

# **The Marlborough Wine Research Centre**

## **Case Study of an Economic Development project in Marlborough**



**Prepared by Tony Smale in partial fulfilment of the requirements for EDANZ accreditation as an economic development practitioner.**

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## **Case Study of an Economic Development project in Marlborough**

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### **1. Introduction**

This paper provides an analysis of a local economic development project that I was involved with from 2001 onwards as Chairman of the Marlborough Region's Economic Development Agency, and as author of the regional economic development strategy in which the project was originally identified. The significance of the project to the economy of the region was to capture higher value outputs compared to the existing primary production, to create new opportunities for Marlborough youth, to increase productivity through tailored education and research services, to add credibility to the region's wine industry and to identify and protect the unique characteristics of Marlborough Sauvignon Blanc. The major economic factors it impacted are the maintenance of the premium value of the Marlborough wine sector, reported by Berl in 2009 to make a contribution to the Marlborough economy of \$1.3 billion pa and to have contributed to improving the region's demographics.

The paper provides the background to the case study, its objectives, why it was undertaken, who was involved, the approach taken to completing the task and the outcome of the project. The case study concludes with an estimate of the financial benefits to the region.

### **2. Background**

Marlborough's Unitary Authority, the Marlborough District Council, had adopted an economic development philosophy based on work occurring at the Papakura City Council, where the only role of a Council was to minimise "transaction costs". It did not therefore support economic development interventions even though it funded the regional tourism organisation and the Marlborough Primary Production Research Centre. Consequently the region did not have an economic development agency (EDA) and the Council was opposed to the formation of one. However, a group of concerned citizens, led by local newspaper Editor Brendon Burns (Now MP for Christchurch Central) was actively advocating for the formation of an EDA,

specifically to target the region's low average wage and consequent social implications.

## **2.1 RPP effective enabler**

The timely arrival of the Regional Partnership Programme with its promise of Government funding acted as a catalyst for Council to agree to nominal funding of an agency and the Marlborough Economic Development Trust (MEDT) was formed. With only \$50,000 pa at its disposal the Trust adopted an outsourcing model and operated for its first four years without professional staff, work being either conducted by the Trustees or outsourced using NZTE grant funding.

The MEDT quickly received Strategy Funding from Industry New Zealand and an extensive planning and public consultation process was begun. The first aim was to establish baseline statistics. Given the state of statistics at that time and the coarse multi-region aggregation, any detailed analysis quickly proved impossible. The average hourly wage statistic was available and comparison sector on sector across comparable regions provided some confidence in the figures. However, identifying the causative factors of the low wage rates was not achieved. Even median income was aggregated beyond usefulness. Similarly, industry statistics were sketchy at best and wine industry statistics for example were several years behind current and showed (and continue to show) major differences between the industry and Council statistics (The first based on member returns and the latter on ground truthed satellite photos). What was apparent was that Marlborough was already then the largest wine growing region in New Zealand and that over 75% of the country's aquaculture exports emerged from the region. Both it appeared at the time were poised for further growth. As it eventuated, as a result of a botched law reform process, aquaculture has made little progress while the wine sector has enjoyed stellar growth.

Despite in 2000 the rest of New Zealand being focused on job creation, there was an emerging labour and skill shortage emerging in Marlborough.

## **2.2 Poor statistics**

As a consequence of the poor quality of the available statistics, decisions had to be largely based on expert opinion and it is fair to say – political decision making.

The prevailing opinion was that despite the emerging wealth in the region, cost of living was escalating and although the Victoria University Deprivation Index

(available for Marlborough) painted a reasonably positive picture (no extreme wealth or poverty), the Massey University/AMP Housing Affordability Index showed Nelson/Marlborough (in aggregate) as the second least affordable place in New Zealand to live.

The MEDT determined that the cost of living was unlikely to be mitigated by any local intervention and therefore increasing income should be the target. Since there was no evidence of Marlborough businesses being more profitable as a result of the low wages paid, it was clear that greater value had to be created, specifically an increase in capital and labour productivity. The central role of innovation as a driver of economic development was recognised. For regions like Marlborough that have suffered sustained loss of government services, have only limited science institutions, no university and nominal polytechnic presence, goals such as returning science to the region, building tertiary education opportunities, fostering innovation and building networks within and beyond the region are keys to not only prosperity but survival.

### **2.3 Knowledge economy**

One of the central tenets of the first *Progress Marlborough Regional Economic Development Strategy* was that to fully participate in the knowledge economy the region had to be a producer of novel intellectual property as well as drawing upon that developed elsewhere. Knowledge generation is a product of innovation. Innovation extends well beyond science and commerce. A community's innovativeness – its ability to constantly reinvent itself – is a major determinant in its enduring health. And that was the “end” that justified this particular “means”.

Despite its non-interventionist stance, the Marlborough District Council had in 1984, in a unique partnership, funded to the tune of \$150,000 per annum, the Marlborough Primary Production Research Centre. At the time the Centre's focus was principally on agricultural and pastoral production. However this provided a foundation and pool of scientific networks and research management for the later development of the Marlborough Wine Research Centre.

### **2.4 Centres of Excellence**

At the time that the first strategy was developed so called “Centres of Excellence” were in vogue and therefore there was a “perfect storm” emerging of the ambitions of the REDS, the emerging skill shortages, recognition of the role of research in

maintaining Marlborough Sauvignon Blanc's premium positioning, the existing Research Centre and the new Industry New Zealand Major Regional Initiative fund.

As a region lacking in a university, having only a modest polytechnic present, and only one CRI represented, Marlborough was arguably not the natural location for COEs. However both involved industries made a case that having researchers facing the industry was more important than facing the university or CRIs and that applied research needed to be conducted *in situ*. One General Manager commented that "If the scientists aren't drinking in the same pub as my staff then there won't be a proper knowledge interchange." (Stewart Hawthorn, GM NZ King Salmon).

## 2.5 Goals established

Against that background the ambitious goal was established of creating three "Centres of Excellence" around the three areas that Marlborough held national or international significance in:

- Wine growing (#1 region in New Zealand and a growing international reputation for cool climate wine production);
- Aquaculture (#1 region in New Zealand and an established international reputation for innovation and excellence); and
- Aircraft maintenance engineering education (#1 in New Zealand plus third largest aviation engineering centre after Auckland and Christchurch).

There were no established national centres for any of these and therefore their development would provide net positive benefit to both Marlborough and New Zealand, an objective of the strategy.

Marlborough was the new comer to the wine sector and other areas, especially Henderson and Hawkes Bay laid claim to being the "spiritual" home of New Zealand wine. In fact, although Marlborough contributed more than 50% of the industry research levy, the majority, because of legacy formulas, was spent in those traditional regions. Establishing Marlborough as the centre of research and education nationally, a critical success factor for the project, was not automatic by any means. Considerable political persuasion was required which culminated in a national agreement and Wine Institute CEO Phillip Gregan observing that the process was the most useful the industry had ever engaged in because it forced establishment of national research goals. That no doubt was the first win for the project!

## **2.6 Project Champion**

From the outset it had been the MEDT's experience that projects needed a champion – a strong, influential driving force. At the same time that the strategy was identifying the opportunity to develop the Research Centre, Mark Peters, the Chairman of the Marlborough Rugby Football Union had invoked discussion around the loss of promising sports people from the region (David Hill and Leon MacDonald had both just been poached by larger unions). Mark was also Chairman of the Grove Mill Wine Company and raised the question of whether the wine sector offered the opportunity to increase educational opportunities within the region and possibly help retain young people. This conversation dovetailed perfectly with the new strategy and a project was born. Mark Peters, somewhat reluctantly, was to become the project champion.

## **2.7 World class research and education**

In its original conception the Centre was intended to be a world class wine research and research based education centre to rival those of Stellenbosch University in South Africa, Roseworthy in Australia and University of California in the USA. New Zealand, it was identified, was the only New World wine producing country without an internationally recognised education and research facility. It was intended to offer certificate and diploma level qualification utilising internal NMIT resources and under and post-graduate degrees in partnership. In its final form, the under graduate degree was offered first in partnership with Lincoln and now stand-alone. In the early stages an active post-graduate programme was maintained in partnership with the University of Auckland although there are now no on-site students.

## **3. *The Project Process***

The project was planned and managed as a series of linked stages as outlined in the diagram in Appendix 1.

## **4. *Questions posed and answered by the project***

### **4.1 Mitigating the loss of youth**

The acute loss of youth in the 15 to 24 year age group (See Appendix 2) undermined the development and maintenance of a sustainable workforce, the social infrastructure, and the viability of institutions such as the Nelson Marlborough Institute of Technology, which at around the time the project was instigated

reported the lowest uptake of tertiary education for any New Zealand region. Sports teams were undermined by the same loss. Against this background, the MEDT had become aware of work by Peter Kenyon in Bendigo suggesting that youth left that region because they perceived lack of opportunity, rather than because they were irresistibly attracted by the bright city lights. The Centre was therefore planned as a metaphor for opportunity within the region. Combined with education partnerships and similar initiatives in aquaculture and aviation, the aim was to send strong signals to youth, within and outside Marlborough, that there were genuine opportunities within the region. For local youth, even if they chose to leave, and many would need to for education, they would leave with Marlborough as a prospect to return to. Anecdotally that strategy has been effective and reference to the population statistics shown in Appendix 2 shows that despite the exodus continuing, a strong influx is now occurring. An intervention to arrest the loss of youth was therefore validated.

Unfortunately, the full potential of the intervention has not been achieved due to inadequacies within secondary education, especially for boys, exacerbating the exodus and NMIT not fully exploiting the available opportunity.

## **4.2 Mitigating labour and skill shortages**

Already at the time of the establishment of Industry New Zealand, nicknamed "Jim's [Anderton] Job Machine", Marlborough was experiencing increasing labour and skill shortages and these appeared to be on a trajectory to becoming acute. Until that time the sector had relied largely on offshore educated personnel, especially from Roseworthy in Australia. However there was a growing recognition of the need to produce home grown graduates that had a broader and more customised base than the one size fits all approach of Roseworthy. It was clear to the region that with the rest of New Zealand still focused on creating new jobs, any remedy to the growing shortages would have to be found locally.

Although the impact of the shortages has never been quantified the approximations shown in Appendix 3 indicate that the impact on the overall Marlborough economy could well have, by 2007/08 been measured in \$100s of millions of dollars GDP per annum. Those shortages continue, even in the economic downturn and have had a very substantial although unquantified impact on the regional economy. Interestingly, while education initially focused on wine science, possibly reflecting New Zealand's production bias, an acute need for specialist wine managers and

marketers and more specialist viticulturists is now emerging and reaching acute and urgent proportions.

### 4.3 Growing science in the region

The sector was entering a period of what proved to be spectacular growth. The NZ wine industry, largely on the back of Marlborough Sauvignon Blanc attained the highest average per litre price of any wine producing nation. Forward thinking members of the sector recognised that to sustain that position would require a substantial investment in research and research based education. However the nation, let alone Marlborough lacked the committed and co-ordinated soft and hard infrastructure required to meet the emerging needs. The opportunity arising from this need met all the criteria established in the *Progress Marlborough* strategy for intervention.

### 4.4 Mitigating the low wage issue

Despite the glamorous appearance of the Marlborough wine industry, Marlborough's prosperity has been undermined by low average wages and loss of youth. The *Progress Marlborough* strategy observed as one of its four pillars that the region had a growing lack of social equity and that not all people were able to share in the emerging wealth even if they chose to try to do so. At the time of the project, the region vied with Gisborne for the lowest average wage rates in New Zealand. Research indicated that there was some evidence of "sunshine wages" (the same occupational categories received lower compensation in Marlborough) exacerbated by the higher value positions such as finance, marketing, general management etc being based elsewhere. There were no national wine companies with their head offices domiciled in Marlborough.

A number of key conclusions were reached:

- Head offices: there was little likelihood of causing those head offices to transfer and therefore a search was conducted for high value segments of the sectors that were not anchored elsewhere. It was identified that there was no national centre for wine research and education. Marlborough's growing international reputation for cool climate wine production appeared to offer the greatest opportunity.
- Raise low wages: Debate was encouraged as to the moral justification of "sunshine wages" in a context of very high (and increasing) cost of living. Countering the low average wage rates, there was no evidence of

Marlborough businesses enjoying higher profitability. Consequently it was recognised that to raise wage rates would require an increase in productivity and that research and education were two of the key drivers.

- Add high value components into the local mix: In the absence of senior management, it was identified that new higher value occupational categories would need to be created and that research and education services provided an opportunity to attract and more importantly, create new high value, sustainable employment within the region. (Ironically in the interim, the research and education establishments have come to struggle to match the private sector salaries.)

Intervention was thus considered justified.

#### **4.5 Attracting Government investment**

The region, like many others, had suffered from the withdrawal of most government services, impacting the viability of the region's economic and social infrastructure (including the viability of sports teams). In the regions, government money had traditionally represented a significant part of GDP. While it was recognised that only modest opportunities existed to restore provision of government services to the region, the opportunity did exist to obtain high value grants and especially research grants.

Innovation is heavily dependent upon relationships and knowledge creation and transfer. It may seem paradoxical then that this project was about the construction of a building. The rationale was quite simple. To conduct nationally significant research and attract world class scientists, research students and funding, physical facilities were a pre-requisite.

#### **4.6 Maximising yield**

The region's wine appeared to derive its competitive and comparative advantages from its terroir. However, exactly what defined that terroir was unknown. The Wine Research Centre, by focusing on identifying the unique characteristics of the wine would not only protect the advantages but provide the platform to build even greater value, thereby enhancing the competitive advantage.

#### 4.7 Value, values and value add

It was clear from the public consultation that there was no clear picture of Marlborough value and values. Nor did the wine sector have a clear picture beyond production values, how the values that define “Marlborough” could be used to build additional value. Of particular note to this project was the value and values of Marlborough Sauvignon Blanc. Protecting the value and values, in particular understanding what makes the Marlborough Sauvignon Blanc distinctive was essential to realising the ambitions set out in the Progress Marlborough strategy and have subsequently become the principal focus of wine research at the Centre. The region and the sector are yet to fully realise the opportunities around building value beyond the production value, now defined as 3-isobutyl-2-methoxypyrazine (IBMP) and 3-isopropyl-2-methoxypyrazine (IPMP). [Ironically published in scientific journals and made available to the world!]

### 5. Partnerships

Developing partnerships were of critical importance from a variety of perspectives.

1. The regional partnerships programme mandated the formation and maintenance of partnerships between the Local Council, EDA and industry sector. In the end partnerships were established with:

- Wine Institute of NZ
- Wine Marlborough
- Marlborough Regional Development Trust
- Marlborough District Council
- Individual wine companies (contributed \$600,000 pa)

2. The success of the Centre would hinge on the establishment and maintenance of high order research and education partnerships. At the time, the New Zealand industry was serviced mainly by graduates of the Australian wine education centre, Roseworthy. Early efforts were aimed at forging a partnership with Roseworthy and then Charles Sturt University. As it turned out Roseworthy was in the midst of a major upheaval and soon after was absorbed into the University of Adelaide and negotiations foundered. Eastern Institute of Technology in Hawkes Bay subsequently forged a successful relationship with Charles Sturt University. In the end, the Marlborough arrangement became a domestic one with relationships established and continuing to various levels with:

- Lincoln University
- University of Auckland
- Hort Research and Crop and Food (now Plant and Food Research)

- Nelson Marlborough Institute of Technology

with support confirmed from the Foundation for Research Science & Technology.

At the time the Relationship Clusters model was developed as a tool for mapping relationships within the community and played a significant role in the background research and analysis. A generic example appears below:

The fortunes of the Wine Research Centre relationships were mixed. See below for a development of this discussion.

## RELATIONSHIP CLUSTERS CONCEPT



The *relationship clusters model* proved a useful tool in mapping and designing networks

## 6. Milestones

The term "milestones" was rarely used during the project. Instead the project had to pass through a series of gates or hurdles – although the project gathered such inertia that it quickly reached a point of no return and the hurdles were only identified as having been exceeded in retrospect.

The MRI application was the first prepared for Industry New Zealand. At the time INZ had not developed criteria and only had a Cabinet Minute as guidance. As a

consequence the project served as a prototype for the funding scheme. That proved enormously beneficial as the process concentrated on what would ensure the success of the project rather than meeting a series of prescribed criteria. The gates or hurdles are shown below and largely coincide with the steps shown in Appendix 3:

- Regional research around opportunity;
- Challenge definition and creation of project team;
- Opportunity definition;
- Establishing project criteria;
- Strategy development around form of COE and potential partners national and/or international;
- Commitments;
- Capital from NZTE and industry. A detailed funding application was developed supported by a cost benefit analysis provided by Economist Phil Donnelly;
- Research funding from FRST and Industry;
- Education partners;
- Research partners.

## **7. Critical Success Factors.**

A series of critical success factors were identified, largely focused around achieving sustainable funding commitments from the Foundation for Research Science and Technology and matching industry contributions. It was also identified that the education to be provided would be supported by research. See below for the issues that arose around the CSFs.

## **8. The final product**

The description below, lifted from the NMIT website, provides a good description of the Marlborough Wine Research Centre. Note that there are actually 109 wineries and 524 independent growers and 57% of the national growing area. In 2008 Marlborough produced 194,639 tonnes of the national total of 282,352 tonnes (69%). In 2008 the industry exported \$NZ797,797,000 of product. Marlborough wine achieves a significantly higher price than other regions, but even at 69% exports would be worth \$550,000,000. The outdated statistics presented in what is

one of the highest profile representations of the Centre characterises the failure to achieve the full potential.

#### **NMIT's description of the Marlborough Wine Centre**

There's no better place in New Zealand to study viticulture and winemaking than Nelson Marlborough Institute of Technology. The Marlborough region is at the forefront of New Zealand's wine industry growth, producing 52 percent of the country's wine and with over 60 wineries and more than 300 independent growers. The region has also acquired an international reputation for the quality and flavours of its wines, based on the district's unique characteristics for cool climate viticulture. The annual Wine Marlborough Festival in February is one of the country's premier wine events.

Facilities on-site at the NMIT Marlborough campus include a vineyard, a purpose-built winery and state-of-the-art lab facility. The NMIT facility is situated within the **Marlborough Wine Research Centre**, established with support from local and national wine and viticulture industries. The centre is a partnership between NMIT, Lincoln University, HortResearch, the Marlborough District Council, Marlborough Regional Development Trust and the owner, the Marlborough Research Centre Trust. The Research Centre itself has two laboratories, a technology transfer theatre and wine sensory room for conducting specialised tastings. Marlborough Winegrowers Association, Sustainable Viticulture and Wine Marlborough also have their offices within the Research Centre. NMIT students are fortunate to rub shoulders with scientists conducting cutting edge research in the area of viticulture and wine and some of the researchers lecture part time.

## **9. Achievements**

It is noted here that even when an economic development project's outcomes can be quantified, attributing causality, is according to Warwick University (The UK Government's advisor on the matter), impossible. Success or failure may be attributable to factors identified or not, outside the project. Despite its dominance of production statistics, Marlborough struggled to be seen as the "centre" of the New Zealand wine industry. Even now it does not have the head offices of any of the major wine companies. That diminishes the value accumulated by the region. That aside, the Wine Research Centre has enabled the region to position itself as the hub of wine research for New Zealand, significantly enhancing the region's status. In addition, the Centre has delivered the following benefits:

- Direct expenditure of research funding from the FRST and national industry on salaries and services;
- Research relationships with Auckland and Lincoln Universities;
- Long term commitment and investment from Plant and Food CRI;
- Research output – reported in Wine Research Centre Annual Report;
- Restoration of science research to the region;

- Direct contribution to productivity – see cost estimates (Appendix 3).

## 10. Setbacks

Countering the many achievements of the Centre, there have been a number of disappointments that have impacted the project to varying degrees:

- Failure of negotiations with Roseworthy;
- Failure, resurrection and failure again of education relationship with Lincoln University and Lincoln's failure to realise the opportunity to build a close relationship with NZ's premium wine region;
- Failure of NMIT to fully exploit opportunities – lack of entrepreneurship, responsiveness, bureaucracy;
- Failure by FRST to meet their funding commitment and the need for substantial political intervention to achieve a satisfactory outcome;
- Demands placed upon scientists to chase funding reducing research output;
- Issues around ownership of IP eg Pernod Ricard have full access to NZ FRST funded research to apply at will across their global empire;
- Poor performance by the local boys' secondary school, culminating in a \$1.7 million debt, the resignation of the Principal and the school's reputation in tatters. This has resulted in continuing exodus of students from the region for secondary education, exacerbating the loss of youth for tertiary education and other "bright city lights" reasons and creating an additional barrier to attracting people to the region.

The 2008 vintage of near 200,000 tonnes exceeded production capacity by 45,000 tonnes and exceeded market demand by a similar amount. The 2009 vintage was also approximately 200,000 tonnes. The industry target is for 5% bulk sales but this has now blown out to 35%.

Innovation occurs through four channels:

- Product
- Process
- Marketing
- Organisation

Characteristic of the New Zealand approach to innovation, the Centre has focused upon product and process innovation but has applied no attention to marketing

innovation. With the sector now under extreme downward price pressure (despite continuing demand), the failure to diversify into marketing innovation research may adversely impact the sector going forward.

## 11. **Metrics**

The project relied upon a variety of metrics including:

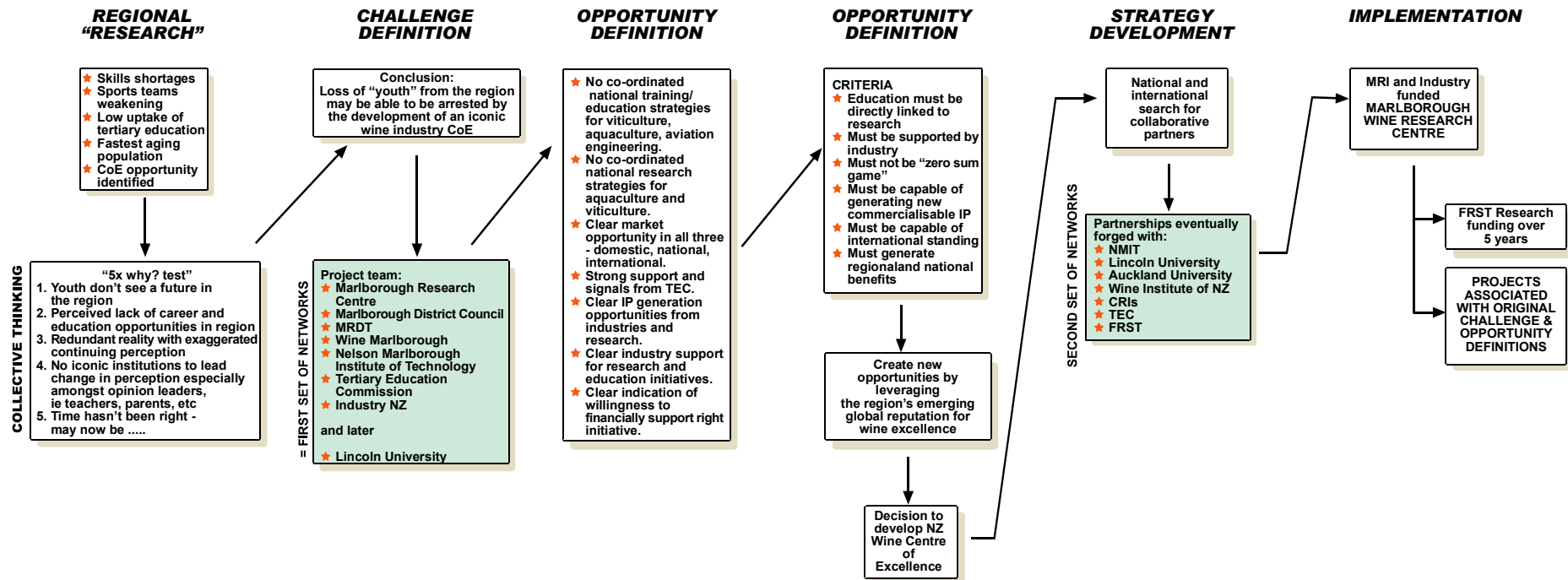
- Demographics especially loss of youth (Shown in Appendix 2)
- ROI research investments (Economist's report)
- Industry statistics ([www.winenz.co.nz](http://www.winenz.co.nz))
- Educational attainment/transition from secondary/participation/ Maori attainment.
- Industry growth projections.
- Deprivation index.
- Massey/AMP Housing Affordability index.

## 12. **Economic Benefits**

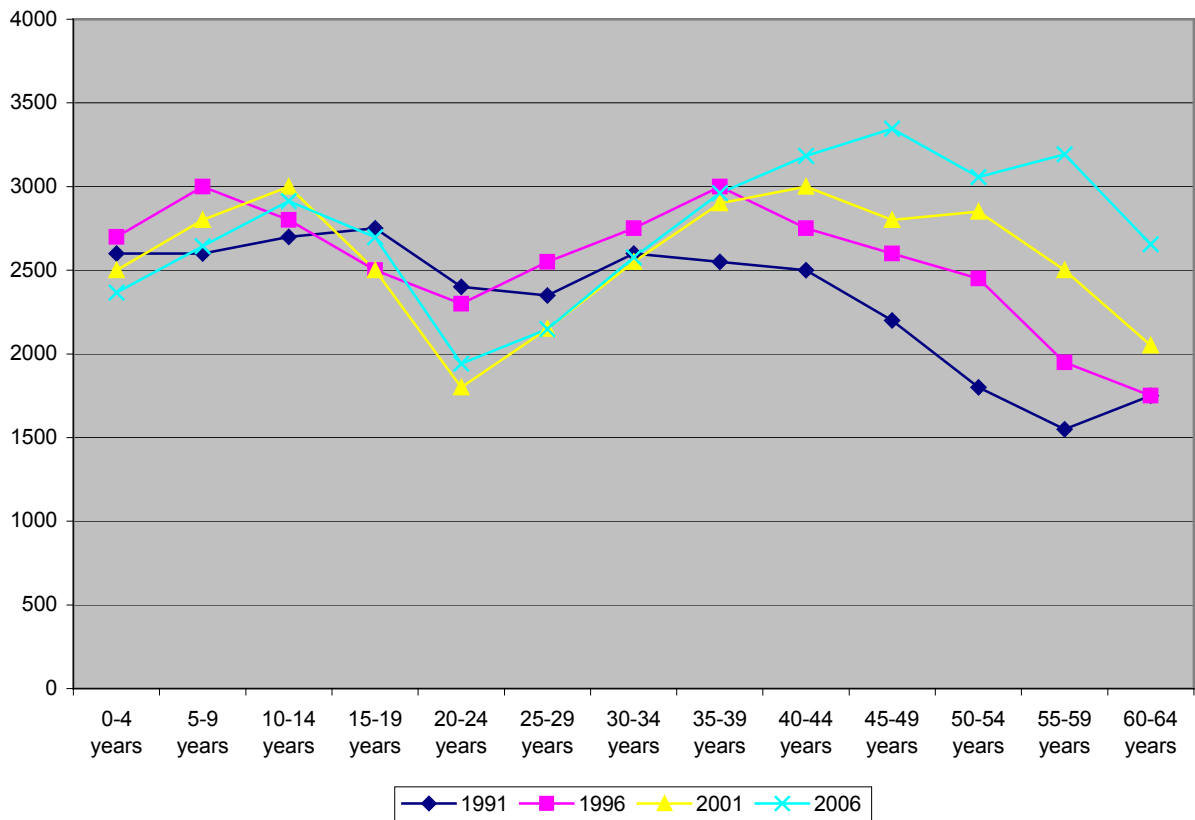
The project proposal based its cost benefit analysis on standard formulas for the return on investment in research. This neglected a wealth of other financial and non-financial benefits from the project. Some of these are outlined in Appendix 3.

The value of the Marlborough wine sector has been referred to in *Section 8 The final product*. In July 2009, even with 4,000 plus foreign seasonal workers in the region, there are only 90 registered unemployed in Marlborough. With 60,000 nationally the region's per capita share would be over 600. It is probable that Marlborough is not in recession and the Wine Research Centre will have made a significant contribution to that outcome.

## APPENDIX 1: Project planning and process



### APPENDIX 2: Marlborough population curves



Marlborough population curves compared

### ***APPENDIX 3: Value of the Marlborough Wine Research Centre***

The value to Marlborough of the Wine Research Centre and NMIT wine related programmes is very difficult to determine and most efforts at analysis probably underestimate. Value is created through a number of avenues:

- Direct income in the form of government research grants. Those are reported in the Centre's Annual Report.
- Benefits derived from the research. This should in theory be in the 10s of millions per annum. Since the majority of the research is of universal application any estimates can be applied to the entire Marlborough sector (In fact the findings are applicable to the entire New Zealand industry but that value is not reflected in Marlborough. Based on the 2006 Progress Marlborough GDP estimate of \$342 million (This number has increased substantially in the interim), at just a 1% annual contribution to productivity, the output would be valued at \$3.42 million GDP pa.

The value of providing education services is two fold.

- The first is in the value in productivity gains for the sector. If locally provided education is responsible for just a 0.5% per annum productivity gain it would be valued at \$1.7 million GDP pa.
- In addition there is both a multiplier effect from students resident in the region (or at least the avoidance of opportunity cost of them residing elsewhere), plus the value of students from other regions studying here.

Overall, any contribution to resolving the region's labour and skill shortages has a significant net positive benefit.