

KEY FEATURES OF THE HUNTER VALLEY WINE CLUSTER

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ABSTRACT

We outline the key features of the Hunter Valley Wine cluster through reviewing its history and development; outlining its organisational features and reflecting on the abiding and unique characteristics of the cluster are. We then turn to prior review and analyses of the Hunter Valley Wine cluster in order to highlight the key features from these studies. Following we then include an analysis of prior studies of wine clusters in order to highlight information flows in the Hunter Valley Wine Cluster. The article serves as a background to the understanding and evaluation of the Hunter Valley Wine Cluster.

INTRODUCTION

Wine grapes were among the first crops planted by Europeans when they came to Australia in the eighteenth century, and wine has been produced ever since. Wineries were established in the Hunter Valley in the 1840s, and early wine pioneers were Wyndham and Lindeman, both well known names in the Australian wine industry. Until the 1960s, domestic demand was small and was mostly for fortified wines, while exports were inconsequential. A re-orientation of public tastes, to some extent as a response to skilled promotion and advertising, but also reflecting the influx of European immigrants in the years after 1945, boosted the wine growing industry in the Hunter Valley as it did elsewhere in Australia (Halliday 1979; Beeston 2002). Beginning in the 1970s, a few individuals who were industry leaders (Len Evans, Max Lake, Ian Croser) and ambitious for the industry as a whole collaborated to raise awareness of the potential of the Australian wine industry, to promote it and lobby government for support, especially in regard to exports.

Growth and change have been rapid in all Australian wine growing regions in the last twenty years to the extent that 73% wineries in Australia have been established since 1980. At the same time rationalisation and mergers have resulted in the concentration of ownership in the top four companies (60% of national crush), Foster's Group and Hardy Wine Company accounting for 42% of all branded wine sales. The big 4 also dominate export sales (approx. 70%) (AWBC 2007). Most wineries in Australia (71 per cent) are small in scale, crushing less than 100 tonnes annually. In

contrast to the large-scale production in Victoria and South Australia, the Hunter produces only .05% of the wine grapes grown in Australia. (www.winebiz.com.au/statistics accessed 2/10/07; Marsh and Shaw 2000;)

Part of this rapid growth has resulted from government assistance, directed at research and development as well as in international marketing. Industry associations were formed progressively under the stimulus of government initiative but were and remain largely funded by statutory levies, and member subscriptions. The Australian Wine and Brandy Corp (est 1980) provides market development, promotion etc., information and regulatory administration funded by statutory levy and fee for service. The Grape and Wine Research and Development Corporation (GWRDC) (est.1991) which is a statutory authority financed by producers' levies matched by government funds and based in South Australia, serves as a central clearing house for funding research and development. Exports have been actively supported by government and by collaborative efforts between government agencies and industry associations. Industry leaders were later to recognise the importance of collaboration culminating in Strategy 2025 (Marsh and Shaw 2000).

As the map (fig1) shows, the parts of the Hunter Valley where the wine industry dominates is situated about 160 kilometres north of Sydney and close to the major population centres of Sydney, Newcastle and the Gosford. The service centre is the town of Cessnock, with a population of 18,000, and the wine growing district which is close to it enjoys a moderate climate, with a mean temperature range of 11 to 24 degrees C, and an annual rainfall of about 750mm, most of which falls in the growing season. Undulating vineyards and farms with the backdrop of wooded hills makes for pleasant scenery and attractive to tourists. About 4,000 hectares are under vine (McDonald 2005).

Figure 1 Location of the Hunter valley



Source: <http://www.winecountry.com.au/viewmap.aspx>

Key Features of the Hunter Valley Wine Cluster

Its location has meant that the wine industry has of necessity developed a close relationship with recreation and tourism. A variety of accommodation and recreational facilities such as golf courses, formal gardens, specialty retail shops, restaurants, conference venues, health spas, tour operators and so on attract visitors for the day or the weekend. It is estimated that there were around 2.3 million visitors to the Hunter Valley wine district in 2005 (Cessnock City Council, 2007). Many of these were wine tourists who patronised the wineries' cellar doors to taste and purchase wine. This close association is of interest because the particular market allows and encourages small wineries to exist where they would not be able to compete in another context. One vigneron explained "when I first came here [in 1985] my comment to my shareholders was that I think we are almost first in the tourism business and then in the business of growing good grapes and making great wine" and another explained that his family realised early that "the only way we could survive was to get people to come to our wineries and buy our wine" (ABC, 1997). Marketing is directed in several directions – through major retail outlets, direct sales via the cellar door, multi-channel sales via the web and/or cellar door, and restaurant sales or independent retail outlets (usually dependent on direct contact with the winery).

Max Lake was one of the pioneers of this development in the Hunter. As he described the district in the early 1960s “I saw an area that was languishing, was a cattle driven economy that five families had made wines [and] weren’t surviving on them [sic]” (ABC 1997). This part of the Hunter basin had long been dominated by underground coal mining, with dairy farming and agriculture playing a minor role in the local economy. A number of small towns, of which Cessnock is the largest, provided support for these industries. As coal mining operations slowed from the late 1950s, vineyards and wineries, and those who visited them, began to play an important part in the economy of the lower Hunter. Now, open cut mining for coal in the upper Hunter Valley and associated electricity generation co-exist somewhat uneasily with a small number of wine growers, along with beef cattle producers and the thoroughbred horse industry.

The Hunter Valley wine cluster is thus characterised by a large number of relatively new and typically very small vineyards and wineries and a smaller number of much older but not necessarily large wineries. The word ‘boutique’ describes many small and micro-businesses that grow grapes, produce wine or provide tourist facilities. The Hunter is a small wine growing area in terms of the grapes and wine it produces, (35,000 tonnes of grapes crushed each year of the 415,000 tonnes in NSW and 1.5 million tonnes for the whole of Australia (www.winetitles.com.au 2005, 2006) but these come from about 150 wineries, (there are 432 in NSW and 2,146 Australia-wide at recent estimates), with 97 of them established in the ten years 1991-2002 and a hundred more between 2002 and 2007 (www.winebiz.com.au/statistics/wineries.asp accessed 12.10.07). The Hunter concentrates on medium, small and micro-businesses which produce wines of all qualities, but it promotes an image of boutique and/or high quality wine and thus seeks to enhance the reputation of the district as well as that of the individual winery. It has been suggested that regional reputations have become increasingly important in securing high prices for wine (Schamel and Anderson 2003). The economic value of this grape and wine industry exceeds \$350 million and it employs 1240 people full time directly, another 480 in associated activities on grape and wine producing properties (Mcdonald 2005).

Less than half of the wineries in the Hunter crush grapes on site (Brooks et al. 2004) but almost half export at least some wine overseas (www.winetitles.com.au accessed 30.8.07). A minority of producers have well-known brands and have ready access to the mainstream liquor markets in Australia and overseas via well-established distribution channels. Frequently in the Hunter as elsewhere, ultimate ownership and control of vineyards, wineries in the district and of related firms such as suppliers and distributors within the cluster resides with national and multinational

companies or with non-resident investors. In this way the Hunter wine cluster has links with other wine clusters, especially in the so-called New World, but in fact all over the wine-consuming world while also operating within a relatively small geographical area with particular natural and industry characteristics. A recent trend is for the larger multinational companies to withdraw from the Hunter (Foster's Group media releases, 30/8/05 and 29/6/06).

The wine industry in the Hunter Valley of NSW has can be regarded as a spontaneous or resource-based cluster because it depends on site-specific characteristics, namely the 'terroir' for wine production, its proximity to its market and its attractiveness as tourist destination (Mytelka and Farinelli 2000). Its physical boundaries and its place within the larger cluster of the Australian wine industry are made fluid by the relationships between actors in the Hunter and in the wine industry as a whole. At the same time, its development has been to some extent dependent on industry-wide trends, some of which have received assistance or encouragement from government or government-sponsored bodies which have responsibilities to the industry as a whole. Their relationships with other parts of the local economy and with the tourist trade are also significant.

The interdependence between wineries and with local businesses is easily seen. There are close relationships between viticulturists and wine makers working in different vineyards and wineries across the region, and these are supported by formal and informal networks for information exchange and learning. The Hunter Valley Vineyard Association is a trade association with a wide membership among grape growers and wine producers and it provides an informal network for co-operating in promoting the cluster as well as being a conduit for knowledge sharing among members, between members and other firms in the sector (such as equipment suppliers); and between members and the research and education arms of the sector, most of which are not located nor exclusively interested in the Hunter. Thus there are (mostly indirect) links with parts of the Australian wine cluster that are geographically remote. The main educational and research institutions and the national trade and industry organisations are located in South Australia: some links are mediated through the larger wine firms and some through the HVVA. Kurri Kurri TAFE offers a two year full time course in vineyard management and winemaking. The state (NSW) Government regulates cellar door and other licenses and offers some support for regional industries, but the Export Council, and Austrade are federal government entities with responsibility to the wine industry as a whole (AWBC 2007b). One function of the Hunter cluster is to position itself to take advantage of these inputs from lateral actors.

Vertical integration occurs in some wineries but elsewhere, grapes are crushed, wine is made, bottled, carted and distributed by contractors or agents who have links throughout the district and often beyond. This necessitates a high level of co-operation between the various contractors and growers. Frequently the owner or chief officer is also the wine maker, but a group of about eight professionals are employed as contract winemakers to a number of wineries and in several cases this is in addition to owning their own vineyard and winery (www.winebiz.au/wineries/regions). These individuals have wide industry experience, and might be expected to be sources of expertise, knowledge and innovation along with wine makers and grape growers who can readily tap into the resources of larger inter-regional producers (Guiliani and Bell, 2005).

Generally, bottles, seals, cartons, printed labels and so on are sourced from manufacturers or agents who operate in more than one region. Logistics are handled by experts who have links throughout the industry and of course with other industries. Exports typically are arranged through distributors or shipping agents in Sydney. This means that even the smallest vineyard has links with other operators both inside and outside this district. Expertise may also be pooled: there is a contract wine making facility which is used by more than 90 vigneronns to make some or all of their wine, especially sparkling wine, and to bottle, label and pack it (www.petersonhouse.com.au/winery accessed 4.9.07). In other ways, producers have a close relationship with local businesses on whom they rely for goods and services.

The Hunter is close to suppliers and distributors in Sydney and Newcastle. Logistics, as in storing, packing and transportation, can be supplied from these major urban centres, often as easily and cheaply as if they were closer to the wineries. While specialist suppliers and support services do exist in the local area, the small volume produced and the Hunter's convenient location also blurs its boundaries. The wine industry shares products and services with other rural industries in a much broader geographical area. An example of this might be a machinery franchise which supplies equipment to vineyards and wineries but also to other kinds of farmers, local government, operators of tourist and recreation facilities and the construction industry

The rural setting and its ambience also attract retirees and 'weekend vigneronns.' They may be seeking a 'tree-change' or looking for an opportunity to invest or participate in the wine industry, seeing this as an attractive way of life (lifestyle choice) or source of additional income. These range from the 'hobby' operation involving family members and friends on a shoe-string budget to

significant investments employing skilled staff, well-developed business plans, a capital outlay amounting to many millions of dollars and an expectation of a reasonable return on investment.

Further, the cost of land is relatively high: this is related to the geographical location and the demographics of the area, and its implications are twofold (at least). The land itself, and the ‘terroir’ that defines it, is of course finite. Apart from vineyards, land in this locality is desirable for housing, tourist accommodation and in related uses such as golf courses. The vineyard area is in demand from city-based individuals and families who are seeking a particular lifestyle.

High land values together with small volume and a multiplicity of SMEs are reflected in the relatively high cost of production in the Hunter and its small output compared to other areas. The implications of this high cost basis for wine production is the perceived need to produce premium wines that attract a high price in the market, and the need to market these ‘boutique’ small volume wines in the face of increasing concentration of liquor retailing in the hands of a small number of large corporations: chiefly the dominant supermarket chains. It also presents some unique and interesting marketing challenges and poses some questions about competitiveness.

A survey based on information provided on an industry website (www.winebiz.au/wineries/regions) listed 149 identified wineries, but may not be a complete list. Of these 149, only 26 did not offer the facility of a cellar door. According to NSW Liquor Act, wineries can establish a ‘cellar door’ for the purpose of making direct sales of wine. Usually, but not always, the cellar door offers wine for tasting and sales and is typically open at weekends to accommodate the tourist and recreational visitor to the district. Complementing the cellar door, most of the wineries (all but 38) had a website or email address which enabled wine to be ordered directly from the vineyard. In two or three cases the website was ‘under construction’ or the link provided did not operate. In addition, most of the wineries listed at least one extra activity or facility which gave it a point of difference or competitive edge. This ranged from simple picnic areas to function rooms for weddings or conferences, to cafes and restaurants, from corporate gift hampers to olive oil and jars of pickles or an art gallery and from a self-catering cottage for weekend rental to land developments and holiday villas for sale. Some advertise organic wine, biodynamic growing regimes or other specialist product.

The association between wine and tourism has been exploited in many districts throughout the world (Getz 2000; Beames 2003) but the Hunter’s proximity to Sydney has given wine tourism in

the Hunter a particular flavour. Recreation, food, wine and accommodation have developed together but not always in harmony as the wine/tourism cluster has evolved over the last 25 years. For the Hunter tourism is a related industry cluster which overlaps and co-exists within the district. The Hunter Wine Country Visitors Guide (2006), a commercial directory aimed at tourists, lists over 180 places to stay, be they self-contained cottages, motels, guesthouses, bed and breakfasts or large resort complexes. Cessnock City Council estimates 3,000 rooms to the end of 2005, an increase from 1472 rooms in 1999 (Cessnock City Council 2007). Tourism-related businesses offer horse riding, horse-drawn coaches, aeroplane and hot air balloon flights, golf, beauty spas, and day tours. There are a number of high-end restaurants as well as cafes (more than 65 food outlets in 2007) and retail outlets selling craft items, souvenirs, gourmet foods, wine accessories and so on. Ancillary businesses cater to weddings, conferences and other functions. Some of these attractions are within or closely associated with wineries or vineyards; some are not.

In recent years this close relationship has extended as wineries have become the site for concerts from opera to jazz to pop and including internationally renowned artists, festivals of food and wine, sporting events and the like. In all these cases, accommodation for visitors, the opportunity to enjoy a short break from city life and to taste or buy wine, have been packaged and marketed. In most cases, the Tourist Association provides the ticketing and much of the marketing, but individual wineries and the Vineyard Association are also involved (HVTA 2007).

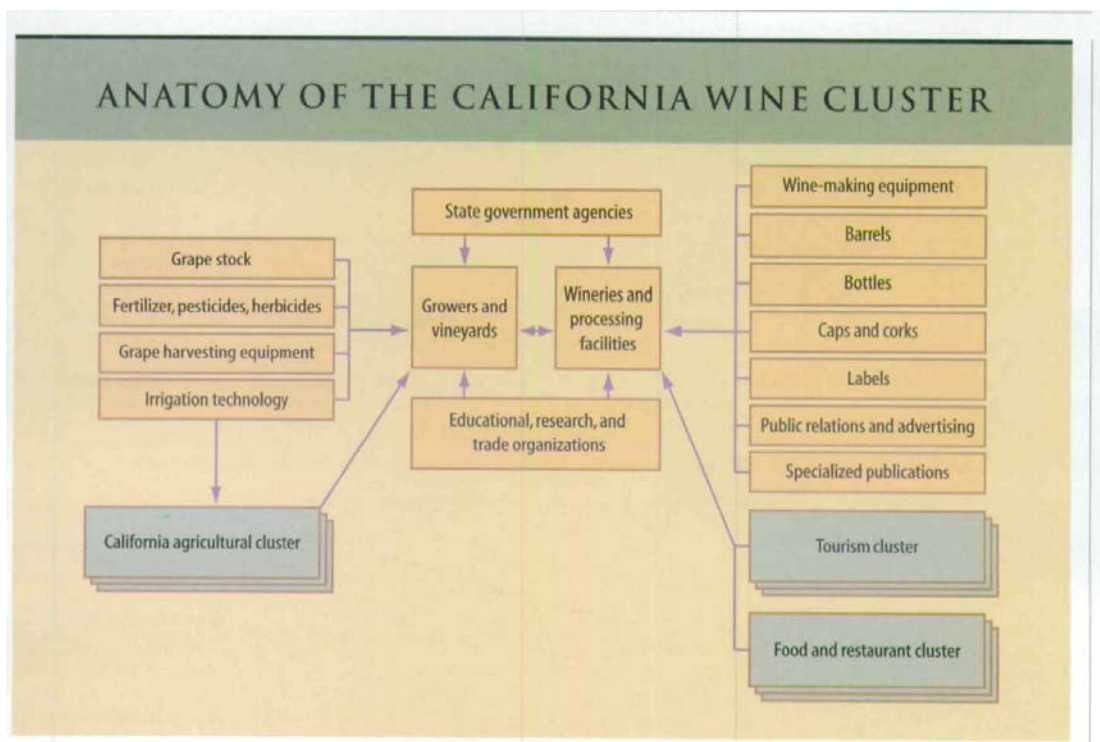
Analysing Wine Clusters

Through cluster frameworks a cluster can be represented in terms of a few key dimensions that summarise the structure and the relationships that are present within a cluster. The cluster map also attempts to capture the underlying dynamics of a cluster and what is unique about the cluster being examined. The wine industry has been mapped by several researchers who have sort to highlight key features pertinent to the wine industry and present within the studied wine cluster. Wine is readily suited to cluster analysis and mapping: there is regionality and close association between producers and there is often long history of clustering activity taking place.

The pioneer research on clusters was conducted by Porter (1990) who developed a framework to highlight the factors that contributed to the contribution of clusters in regional development. Subsequently Porter (1998) mapped the Californian wine cluster (see figure 2), and later applied his map to the Australian wine industry (Porter and Bond 2004). In doing so he included the whole of

the south east Australian wine industry as his subject, making it a particularly large cluster geographically. There is much to be said for this schema, which shows the cluster inputs. Porter has recognised that the wine cluster is embedded in a larger community that includes other forms of agricultural production as well as tourism and what he calls the ‘food and restaurant cluster’. Also significant is the recognition given to institutional and infrastructure support to the cluster – grower organisations and government agencies. Missing from his framework are some key inputs such as logistics (transport, storage) and the distribution channels which are relevant to the Hunter wine region, together with the important role that consultant agronomists and winemakers play. In other respects, though, the main elements of the local wine cluster fit comfortably into a cluster model which looks much like Porter’s.

Figure 2 Porter’s Mapping of the Californian Wine Cluster



Source: Porter, 1998.

Porter considers the cluster to be contained within some sort of geographical boundary, although we might say he takes a broad view of this in relation to the Australian cluster, but emphasises that access to shared resources add to the efficiency, productivity and flexibility of all the players via economies of scale, that complementarities develop with the cluster and that competition within the cluster for prestige, pride and market share spur each one to greater efforts. Resources are shared and the value of the whole becomes greater than the sum of its parts would otherwise be: hence that all-important 'competitive advantage' of a cluster.

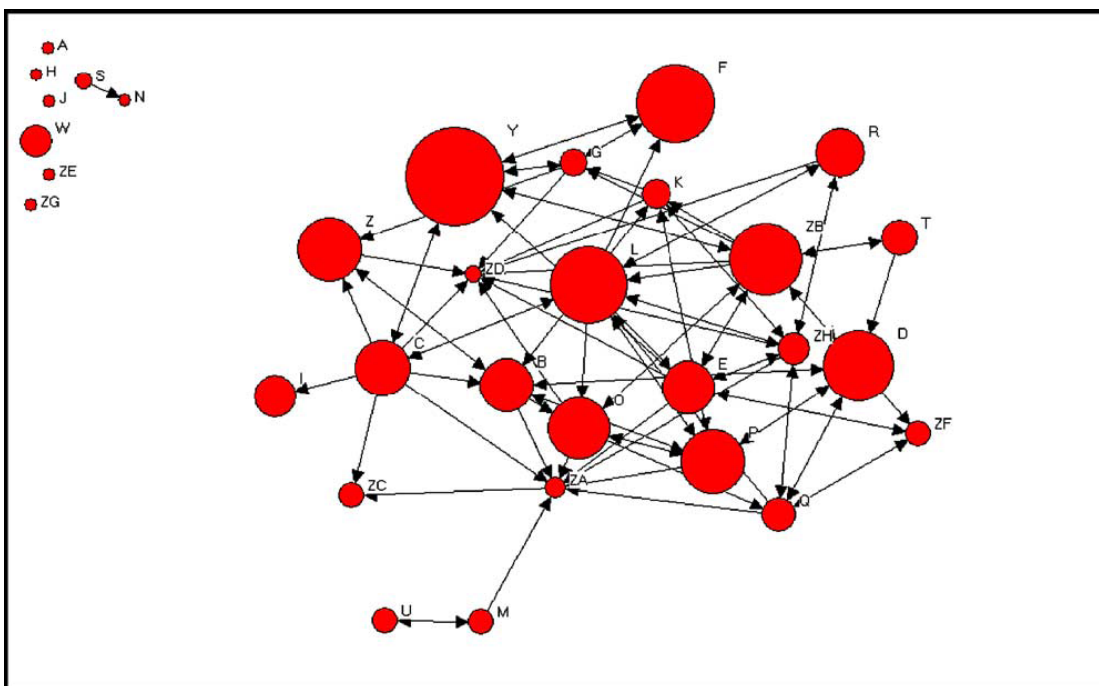
More recently, there has been considerable interest in the way resources, especially the resource of knowledge is acquired and distributed within clusters. (Giuliani and Bell 2005) studied the way in which knowledge is gained and shared in a wine growing district in Chile. This is an area characterised by the recent rapid increase in grape and wine production and in new equipment and techniques, with a critical role being played by international expert consultants ('flying winemakers') who have brought new levels of experimentation and innovation. In contrast are micro and small grape growers who have traditionally produced wine for their own consumption or to sell as bulk wine. The research interest was at the level of the organisation but was directed at mapping pathways of learning and innovation within the cluster as a whole.

Using social network analysis, Guliani and Bell (2005) examined the different roles played by firms within the cluster and the overall structure of knowledge exchange. They discovered a core group of firms with what they called 'advanced absorptive capacities' but others would probably consider openness to innovation or connectedness, that were 'technological gatekeepers' occupying a central position in acquiring and transferring knowledge from outside the cluster and innovation within it. These firms are more likely to make linkages outside the cluster and also with other local firms, especially other firms with the capacity to absorb knowledge and, like them, act as nodes for the exchange of knowledge within the cluster. Other firms exchange knowledge within the cluster to greater or lesser degrees, and may be primarily the source or the recipient of learning and have different linkages both within the cluster and in relation to extra-cluster sources of knowledge. Still others remain isolated from knowledge exchange within the cluster may and may not have links to extra-cluster sources of knowledge. Among this last group are those 'external stars' that have limited intra-cluster linkages but are open to extra-cluster learning.

This study highlighted the importance of the individual firm in the cluster, by focussing on 'the capacities of the individual firms to absorb, diffuse and creatively exploit knowledge that shaped

the learning dynamics of the cluster as a whole' (p 64). Their map is of the linkages between firms within the cluster, and does not concern itself with extra-cluster relationships (see figure 3). This representation highlights the different capabilities and resources available to firms across the cluster and it highlights the importance of networks in facilitating information exchange within the wine cluster.

Figure 3 Local knowledge system in the Colchagua Valley (Guiliani and Bell, 2005, 57).



(Arrows show direction of knowledge transfer; diameter of the nodes is proportional to firms' absorptive capacity.)

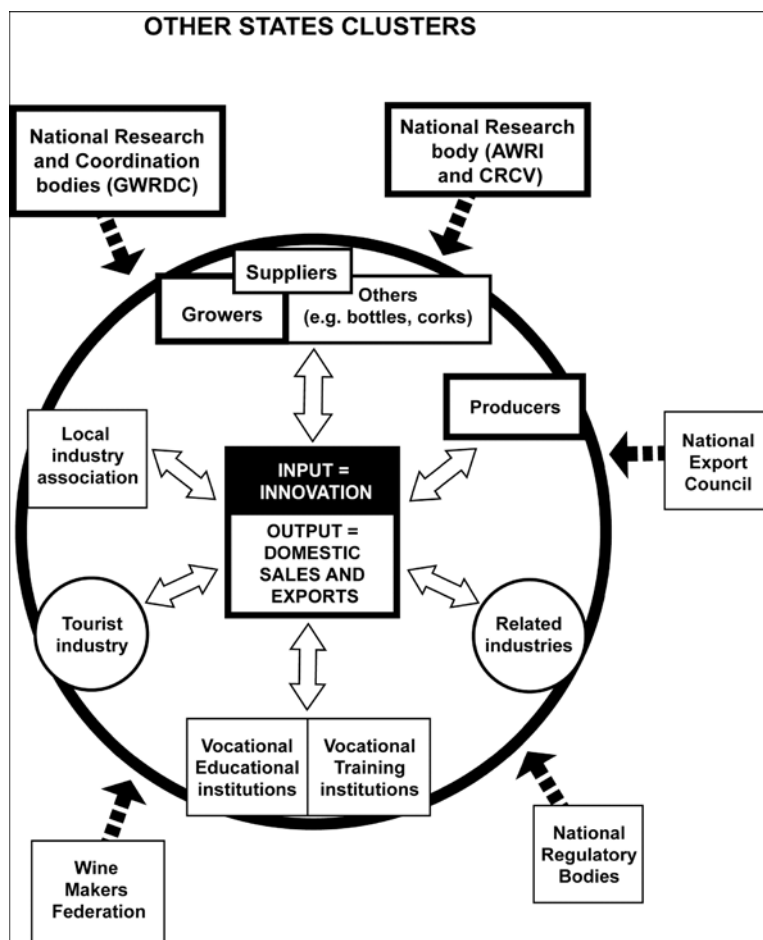
This study is interesting in the context of the Hunter wine cluster because it isolates learning and knowledge exchange from other cluster activities. The wine firms with the biggest influence in terms of skill and knowledge transfer are not necessarily the largest in terms of production. Innovation results both from activities within the cluster and expertise imported from outside it. In this case it is most often from ‘flying winemakers’ but in the Hunter we would find some of those, but also input from research and development institutions such as GWRDC and the universities and colleges as well as a spillover of knowledge from in-house R&D or from collaboration between wine firms and research institutions such as Commonwealth Scientific and Industry Research Organisation (CSIRO) (Dunstall and Johnston 2005).

Aylward and Glynn (2006) have created a cluster framework to differentiate between the South Australian wine cluster, which they see as the most developed and most innovative of the wine regions in Australia, and others which are less developed or innovative (see figure 4). Following Mytelka and Farinelli’s (2000) distinction between informal, organised and innovative clusters, they differentiate between clusters in terms of levels of integration using the terms ‘embryonic,’ ‘organised’ or ‘less developed’ and ‘highly developed’ or ‘innovative’, particularly in regard to success in international sales (exports) of wine (Aylward 2004a; Aylward 2004b). In this approach the relationship between wine production and institutional actors such as universities and national research bodies is considered important. The main criteria for assessing innovation is that of exports.

The faster increase in exports by volume, number of markets and value of the South Australian segment of the industry together with hugely increased product differentiation, technical innovation and marketing innovation in South Australia compared to wine producers in Victoria or NSW make this an innovative cluster, while those in NSW are considered to be less organised and less innovative. This is reflected in slower growth, less use of research services, collaboration between firms and production process improvements. Without question, South Australia is host to the biggest wine producing companies with the highest volume of wine sales and especially of export sales, the peak bodies of industry associations, and the best-funded and most prestigious education and research facilities in Australia (Aylward and Glynn 2006). Comparing the SA and ‘other states’ cluster maps, Aylward and Glynn locate these organisations within the cluster in SA but outside it elsewhere. This view is somewhat supported by the earlier conduct of surveys of innovative awareness that excluded the minor (in terms of quantity) wine producing areas such as the Hunter

(GWRDC 1998). Individual companies, such as Orlando Wyndham Group (OWG) have been able to harness the resources, for instance, of the CSIRO to help them develop better ways of managing the intake of grapes into the winery; the authors note that ‘raw materials supply network for fresh grapes is characterised by complexity. The inter-dependencies between wineries, carriers, harvesters and growers are extremely strong.’ (Dunstall 2005). In this case, detailed planning using advanced technology and data base management resulted in better co-ordination between contract growers, harvesters, carriers and the winery. With contract winemakers, a chronic undersupply of labourers and limited winery capacity, similar problems pose themselves in the Hunter and although the solutions may not be the same they have not been investigated in such a sophisticated manner.

Figure 4 Less Innovative Australian Wine Clusters



Source: Aylward and Glyn, 2006

What seems to be missing from this model is recognition of the likelihood of knowledge spillover and access to technical support for SMEs that might derive from the scale of operations within the cluster as a whole. There is also evidence that those companies that are more closely associated with exporting wine have an advantage in making gains from promotion activities compared to those that concentrate on a local market, as is often the case with the SME (Zhao et al 2003). Large volumes and economies of scale make a wide product range and vertical integration possible while the very small (micro), small and medium enterprises that are typical of the Hunter call for a different model altogether.

Marsh and Shaw (2000) have examined the impact of collaboration on firm-level competitiveness within the Australian wine industry. They refer to the place of cluster theory among others that acknowledge the importance of collaboration in competition particularly where innovation is needed and transaction costs are high: “Their common ground lies in an emphasis on market-enhancing collaboration as a complement to robust competition in product markets. In these perspectives, market conditions are the ultimate arbiters of performance. But within this framework, collaboration and competition, mixed according to relevant contingencies, constitute a performance-enhancing strategy” (Marsh and Shaw 2000, p.27). To them, clustering is as associative process where processes have been established to manage critical linkages. They distinguish among collaborative activities within the Australian wine industry: innovation (by which they mean primarily technological and agronomic research), strategic, visionary and medium-term priorities and marketing. All these activities take place within the cluster. For these writers, the strategic advantage of the cluster has come from deliberately cultivated collaborative relationships between producers and between producers and industry associations including those officially supported by government programs. Efficiencies derive from reduced transaction costs in terms of increased information, common goals and collaborative or coordinated activities, much as Porter suggested. The role of industry associations is crucial: the research and development arms of educational institutions but especially of R&D connected to the industry, such as GWRDC (which is a statutory body) are paramount. Their view is essentially one of cluster development where value is added via collaboration but essentially flows from the centre to the periphery.

DISCUSSION AND ANALYSIS

As a wine cluster we would suggest that the Hunter Valley Wine Cluster has a number of unique features that distinguish it from other wine clusters. Here we take it given that there will always be differences in terms of natural conditions – soil, climate and grape varieties. From the above review

of the Hunter Valley Wine Cluster together with the analytical frameworks applied to wine cluster analysis we would suggest that the following features are relevant:

- a. a long history of wine production (by Australian standards) – the embedded knowledge present in long established firms within the cluster is an important cluster resource
- b. small and family owned production – this is likely to generate demands for shared resources, including knowledge sharing, and greater experimentation and variation in grape varieties and wine production
- c. proximity to Sydney – wine production takes on tourist elements with wine tasting tours and short term tourists being an important component of the cluster – in turn, wine production often takes place in conjunction with other value adding activities linked to tourism – cellar door sales, accommodation
- e. an established framework of supporting institutions and infrastructure – this ranges from grower associations, to educational institutions, wine shows and social networks across growers and upstream and downstream actors in the industry
- f. an established cluster brand and image – the wine cluster has an established and marketable reputation in terms of particular wine varieties

In terms of the analytical frameworks that have been used to evaluate and classify wine clusters we can draw upon the various frameworks to highlight what is important in the Hunter Valley Wine Cluster.

- a. Porter's framework – the key features as outlined by Porter for the Californian wine cluster are present within the Hunter. The key role of complementary activities such as food and accommodation are very important in the Hunter.
- b. Guilini and Bell's network analysis – knowledge generation, development, transmission and absorption are all important aspects of a wine cluster. Guilini and Bell (2005) not only highlight the importance of knowledge flows, they also focus on individual firms within the cluster and the differences in terms of proximity and absorptive capacity that is present across grape growers in the cluster. Whereas Porter (1998) assesses the resources of the cluster as a whole, Guilini and Bell (2005) focus on the resources and capabilities of the individual firms in the cluster. Their analysis brings into focus the cluster boundaries – those firms outside of the knowledge flows – and the different capabilities of firms within the cluster. In the case of the Hunter this is also the case. There are a few well established producers with a long history and who have extensive formal and informal networks for knowledge access and sharing within and beyond the cluster. There are also

many small producers with limited resources and expertise who knowledge absorptive capacity and access to knowledge networks is, by contrast, very limited.

c. collaboration, the integration of infrastructural support, exports and innovation - Aylward and Glyn (2006) highlight several key factors that are present in the Hunter – strong elements of collaboration. They also highlight features that are lacking in the Hunter – innovation, exports and integration with key infrastructure and support. In comparisons with the Barossa Valley of South Australia these elements would appear to be missing, however, we would qualify the apparent exclusion. First, exports are important to the region, as already outlined, and indirectly exports are generated through wine tourism which is important in the Hunter. Second, even though there are small scale producers in the Hunter, there are many wine varieties and blending with grapes from other regions – especially those from the adjacent Mudgee and Orange regions. Thirdly, while key educational institutions and research facilities are more embedded in the Barossa region, the Hunter Valley is able to benefit from the expertise, experience and knowledge transfer of key wine makers and growers who have had prior experience in the Barossa and other regions.

d. collaboration – Marsh and Shaw (2000) highlight the key role played by the collaboration between competitors in product development, innovation and resourcing sharing in wine clusters. Collaboration is present and embedded within the Hunter Valley wine cluster through both formal (market based) and informal (social networks) arrangements between producers.

CONCLUSIONS

The Hunter Valley wine cluster contains many of those features attributed to wine clusters that have been developed in the wine cluster literature. However, we have also suggested that there are other features that make the Hunter Valley wine cluster fairly unique, at least in the Australian context. Many of the analyses of the wine cluster are aggregative and general – they provide a broad overview of the cluster – the exception is Guilini and Bell (2005) who examine the relationships between individual firms in the cluster. The next steps is to specifically identify and classify the key resources and the different types of actors that are present within the Hunter Valley wine cluster and to provide a schematic representation of the cluster that systematises the underlying relationships and activities of the cluster from the view point of the individual firm. This will involve the framework developed by Brown et al (2007) that conceptualises clusters as a series of interlocking value adding webs surrounding individual firms within the cluster. Such an examination should go beyond knowledge flows and identify the key resources and transactions that are present within the cluster.

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ⁱⁱ The intricacy and complexity of winemaking in the contexts of people, place, geography and region with industry and survival well in view has been caught in its many-sided individuality in Max Lake, *Hunter Winemakers: Their Canvas and Art* (Sydney: Jacaranda Press, 1970). The lesson here, if you will allow, is no wine industry without people who are creatively committed to the land and viticulture, and to the vine in the region. Small scale winemaking is often a qualitatively different phenomenon to industries (production facilities) of considerably more scale and size. However, ideally quality itself should not be a prisoner of scale. See further, for perspectives, then and now, on the ever-changing wine industry scene, James Halliday, *A History of the Australian Wine Industry, 1949-1994* (Adelaide: Winetitles/Australian Wine and Brandy Corporation, 1994), and note current (2007/8) “overview” in *The Australian & New Zealand Wine Industry Directory* (South Australia/Adelaide: Winetitles, 2009), pp.1-16ff.

ⁱⁱⁱ See the still prescient work, A.C. Kelly, *The Vine in Australia*, in Dennis Hall & Valmai Hankel, eds. (Sydney/Hunters Hill: The David Ell Press, 1980), p.19. Kelly’s study of vines generally, and climate and soils, remain compelling and useful historical records. Viticulture is no exception: economic success is built upon informal understanding(s) of the past and the present.

^{iv} Consider a few remarkable, detailed and general as well as particular examples from Greco-Roman and Punic-Carthaginian Mediterranean antiquity: note, Pliny *Natural History*, Book 14.2ff (Cambridge, Massachusetts: Harvard U.P., Loeb Classical Library, 1945, first reprinted, 1952); Columella, *On Agriculture [De Re Rustica]*, Book 1.1ff (and its preface). See further, the lifelong work and thoughtful exploration of H.P. Olmo, “The Origin & Domestication of the Vinifera Grape”, in Patrick E. McGovern, Stuart J. Fleming & Solomon H. Katz (editors), *The Origins and Ancient History of Wine* (Philadelphia: The University of Pennsylvania Museum of Archaeology and Anthropology, Gordon & Breach Publishers, 1995), pp.31-43. Volume 11, in *Food and Nutrition in History and Anthropology*, University of Pennsylvania.

^v For inspiration in the craft of history and its general utility or capacity for “perspectivism”, see Marcus Greil, *The Dustbin of History* (Cambridge, Massachusetts: Harvard U.P., 1995).

^{vi} To take one broad example, namely, Australia’s speculative confusion in the drive to produce “commodity wine” and the long and short term potential for high quality fine wine rather than “premium” branded wines which merge into a morass of brands and bottles almost indistinguishable from beer markets and marketing. See Brian Croser, “The Australian fine wine industry, irrelevant or neglected?”, *The Australian and New Zealand Wine Industry Journal*, Vol.21.6 (November/December, 2006), pp.16-20. See further, Brian Croser, “Decanter wineman of the year” in *Decanter Magazine*.

^{vii} See generally the numerous articles in the *Australian Financial Review* re these companies and struggles corporate, familial...and always in this marketplace...of people and ideas, and values.

^{viii} Informative work is usefully summarized in the preface of Robert E. White, *Soils for Fine Wines* (New York: Oxford U.P., 2003), and see generally for thoroughness and detailed research re soil, *terroir* and much more.

^{ix} One way of presenting such arguments is contained in the fine work of Emile Peynaud, *The Taste of Wine [Le Goût du Vin]: The Art and Science of Wine Appreciation*, trans. by Michael Schuster (New York: John Wiley & Sons, 1996; first published in French, 1983). Jacques Blouin worked closely with Peynaud in the making of this second edition. See further, a broader but complementary work, Harold McGee, *On Food and Cookery: The Science and Lore of the Kitchen* (London: George Allen & Unwin, 1986; first pub., 1984).

^x Again, see the exploratory work in Gloria Vivenza, *Adam Smith and the Classics: The Classical Heritage in Adam Smith’s Thought* (Oxford: Oxford U.P., 2001); see also, the equally challenging and exploratory, Scott Meikle, *Aristotle’s Economic Thought* (Oxford: Clarendon Press, 1995; 1997).

^{xi} For one view of the complexity of wine and its markets/‘marketability’, see Larry Lockshin, “The schizophrenic nature of wine”, Vol. 20.1 (Jan./February, 2005), pp.32-33. Far more than a “duality” of wine consumers/drinkers is at stake, and again terms such as ‘premium’ and ‘super premium’ can only confuse. Wine is a commodity but it is a commodity with ‘attitude’: history, philosophy, beverage/food, culture, indeed anthropology, and shelf spaces or cellar door/vineyard locations, and combinations thereof, are the stuff of the wine trade.

^{xii} See especially for a detailed study of traditions of vine and wine, of education and culture in social context and external/internal crises in the wine trade from vigneron to table and café and well beyond, Harry W. Paul, *Science of Vine and Wine in France, 1750-1990* (Cambridge: Cambridge U.P., 2004); see also, the enduring thoughtfulness in Max Lake, *Classic Wines of Australia* (Brisbane: Jacaranda Press, 1966) and *Cabernet: notes of an Australian wineman* (Adelaide: Rigby, 1977).

^{xiii} See the insightful essay by Peter L. Bernstein, “Facing The Consequences” [bernsteinsp.pdf](#) (Jan., 2000) or *National Association for Business Economics – Abramson Awards*, Washington D.C. It is no surprise that Bernstein’s close friend was Robert Heilbroner of *The Wordly Philosophers* fame.

^{xiv} If there is a “political economy” of wine and the wine industry it should, indeed must, include questions of philosophy and science and, of course, these questions must necessarily include the productive worlds of viticulture and the land. Theory and practice, experiment and questioning are elemental: see for engaging examples, Matt Kramer,

“The Notion of Terroir”, Harold Tarrant, “Wine in Ancient Greece: Some Platonist Ponderings” and “Warren Winiarski, “The Old World and the New: Worlds Apart?” in Fritz Allhoff (ed.), *Wine & Philosophy: A Symposium on Thinking and Drinking* (Oxford: Blackwell Publishing, 2008).

^{xv} Besides the intense current interest, fashionable and useful interest in behavioural economics (Schiller, et al.), note also, the long rise of the French, and now world-wide, influence of the Annales school of social and economic history: Peter Burke, *The French Historical Revolution: The ‘Annales’ School 1929-89* (Cambridge, Polity Press, 1990). See also, the sage essay by Ralf Dahrendorf, *Homo Sociologicus* (London: Routledge & Kegan Paul, 1968; 1973).

See further, two recent articles by Robert J. Schiller: “Challenging the Crowd in Whispers, Not Shouts”, *The New York Times, Economic View* – nytimes.com (November 2, 2008), and “Can talk of a Depression Lead to One?”, *Economic View* – nytimes.com (February 22, 2009).

^{xvi} One very useful way to view Aristotle and matters Aristotelian: G.E.R. Lloyd, *Aristotelian Explorations* (Cambridge: Cambridge U.P., 1996).

^{xvii} See, Peter L. Bernstein, *Against The Gods: The Remarkable Story of Risk*, p.307, and generally chapter 18. See further, G.E.R. Lloyd, *Aristotelian Explorations*, “The idea of nature in the Politics”, pp. 184-204.

^{xviii} For enduring perspectives on adverse vintage conditions, climate and social history, note Pliny the Younger’s following letters, his wit and the descriptive power of his writing: Book VIII.15; VIII.17; Book X.8.

^{xix} Inspiration should be acknowledged: see the insightful, Nicholas Purcell & Peregrine Horden, *The Corrupting Sea: A Study of Mediterranean History* (Oxford: Blackwell, 2000).