factors were driving their actions, and their views of sustainability going into the future. These interviews took place in late 2013 and were carried out in person at the two wineries, by the same researcher. There are a number of similarities between the two wineries, particularly in terms of size and years in operation (see Table 1). Both wineries are Category 1 businesses, with annual sales of less than 200,000 litres. Small wineries dominate the New Zealand industry, with 88 percent being classified as Category 1 producers (www.nzwine/info-centre/statistics/). This indicates the two selected wineries are representative of the industry as a whole.

**Table 1. Characteristics of Winery A and Winery B**

| | *Winery A* | *Winery B* |
|---|---|---|
| *Wine region* | Marlborough | Hawkes Bay |
| *Company size* | Small (less than 50 FTEs) | Small (less than 50 FTEs) |
| *Annual wine sales* | Less than 200,000 litres | Less than 200,000 litres |
| *Vineyard size* | 23 hectares | 10 hectares |
| *Ownership structure* | Privately held company | Privately held company |
| *Years in operation* | Between 11-20 years | Between 11-20 years |

## 4. COMPARISON OF THE TWO WINERIES

Whilst the two wineries are similar in terms of size, ownership and history, differences between the two become apparent when the owners views of sustainability are examined.

### 4.1 Defining Sustainability:

The owners of Winery A define sustainability as the "long term viability, health and integrity of our land, wines, business and people with no compromise through short cuts that do not fit with our organic philosophy". This definition illustrates that they perceive a relationship between sustainability and organic production methods and they incorporate the planet, people and profit dimensions introduced by Elkington (1997). The focus on the long term also coincides with the Brundtland definition of sustainable development (WCED, 1987). However, the owners say they don't utilise the term sustainability in their communications because they believe it is confusing to consumers; they prefer to use the term 'organic'.

To the owners of Winery B, sustainability is strongly linked to their knowledge of ecology. They define sustainability as "the maintenance of ecological processes in a manner that is economically viable, socially acceptable and rewarding for the various stakeholders". Again, this definition includes mention of Elkington's (1997) three pillars of sustainability. The owners also discuss sustainability as passing something beneficial on to the next generation by improving what they started with; this also relates to the Brundtland definition (WCED, 1987). They note that the concept is a bit confusing, especially for consumers, and they are concerned that they have never heard the word ecology mentioned in terms of sustainability.

### 4.2 Importance of the Sustainability Dimensions:

The owners of Winery A ranked environmental sustainability as the most important of the three dimensions to them. However, they also state that "you cannot have one dimension in isolation from the others". In other words, they believe that a company cannot be environmentally or socially sustainable unless it can support this financially.

At Winery B, the economic dimension of sustainability is ranked as being the most important. The owners state that many businesses might have an environmental awareness, but this doesn't necessarily lead to environmental behaviour unless their economic situation permits some action. They are very aware that they can only do (in terms of environmental or social sustainability) what is financially viable.

### 4.3 Drivers of Sustainability:

For Winery A, the biggest driver of their sustainability actions has been a desire to protect their physical vineyard environment. Their organic and biodynamic beliefs underpin everything they do in the vineyard and follows through to their winemaking and marketing strategies. Their actions are also driven by providing a physical environment that is enjoyable for staff to work in and one that encourages bio-diversity in the vineyard.

One of the major drivers of sustainability at Winery B is the owners' desire for their wines to express the unique physical characteristics of their vineyard. They believe that their vines and soils are healthy as a result of the ecological practices they have implemented in their vineyard, and the harvested grapes are thus clean and flavourful. Whilst the ecology of their physical environment is important to the owners, they are also driven to act sustainably in order to achieve economic viability. They have implemented strategies and practices that have reduced input costs; this is especially important for profitability in small businesses.

### 4.4 Environmental Practices:

In terms of environmental management systems (EMSs), Winery A is a certified organic (i.e. Bio-Gro) and biodynamic producer. This means that no synthetic chemicals are used in the vineyard and that the principles of biodynamic production are followed. The owners have also implemented the New Zealand Winegrowers SWNZ programme. Whilst they made a conscious choice to produce wine organically and biodynamically based on their personal beliefs and values, they feel that initially they had little choice regarding adoption of SWNZ. As New Zealand Winegrowers are now beginning to recognise other certified programmes as surrogates to SWNZ, the winery will drop their SWNZ accreditation to save both time and money. They also feel that Bio-Gro is a more internationally recognised environmental accreditation and one that is more thoroughly audited than the SWNZ programme is.

In terms of EMSs, Winery B owners have predominantly implemented their own informal practices based on their knowledge of ecology. For example, steel posts are used in the vineyard rather than chemically treated wooden posts. Minimal soil disturbance allows natural biological processes to be maintained and prevents soil erosion. Beneficial insects are attracted into the vineyard to control unwanted pests and thus reduce the need for pesticides. The environmental focus continues in the winery, with light weight bottles, recycling or reusing of wastes, and reduced packaging. Winery B has also implemented the SWNZ programme, but they believe their own practices surpass those that are documented in SWNZ. Nevertheless, joining SWNZ allowed Winery B to put a recognised environmental logo on their wine bottles. They don't necessarily approve of what SWNZ does, but they also don't wish to adopt organic or biodynamic certification and they realise that their own ecological practices do not have any recognition globally.

### 4.5 Social and Economic Practices:

Winery A owners believe that their staff enjoy working at a site that is free of chemicals and their high employee retention rate provides some support for this. The organic and biodynamic practices they have adopted are used as an important point of difference in the global marketplace; this differentiation is an economic benefit to Winery A in some markets. Whilst this may be the case, the owners stress that they are committed to organic production because that is what they believe in and they believe the quality of wine is improved through this; any economic benefit such as premium pricing is not their primary objective.

Winery B also incorporate social and economic sustainability within their business operations. For example, the sloping, limestone vineyard site was specifically selected because it negated the need for frost protection, the soils were naturally fertile, and there was little need for irrigation; all of these factors reduce the financial costs associated with grape production and thus help with long-term economic viability. They also believe that the health of their vines is reflected in the quality of their wines and this affects the price they can achieve for them. In terms of society, Winery B mainly employs seasonal staff; they offer flexible working options, on the job training and monitoring of job satisfaction. They support events, charities and volunteer programmes in their community and try to do business with local suppliers whenever possible.

### 4.6 Sustainability in the Future:

Whilst Winery A has had a focus on operating sustainably from day one, they believe that sustainability is a fad and that it has become a buzz word to many in the wine industry. The owners think that there is a lot of confusion over the use of the word sustainability and that some wineries are making claims that simply aren't true. Winery A anticipate that organics will be the next big thing in the wine industry.

Winery B doesn't necessarily view sustainability as a fad that will diminish over time, but they do believe that there is a long way to go until all players in the wine industry are operating in a truly sustainable manner. They are adamant that sustainability needs to incorporate the key principles from the science of ecology.

## 5. DISCUSSION AND CONCLUSIONS

This paper demonstrates that the two wineries are quite similar in how they define the concept of sustainability. Both wineries include a long-term focus within their definitions, illustrating their knowledge of the Brundtland definition (WCED, 1987). This provides some evidence that the Brundtland definition is both well-known and widely accepted by business owners. The two wineries also view sustainability as including the triple bottom line dimensions (i.e. economic, social and environmental) as proposed by Elkington (1997). Again, this suggests that, for business owners, the concept of sustainability incorporates a focus on planet, people and profit and the triple bottom line approach is widely recognised. Whilst the two wine businesses ranked the importance of the dimensions differently, it was apparent that both understood the relationship between the dimensions and that they do not

operate in isolation from each other. They recognised that they could not implement environmentally or socially focused practices if their business was not economically viable.

Another similarity between the owners was their view that sustainability is confusing to consumers. These views have been developed through interactions with their own customers and these support earlier literature highlighting this issue (e.g. Bhaskaran et al., 2006; Vermeir and Verbeke, 2006; Warner, 2007). This confusion amongst consumers likely contributes to scepticism or distrust of sustainability claims on products. This study has added to knowledge by reporting confusion with the sustainability concept from the viewpoint of the producers who are interacting with intermediaries and end consumers.

Although the term sustainable agriculture was not specifically used in the interviews, both wineries provided sustainability definitions that contained elements of those expressed by Schaller (1993) and Keeney (1990). Hansen (1996) suggested in earlier research that sustainable agriculture is either an ideology *or* a set of practices; this study provides some evidence that for these two wineries sustainability is *both* an ideology and a set of practices. The owners began their businesses with very clear beliefs and these have driven the practices they have implemented in their vineyards and wineries. The ideology and the actions go hand in hand at the wineries, and both are a key component of how they view sustainability.

Where the wineries differ most is in the environmentally sustainable practices they have chosen to implement, as driven by their views, values and ideologies. One winery is focused on organics and biodynamic production systems and regards these practices as being best for the health of their land. The other winery is focused on an ecologically sound production system and they are convinced this is best for their land and vines. This paper has not set out to prove whether one ideology and set of practices is any better than the other; what this demonstrates is that both producers believe they are doing the best that they can for their land today and into the future. This provides support for Ikerd (1993) and Schaller (1993) who both suggested that there is no single optimal set of sustainable practices; it does come down to decisions made by individual producers based on their views and their own unique farming environment. Schaller (1993) stated that the beliefs and values of the producer are most important as these determine what sustainability means and how it is achieved. This study provides clear support of this statement; the practices implemented by Winery A may be best for their physical environment but the same practices may be far from optimal if they were implemented in Winery B (and vice-versa). This result suggests that formally documented EMS's may be flawed in that they cannot possibly deliver a 'one size fits all' solution to every producer in every location.

Both wineries include environmentally accredited labels (i.e. Bio-gro or SWNZ) on their bottles; in some markets, they achieve an advantage through this focus on sustainability. This suggests that there is also no common view of sustainability across consumers, as the two wineries are achieving marketplace benefits from their very different 'sustainable' practices.

A clear limitation of this study is the focus on only two wine businesses. However, this focus on only two wine producers allowed an in-depth analysis of owner attitudes, views and

beliefs to be obtained; this would not have been logistically or financially possible if a larger number of businesses had been included. The views of these two small wineries are important as they are likely to be indicative of many wineries in New Zealand where similar sized businesses dominate. Further quantitative research with a larger sample of wineries, in New Zealand or internationally, could be done to (a) affirm the common elements in how sustainability is defined, (b) the importance of values, attitudes and beliefs as drivers of sustainable behaviour, and (c) the range of sustainability practices that are being implemented in the wine industry.

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