Ministry for the Environment
Manatū Mō Te Taiao

Valuing New Zealand's Clean Green Image

The Ministry for the Environment commissioned PA Consultants to carry out this study (funded by the Contestable Research Fund of the Ministry of Research, Science and Technology) to provide an estimate of the value for New Zealand's export trade of our clean green image.

There is considerable discussion about New Zealand's clean green image, but relatively little solid information about its value. This was clear from an earlier study which the Ministry commissioned through the Sustainable Management Fund, *Green Market Signals*, published in 1999. The current study is, in part, a response to the suggestions received from industry groups and others at that time.

The aim of this current study is to quantify the extent to which particular New Zealand exports benefit from positive perceptions about our environment. The project focuses on three export sectors: dairy, inbound tourism, and organic produce. It assesses the potential consumer reaction to an illustrative decline in New Zealand's cleanness and greenness.

The empirical work done in this study reinforces the qualitative evidence that our clean green image is valuable, and provides some useful insights into the size and nature of that value. The results are of course not definitive – no contingent valuation study can ever be so – but they do strongly indicate a significant vulnerability of export value (through reduction in product quantities likely to be purchased by consumers) in the event of a (hypothetical) degradation of New Zealand's environment.

While the research's approach and findings have been robustly peer reviewed, like all empirical economic estimates, the conclusions rest on assumptions and a specific methodology. That said, the study certainly provides food for thought. Main findings are as follows:

- New Zealand's clean green image does have a value. Environmental image **is** a substantial driver of the value New Zealand can derive for goods and services in the international market place.
- The study suggests this image is worth at least hundreds of millions, possibly billions, of dollars – aggregating value elements from dairy, tourism, and organic produce, and extrapolating to other sectors such as meat.
- New Zealand is relatively clean and green. This is mainly attributable to our low population density resulting in relatively benign environmental pressures.
- However, there are environmental problems that are sufficient to raise questions about the sustainability of the value of New Zealand's exports attributable to its environmental image. There is a risk that New Zealand will lose value that is created by the current environmental image if we are not vigilant in dealing with the problems that could threaten the image.

If you would like to discuss this report further, please contact Dr Ralph Chapman, Manager of the Strategic Policy Group, Ministry for the Environment, at (04) 917 7444 or email him at ralph.chapman@mfe.govt.nz.

2. EXPORT SECTOR SCAN

2.1 INTRODUCTION

In this chapter we provide an overview of New Zealand's existing and emerging exports and the markets to which they are directed.

The analysis builds on existing reports and available market intelligence with the intention of forming plausible hypotheses about those couplets of export goods/services and markets where New Zealand's clean green image is most likely to add value.

In conducting this part of the investigation, we consider not only the more established export industries but also the sectors where there is evidence of rapid export growth. In all cases, we bear in mind the plausibility of the hypothesis that environmental factors are adding to the value of the export sector being considered.

The results of this part of the analysis are combined with the conclusions drawn from the parallel exercise considering the state of the New Zealand environment (Chapter **Error! Reference source not found.**) to develop specific proposals for the export sectors and markets which should be the focus of the more detailed quantitative survey work to follow.

The chapter is organised as follows:

- Section 2.2 contains an overview of New Zealand's export sector. It provides an analysis of the major export goods and services, the markets to which these goods and services are directed, along with the emergence of new export sectors that may extract additional value as a consequence of New Zealand's environmental image.
- Sections 2.3 to 2.5 profile in more detail the three largest export areas namely: dairy, tourism, and meat respectively.
- Section 2.6 examines in more detail the organic food sector as an example of an important emergent export sector that may draw value from New Zealand's environmental image.
- Section 2.7 presents a summary of conclusions developed within the chapter.

Note that in focusing on the major export sectors (along with the emerging organic food sector) we have necessarily glossed over other export sectors where environmental quality and/or environmental management systems are likely to be a driver of value. Obvious examples are the export of wood and wood products and the wool sector. For more information on these sectors the reader is referred to a report prepared for the Ministry for the Environment, Woodward-Clyde's "Key Opportunities and Risks to New Zealand's Export Trade from Green Market Signals" report (supported by the Sustainable Management Fund (SMF)).

2.2 OVERVIEW

2.2.1 New Zealand's major export sectors

New Zealand is heavily dependent on overseas trade, with external trade accounting for over half of its Gross Domestic Product. Because of its small population, the loss of an export market means that New Zealand exporters cannot simply redirect product to its domestic market.

Agricultural products and tourism dominate New Zealand's export sector. The former sector is particularly broad, encompassing both pastoral and horticultural products. Over half of New Zealand's exports are agricultural. Agriculture is New Zealand's largest and foremost economic endeavour, regularly contributing more than $20 billion to the Gross National Product. New Zealand's temperate climate, fertile soil and relative isolation make it ideal for almost every kind of production – from sheep and cattle, to cropping and horticulture.

The agricultural sector's major exports include meat, dairy products, wool and fibre, fish, wood, hides and skins, and many smaller products, which continue to develop niche markets around the world.

Agricultural exports have fallen sharply in recent years as severe droughts from 1997 to 1999 reduced farm production.

The table below shows earnings from New Zealand's various export sectors (excluding tourism) and their major destinations for the year ended June 2000.

Table 1: Revenue from New Zealand's non-tourism exports and their main destinations for the year ended June 2000 (Statistics New Zealand)

Commodity	Export Earnings (NZ$ million)	% Contribution	Main Destinations
Milk Powder, Butter and Cheese	$3,975[1]	24	Japan, USA, Malaysia, UK and Australia
Casein and Caseinates	$803	5	USA, Japan, Germany and Italy
Meat and Edible Offal	$3,375	21	USA, UK and Germany
Fish, Crustaceans and Molluscs	$1,218	8	Japan, USA, Australia and Hong Kong
Fruit and Nuts	$975	6	Europe
Wool	$801	5	China, UK, Italy and India
Logs, Wood and Wood Articles	$2,016	12	Japan, Australia, Korea, USA and Taiwan
Mechanical Machinery	$1,124	7	Australia and USA
Aluminium and Articles thereof	$1,116	7	Japan, Korea, Australia, Taiwan and USA
Electrical Machinery	$830	5	Australia, USA and UK

[1] Note that export earnings from the dairy industry do not include sales from the Dairy Board's joint venture companies that market "non-New Zealand" dairy product.

Significant areas of growth within the agricultural sector for the year ended June 2000 were meat, fish and dairy products. Meat exports were up over 19% from 1999 and dairy exports were up 3%. Exports of fruits and vegetables were down almost 7% for the year ended June 2000.[2]

The increasing significance of tourism as an export earner is evident in Statistics New Zealand's compilation in 2001 of a pilot Tourism Satellite Account (TSA) for the year ended 1997. Statistics New Zealand found that for the year ended 1997 the tourism industry's direct contribution to GDP equalled $4,197 million or 4.7% of total GDP (compared to the agricultural sector's 6% contribution for the same period). For the year ended March 1999, international tourism brought in $3,595 million in foreign exchange (excluding airfares). Note that expenditure by international tourists on air passenger transport by New Zealand carriers is excluded for confidentiality reasons, and earnings from foreign exchange are therefore underestimated. It has been estimated that tourism is directly and indirectly responsible for more than $l billion of tax revenue per annum.[3]

2.2.2 New Zealand's major export markets

Australia, USA, Japan, UK and Korea are New Zealand's largest export markets. For the year ended June 2000, all five markets experienced growth. Exports to Australia were up almost 14%, and exports to the US and UK were up 24.3% and 14.8% respectively. Japanese exports were up 17% and exports to Korea were up 32.6%.

Although Australia is New Zealand's largest trading partner in terms of export earnings, the USA, UK and Japan are New Zealand's predominant trading partners with respect to agricultural products. The USA is the main destination for beef exports and casein products. Comparatively, meat exports to Japan are low. Exports to Japan primarily consist of dairy products and seafood. The main exports to the UK are meat, wool and dairy products.

The majority of New Zealand's export promotion to these key markets is carried out by statutory producer marketing boards and by private companies. The New Zealand government also funds export market promotion through TradeNZ, the Trade Development Board. These marketing and promotion boards control almost 80% of New Zealand's agricultural exports and include ENZA (formerly the Apple and Pear Marketing Board), the New Zealand Dairy Board, Zespri (formerly the Kiwifruit Board), Wools of New Zealand (formerly the Wool Board), the Meat Producers' Board and the Game Industry Board. Tourism New Zealand (formerly the New Zealand Tourism Board) is responsible for marketing New Zealand as a tourism destination in our key overseas markets. Various regional tourism operators and private participants assist them in this task.

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[2] Data compiled by the New Zealand Trade Development Board (TradeNZ).

[3] Parliamentary Commissioner for the Environment, 2000: "*Setting Course for a Sustainable Future: The Management of New Zealand's Marine Environment*".

2.2.3 Areas of strong export growth

One sector, which has shown strong growth recently, is New Zealand's organic industry. With recent food related scares, the growth of the organic industry has gained momentum worldwide. The global organic industry is currently worth between US$15 billion and US$18 billion.[4] The New Zealand organic food industry experienced a 77% increase in export earnings from organic food during the last financial year. Total revenue for the year ended June 2000 was $60 million, compared to $34 million the previous year. The strongest markets for organic produce are Japan and Europe, although the US market is a fast developing one. The European market grew by 159% over this period and the US market by 517%.[5]

Organic foods comprise fresh fruits and vegetables, processed foods and meat and wool. Fresh fruit accounts for almost 80% of organic exports. On its own, fresh fruit (both organic and otherwise) accounted for less than 4% of New Zealand's merchandise exports last year. While organic fruit and vegetable exports have experienced rapid growth, overall, fresh fruit and vegetable exports were down compared to the previous year. However, in the past fresh fruit exports have increased steadily and fresh vegetable exports have remained steady with minor fluctuations.

The horticulture industry covers three sectors of roughly equal value – kiwifruit, apples and other fruits and vegetables. Of the last category, processed vegetables and squash are the largest earners with smaller contributions from pears, peaches, nectarines, avocados, blackcurrants, blueberries, boysenberries and citrus fruits.

New Zealand's major markets for fruit are Europe and Japan. The latter is an important market for kiwifruit and squash. In 1993, Japan began allowing imports of New Zealand apples. Apart from small quantities of Korean apples, Japan had never previously opened its doors to overseas apple exporters.

2.3 DAIRY

2.3.1 Overview of dairy sector exports

The dairy sector is currently New Zealand's single largest export earner, with 90% – 95% of production being exported. Although New Zealand produces a relatively small proportion of the world's total milk, it is far more significant in the world dairy trade. Only 5% of the world production is traded (excluding trade within the European Union). The European Union (EU), New Zealand and Australia provide 38%, 31% and 12% of dairy products traded on world markets respectively. Excluding intra-EU trade, New Zealand is the largest exporter of butter, and the second largest exporter of skimmilk powder, cheese and wholemilk powder.

In the year ended June 2000, dairy products accounted for almost 30% of New Zealand's total non-tourism exports. Earnings from dairy exports for that period were NZ$4,778 million.

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4 Ritchie et al (2000), Investigating the Market for Organic Food: Dunedin, New Zealand and the World.

5 Organic export statistics were taken from the Organic Producers' Export Group (OPEG) web-site, www.organicsnewzealand.org.nz.

The four major product groups manufactured by New Zealand dairy factories are: milk powders; cream products such as butter, anhydrous milk-fat and ghee; cheese; and proteins such as casein and caseinates.

The New Zealand dairy industry's major markets vary for different products. Britain and the EU are New Zealand's most valuable market for butter. The primary markets for casein and cheese are the United States, Japan and the EU. New Zealand is the world's largest exporter of casein and caseinate products. New Zealand's most important milk powder markets are in Central and South America and South East Asia.

Figure 1: The major product groups (excluding caseins and caseinates) manufactured by New Zealand dairy factories for export and their respective contributions to export revenue for the year ended June 1999

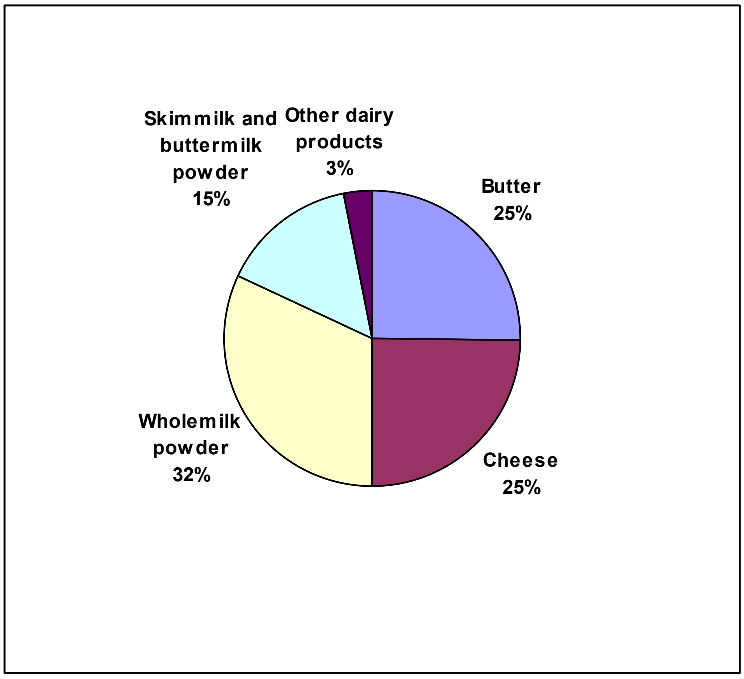

Figure 2: Distribution of New Zealand dairy exports (excluding caseins and caseinates) to New Zealand's major markets for the year ended June 2000

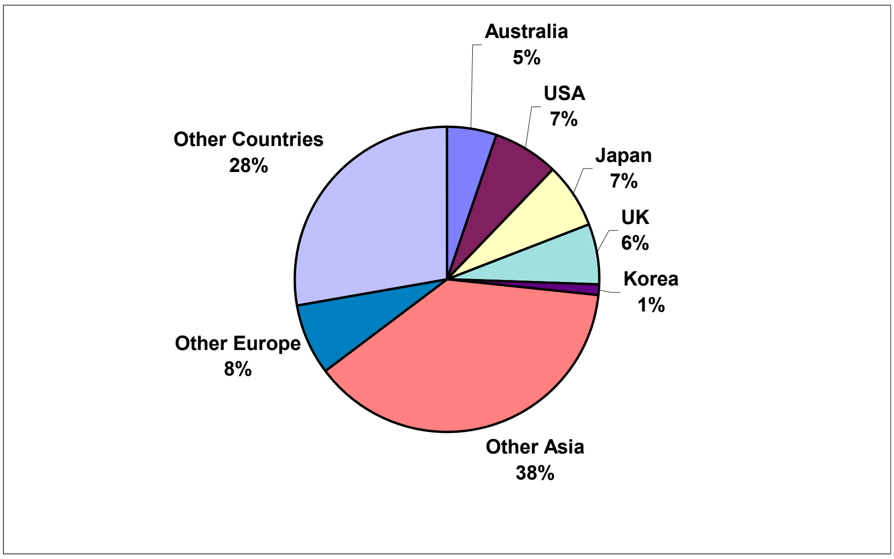

Table 2: Major export markets for New Zealand dairy products for the year ended June 2000

Market	% of Total Dairy Products Exported to Market
Australia	5
Korea	1
Japan	8
United Kingdom	6
USA	15
Other Asia	31
Other Europe	9
Other Countries	25

2.3.2 Evidence of environmental contributions to export value

In Woodward-Clyde's 1999 report on "green market signals", the following issues within the food and beverage sector were noted as being prevalent among New Zealand's major export markets:

- recent food scares leading consumers to question agricultural practices;
- the increase in demand for organic food produced using "environmentally friendly" methods; and
- the presence of genetically modified material in foodstuffs.

With the recent spate of issues affecting basic foodstuffs, European consumers have become more safety conscious. Europe has become an increasingly difficult environment to sell into, with supermarkets being risk averse and imposing technical specifications on importers on behalf of their customers.

As British consumers have become more concerned about food safety, Anchor has taken advantage of New Zealand's clean, green image to promote its butter. Their marketing strategy uses the fact that the climate allows New Zealand farmers to keep cows out in the fields all year round rather than having to winter them under cover. The subtext is that New Zealand cows eat grass all the time, rather than being forced to eat other, processed feed.

NEW ZEALAND MILK is a strategic business unit of the New Zealand Dairy Board (NZDB) and controls the marketing of all milk related (consumer) products. It has also taken advantage of New Zealand's clean green image in implementing its marketing strategy. NEW ZEALAND MILK has developed a logo and branding philosophy that captures the energy and vitality of a clean and green country. Its brand positioning is based on consumer preference for NEW ZEALAND MILK products because they represent the pure and natural values of New Zealand.[6]

An example of NEW ZEALAND MILK's marketing strategy can be seen in its efforts to increase market share in the Middle East, against well established Australian and European suppliers of similar products. NEW ZEALAND MILK commissioned the Rendon Group (TRG) to undertake consumer surveys and focus groups. This revealed that the consumer market in the Middle East knew little about New Zealand and less about its dairy products. TRG designed a comprehensive awareness campaign of New Zealand dairy products by linking the environmentally healthy and natural image of New Zealand to its dairy products. The campaign included an integrated media campaign and monthly placement of press releases in the Pan Arab and local newspapers and magazines. Focus groups and survey research held in several countries in the Middle East revealed a dramatic increase in the recognition of New Zealand dairy products and the positive association with these products as more healthy and safer than competing products from the European Community and Australia.[7]

NZMP is another strategic business unit of the NZDB and deals with the marketing of dairy ingredients (i.e. its operations are confined to the commodity market). Both NEW ZEALAND MILK and NZMP (the former more so than the latter)[8] use the clean green image and New Zealand origin as marketing tools. The maintenance of this clean green image is deemed necessary to retain New Zealand's current market share in the global dairy industry. This means high quality milk, animal health, animal welfare and environmental performance (Barnett and Russell 2000).[9] Barnett and Russell (2000) also note that the environmental vision of the New Zealand Dairy Industry is to "produce and provide dairy products that are safe for their intended use, by using environmentally sustainable and humane practices which meet agreed international standards".

Barnett and Russell (2000) further noted that the goals of the dairy industry were to:

- measurably reduce negative impacts on the environment arising from dairy farm activities; and
- maintain a profitable and productive industry.

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6 NEW ZEALAND MILK web-site, www.nzmilk.com

7 www.rendon.com/docs/middleeast.html

8 While NZMP has used the "clean green" strategy on occasion to promote its product, its main strategy is emphasising that NZMP is a global dairy company with safe product and reliable delivery. The consumer side of the business (NEW ZEALAND MILK) makes use of New Zealand's clean green image far more extensively.

9 Barnett and Russell (2000), Clean Green Marketing Issues for the Dairy Industry.

To meet these needs, the New Zealand dairy industry has developed the following strategy to identify problems and solutions:

- understand the links between dairy farm practice and impacts on land, water and air;
- develop the scientific basis of an on-farm environmental management quality assurance programme, including indicator systems and management practices to reduce the impacts of farming on land, water and air;
- promote farmer adoption of improved environmental management practices; and
- develop a monitoring programme aimed at measuring and reporting at industry level on-farm management practice and the impact of dairy farming on land, water and air.

In recent years the genetic modification issue has been prominent. In a submission from the NZDB to the Royal Commission on Genetic Modification it was noted that the NZDB did not support "uncontrolled or over-zealous use of GM in agriculture".[10] The New Zealand dairy industry has an interest in protecting New Zealand's clean green image and ensuring that no actions are taken to taint its "origin brands". One of the main issues raised in the submission was the effect such technology could have on New Zealand's unique ecosystem and its international reputation as a "clean green" country. The dilemma faced by the New Zealand dairy industry is that total avoidance of GM could restrict New Zealand's performance in the global marketplace. However, at the same time due to the outbreak of food related scares in New Zealand's major markets, the introduction of the "over-zealous" use of GM is likely to deter consumers.

2.4 THE MEAT SECTOR

2.4.1 Overview of meat sector exports

New Zealand's red meat industry is a significant food business. For the year ended June 2000, its contribution to total New Zealand exports was surpassed only by the dairy industry. It is heavily export oriented with 92% of lamb meat production, 60% of mutton production and 80% of beef production being marketed overseas.[11] For the year ended June 2000 it represented over a fifth of New Zealand's export earnings. For this period the revenue accrued from meat exports was NZ$3,375 million.

Chilled products have contributed to New Zealand's export successes. New Zealand's businesses have expanded their international marketing presence in all the leading markets including the UK, Middle East, Belgium, Canada, the USA, Germany, Japan and Singapore.

The meat sector can be broken down into beef and veal, lamb, mutton and hogget and venison products. Meat exports are dominated by beef and lamb, both of which are predominantly destined for the USA and Europe. The former accounted for 32% of meat exports (by value) for the year ended June 2000, and the latter for 41% (14% of New Zealand's meat exports went to the UK).

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[10] Royal Commission on Genetic Modification web-site, www.gmcommission.govt.nz

[11] New Zealand Red Meat Industry: Strategic Direction (1998).

Beef exports are still dominated by frozen beef exports to North America, but other markets are growing in importance. Asian markets, in particular, are looking for young, tender, grass-fed beef. New Zealand produced 570,000 tonnes, or just over 1% of the world production of beef, in 1999. Over 80% of this production was exported, representing over 10% of the world trade in beef.[12]

Both lamb and beef exports have experienced growth over the 1999/2000 period. Lamb exports were up over 13% and beef and veal exports were up almost 29%. Since 1996, lamb exports have surpassed beef exports to become New Zealand's primary meat export. In fact lamb exports have been steadily increasing since 1993. Beef exports, however, were on a steady decline till 1997, when they experienced a sharp increase, coinciding with the BSE scare in Europe. Venison exports remained steady over the 1993/1999 period, although they did experience a 13.2% increase over the 1999/2000 period. Other meat exports have remained steady over the last seven years, with no notable increase or decrease in export level.

2.4.2 Evidence of environmental contributions to export value

Recent food scares (including, in particular, outbreaks of BSE in Europe) have raised concerns among consumers about:

- food safety;
- safe farming methods; and
- animal health and welfare.

In the New Zealand Red Meat Industry's Strategic Report (1998), outbreaks of E.coli in the USA, Japan and Scotland and BSE in Europe were noted as highlighting the importance of food safety issues and "the ease with which a level of consumer trust can be destroyed". It was further concluded that the New Zealand meat industry would achieve a competitive advantage over their competitors and mitigate risk of loss of markets and consumer faith in the safety of their products by:

- highlighting New Zealand's food safety record;
- undertaking on-going and rigorous review of food safety systems for known food safety risks;
- developing scenarios for responding to potential food safety failures in key markets;
- developing and implementing product traceability and quality management systems;
- encouraging "best in class" practices by introduction of benchmark systems; and
- developing new technologies that ensure the microbial, chemical and physical safety of New Zealand meat products.

It was also noted that the public is increasingly concerned that food production and processing is undertaken in an environmentally sensitive manner. New Zealand has a reputation for having natural production methods and environmentally sustainable practices, and exporters can exploit this to gain a competitive edge. Given that the modern consumer expects food producers to comply with stringent environmental standards, it was decided that the industry would promote its competitive advantage to mitigate the impact of potential environmental trade barriers by:

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[12] New Zealand Meat Research and Development Council.

- developing appropriate environmental standards for meat production, processing, packaging and storage;
- encouraging industry members to apply best environmental practice along the production-marketing value chain; and
- promoting New Zealand's image as a producer of food in a natural production environment.

Emphasising New Zealand's clean green image and "environmentally friendly" farming methods are consequently viewed as appropriate marketing strategies to promote New Zealand product overseas. For example, the slogan used to promote New Zealand beef in Asia is "Far and away the best". The beef promotion in Asia is supported by images of New Zealand's natural environment. The aim is to differentiate New Zealand beef from other producers, emphasising the fact that New Zealand is the ideal place to rear beef. The aim of the campaign is also to appeal to the consumers' concerns over food safety and natural production. Trade fairs and seminars are also used to promote New Zealand beef to Asian consumers.

Similar approaches are taken to promote New Zealand lamb in North America. The New Zealand Lamb Co-operative was established over forty years ago to import New Zealand lamb into North America. Their marketing strategy hinges on New Zealand's pristine environment. The following is a quote taken from their web-site.[13]

> *"Alpine breezes, pure rainwater and sub-tropical sunshine rain down upon green grass and rich clover pastures. Sheep are free range in this mystical land and are in no need of hormones."*

It is also worth noting that the New Zealand name is automatically linked with high quality lamb. In 2000, Agriculture Forestry and Fisheries Australia prepared a report on consumer driven demands on global food chains and its implications for Australia. It was noted that the New Zealand meat industry's marketing strategy had been extremely successful and New Zealand lamb had consequently gained significant overseas market penetration with a widely acknowledged association of quality.

The use of visual imagery is common in promoting New Zealand meat. The Cervena Company Ltd. promotes New Zealand venison products in North America. It was established in 1992 as a subsidiary of the New Zealand Game Industry Board. As a result of restructuring in the New Zealand deer industry, the Cervena Council was established in 1999 as a separate company, entirely independent of the New Zealand Game Industry Board. Its marketing strategy is very similar to that of the New Zealand Lamb Co-operative. Visual imagery and New Zealand's "environmentally friendly" farming methods are emphasised. Take the following quote from their web-site for example:[14]

> *"New Zealand. Close your eyes and what do you see? Rolling green hills, fresh and new? Soaring mountain peaks, capped with snow of pure white? Rivers tumbling down rocky valleys, clear and clean? New Zealand is all this and more. Called by the Maori "The Land of the Long White Cloud", the islands of New Zealand are the first to see the light of each new day. Formed from the mineral-rich flow of ancient volcanoes, New Zealand is an Eden for wildlife and agriculture."*

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[13] New Zealand Lamb Co-operative (Inc) web-site, www.nzlamb.com.

[14] Cervena Company Ltd. web-site, www.cervena.com.

The predominant issues in promoting New Zealand meat overseas appear to be food safety and environmentally sustainable production methods. New Zealand's clean green image appears to be crucial in gaining consumer trust, in that environmental cleanliness appears to be associated with the production of safe food in a sustainable fashion.

2.5 THE ORGANIC FOOD SECTOR

2.5.1 Overview

Although the organic food sector is not one of New Zealand's biggest export earners, it is a major growth area. The organic food market has enormous potential both here and overseas. The global organic market is currently worth $27 billion and may grow almost tenfold to $200 billion in the next seven years.[15] The Organic Products Exporters Group (OPEG), the industry body for the growing organic export sector, reported a significant increase in the value of organic exports to June 2000. Surveys conducted by TradeNZ indicated that certified organic exports reached over NZ$60 million for the year 1999/2000. This was a 77% increase on the 1998/1999 figure of $34.08 million.

Europe is New Zealand's primary destination for organic produce, contributing around 48% of export earnings from this sector for the year ended June 2000. The growth of the European market for New Zealand organic produce is of particular significance, growing from NZ$18 million to NZ$28.7 million in the year to June 2000.

Japan is New Zealand's second largest organic export consumer, accounting for 25% of organic export earnings for the same period. In terms of percentage share, Japan is showing a slight decrease, with only 25% of total exports (NZ$15.1 million), versus 60% two years ago (NZ$17.5 million). This can be directly attributed to the considerable increase in demand from both Europe and the United States. A further cause for the decline in exports to Japan has been the uncertainty regarding market access and the risk of fumigation of fresh produce. This uncertainty has resulted in a significant decrease in the volume of fresh produce, eg squash, exported to Japan.

The US market accounted for 15% of organic export revenue. It also sharply increased from NZ$1.3 million the previous year to NZ$8.02 million for 1999-2000.

Export opportunities in Europe and Japan are bringing about expanding organic production primarily in New Zealand's horticultural sector. New Zealand has only recently entered the world market for organics. The value of total organic production in New Zealand in 1990 was estimated to be NZ$1.1 million. Export figures for the year ended June 2000 exceed the current industry growth predictions, which would deliver organic exports exceeding NZ$500 million in six years. Overall world growth in organic markets exceeds 20% per annum – a rate that has been sustained over the last 5 years – making it one of the fastest growing food sectors in the world.[16]

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[15] Wyatt (2000), Reaching the Big O, *Unlimited Magazine*.

[16] OPEG web-site, www.organicsnewzealand.org.nz/documents/survey2000.htm.

Fresh fruit accounted for 79% of organic exports in the year to June 2000. Fresh vegetables, processed foods and meat and wool accounted for 1%, 15% and 2% respectively. Overall, fresh fruit accounts for less than 5% of New Zealand's total export earnings. The marketing of New Zealand horticultural products is controlled by ENZA and Zespri, both of whom are advocates of organically produced fruit. Other advocates for organic produce include Heinz Watties and Fresh-Co, the latter licensed by ENZA.

Heinz Watties is a big player and markets a range of frozen organic vegetables. Sales began in 1990. The company now has more than 50 growers farming 600 hectares of certified organic produce. Japan is its main market followed by the US and South Africa.[17]

New Zealand's major markets for fruit are Europe and Japan. The latter is an important market for kiwifruit and squash, and in 1993 started allowing imports of New Zealand apples. Apart from small quantities of Korean apples, Japan had never previously opened its doors to overseas apple exporters.

2.5.2 Evidence of Environmental Contributions to Export Value

In Ritchie et al.'s 2000 paper on the global market for organic food,[18] an analysis of the "organic consumer" was carried out. It was noted that, internationally, the three main motivations for buying organic food related to concerns about:

- personal health
- food safety; and
- the environment.

There were other motivations such as enhanced flavour and freshness as well as ethical concerns over animal welfare, farmers' health, employment in impoverished rural communities and local purchasing. Ritchie et al. also noted that environmental considerations were the highest priority for organic buyers in Europe, to the extent that German consumers will often go beyond questioning how the product was grown and query aspects of production such as manufacturing inputs, energy consumption, packaging and retail practices. American and British consumers seem to be more interested in personal health and food safety issues. In 1999, the UK Soil Association commissioned a survey to investigate the main drivers behind why British consumers purchased organic food.[19] The results are reproduced below.

[17] Wyatt (2000), Reaching the Big O, *Unlimited Magazine*.

[18] Ritchie, Campbell and Sivak (2000), Investigating the Market for Organic Food: Dunedin, New Zealand and the World.

[19] UK Soil Association (1999), The Organic Farming Report 1999.

Table 3: 1999 Survey of reasons UK consumers buy organic food

Statement	Agreeing with statement
Because it is kinder to the environment	28%
Higher animal welfare	24%
Better taste	43%
Healthy/better for you	53%
GM Free	30%

Ritchie et al (2000) also noted that there was an increasing concern about the healthiness of foods in Hong Kong, the Philippines and Taiwan, which was attributable to word of mouth spread by expatriates to local inhabitants.

Food safety issues fuelled by the recent spate of food scares are also responsible for the growing demand for organic food. Japanese consumers are particularly concerned about food safety and quality.[20] Despite the fact that New Zealand organic exports to Japan have decreased slightly over the last two years, overall the Japanese market for organic foods has experienced rapid growth, with growth rates estimated at 20% per year in the 1980s, growing from an estimated US$500 million in 1994 to US$1.7 billion in 1997 (Saunders 1999). Worries about herbicides and pesticides in food are now paling in comparison to concerns over production and processing techniques and outbreaks of diseases such as salmonella, listeria, E. coli and BSE.

With regard to the production and processing of food, the emergence of genetic engineering (GE) is a particularly important issue. In this area, the organic market has an advantage, in that it is guaranteed to be 100% GE free. British consumer demand for foreign organic produce has been fuelled by food-based health scares and the presence of genetic engineering throughout Europe. As a result, organic supply cannot compete with demand.[21]

Moves by major overseas retailers confirm that the organic food market is becoming increasingly mainstream.[22] Sainsbury's in the UK says its turnover in organics has more than doubled, with customers spending more than $NZ8 million a week. The growing importance of the organics market has been recognised by Sainsbury's, and is reflected in their recent opening of an in-store organic shop, stocking more than 500 lines, and there are plans for even more products, including organic gin and vodka. Tescos reports organic sales of $NZ320 million for the year 1999, and anticipated a surplus of $NZ480 million for the year 2000. Wright (1996)[23] notes that the move towards organic food, however, is not exclusive to the UK. The Danish government predicted that 20% of all food sold would be organic by the year 2000.[24] The Danish supermarket chain Irma only stocks organic milk, due to a claimed lack of demand for non-organic milk. The durability of the organic market can be seen in the sales of organic babyfood. Most European supermarkets now stock at least one brand of organic babyfood. The UK producer Baby Organix commands sales of up to 30% of babyfood sales in some UK supermarkets.

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[20] Ritchie, Campbell and Sivak (2000), Investigating the Market for Organic Food: Dunedin, New Zealand and the World.

[21] De Boni (July 1999), Organic Apples Prized in the UK, *New Zealand Herald*.

[22] Anonymous (2000), The Demand for Organic Food, *Commercial Grower*.

[23] Wright (1996), Europe Goes Organic, *Bio Oko Eco*.

[24] This optimistic target has not been attained yet.

Of particular interest to New Zealand, which depends heavily on its primary exports, is that about 70% of organic sales in the UK are imported. In 1996 only 0.3% of British farmland was certified as organic. The table below gives the distribution of organic farmland throughout Europe in 2000:

Table 4: Certified and in-conversion land area in Europe 1986-1996 (1000 hectares)

Country	1999	2000
United Kingdom		
Organic retail sales	£390 million	£605 million
Organic and in-conversion land area (ha)	240,000	420,000
Number of organic farms	1,568	2,865
Netherlands		
Organic retail sales	£130 million	£145 million
Organic and in-conversion land area (ha)	20,000	29,000
Number of organic farms	800	1,300
France		
Organic retail sales	£400 million	£500 million
Organic and in-conversion land area (ha)	220,000	320,000
Number of organic farms	6,300	8,300
Denmark		
Organic retail sales	£220 million	£240 million
Organic and in-conversion land area (ha)	98,000	160,000
Number of organic farms	2,100	3,600
Germany		
Organic retail sales	£1.4 billion	£1.6 billion
Organic and in-conversion land area (ha)	430,000	455,000
Number of organic farms	9,300	10,500
Austria		
Organic retail sales	£180 million	£200 million
Organic and in-conversion land area (ha)	345,000	360,000
Number of organic farms	19,200	20,000
Italy		
Organic retail sales	£450 million	£600 million
Organic and in-conversion land area (ha)	830,000	965,000
Number of organic farms	30,000	49,500

Source: Brenman and Howard (2000)[25]

Although there is a marked increase in the proportion of in-conversion land area in Europe, it is worth noting that converting to organic farming methods usually takes a few

25 Brenman and Howard (2000), Organic Food and Farming Report (2000), *The Soil Association, UK*.

years (organic certification in New Zealand will only be granted if a farmer observes all "organic guidelines" for three years).

Hence, there is the potential for New Zealand organic exporters to make their mark on the British (and other European) organic markets. A low yield of conventional apples from 1997 to 1999 and the inability of ENZA to fulfil orders (in the short-term) to Europe saw British supermarket chains such as Tescos turning to organic growers.[26] ENZA now participates in about 10% of the organic apple industry. Among its organic brands are the Braeburn, Gala, Granny Smith, Fuji and Pacific Rose varieties. Zespri has also capitalised on the increasing demand for organic products, by launching its organic kiwifruit line. In 2000, it was estimated that close to 5% of New Zealand's kiwifruit crop was organic, but the figure is expected to reach 10% by 2005.[27] The accessibility (and affordability) of organic product to the consumer, however, is dependent on the supermarkets.

As with other agricultural industries, in organics, New Zealand has a reputation of being a successful and sophisticated marketer. The fact that it has national standards and certification marks accredited by organisations such as the International Federation of Organic Agricultural Movements (IFOAM) and Bio-Gro, an important if not essential feature for successful penetration, places New Zealand some years in advance of Australia in organising its marketing. Additionally, in its export markets, New Zealand presents a clearer image as a 'natural and green' country than does Australia.[28]

With fresh fruit being New Zealand's predominant organic export, it is perhaps not surprising that in 1999 Zespri (then the New Zealand Kiwifruit Marketing Board) announced that it had no GE products for sale and would not support funding for any GE research in the foreseeable future. The decision was most certainly influenced by Japanese and European consumers who guaranteed the Zespri brand of kiwifruit access to their markets as long as they were GE free.

2.6 INBOUND TOURISM

2.6.1 Overview of tourism sector exports

Inbound Tourism is playing an increasingly significant role in the New Zealand economy. Every year the tourism industry contributes over NZ$5 billion in foreign exchange earnings including NZ$350 million in Goods and Services Tax. For the year ended March 1999, international tourism brought $3,595 million in foreign exchange (excluding airfares). It has been estimated that tourism is directly and indirectly responsible for more than $1 billion of tax revenue per annum.[29] The Tourism Satellite Account for the year ended March 1997 found that tourism's direct contribution to GDP equalled $4,197 million or 4.7% of total GDP.[30]

New Zealand's main tourism markets are Australia, USA, UK, Japan and the Republic of Korea. Tourist arrivals from both Japan and Korea declined after 1996, although arrivals

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26 De Boni (July 1999), Organic Apples Prized in the UK, *New Zealand Herald*.

27 Morrison (2000), Landmark for Zespri, *Export News*.

28 Twyford and Doolan (1998), The International Market for Organic Food.

29 Parliamentary Commissioner for the Environment, 2000: "*Setting Course for a Sustainable Future: The Management of New Zealand's Marine Environment*".

30 Statistics New Zealand, *Tourism Satellite Account 1997*.

from the latter appear to be recovering since the Asian crisis of 1998. In fact, recent arrivals from Korea appear to have surpassed the highs experienced before the Asian Economic Crisis.

Tourism New Zealand (TNZ, formerly the New Zealand Tourism Board) and Statistics New Zealand undertake an "International Visitors' Survey" to gain an on-going understanding of tourism expenditure and what contribution the industry makes to the Gross National Product. This survey suggests that expenditure by tourists is rising steadily, with Australian and Japanese tourists contributing the most. The former spent almost NZ$900 million up to the year ended September 2000, while the latter spent close to NZ$750 million.

2.6.2 Evidence of environmental contributions to export value

In 1995, TNZ commissioned Colmar Brunton to research product development opportunities in the fast growing North Asian and South East Asian markets.[31] In 1997, TNZ commissioned a similar study for the North American and Central European markets.[32] The purpose of this research was to understand expectations of tourists in these target markets, and strategies to increase their numbers. The findings of this research pertinent to this paper are listed below:

- Asian tourists were mainly attracted to New Zealand for the "real nature experience" it provides. The research indicated that they were attracted to an experience that was both tranquil and relaxing as well as "stunning and expansive". For older people, especially couples, the emphasis appeared to be on tranquillity and relaxation, whereas with younger visitors the emphasis was more on personal challenges and "extending boundaries". The research also found that Asian tourists were very keen on experiencing a "real Kiwi lifestyle" that could be best expressed through a pastoral theme.
- For European and North American tourists the total image of New Zealand as a holiday destination and expectations of their experience motivate them to travel here.
- North Americans tend to travel here to take "a vacation and a time out". They have very high expectations of the scenery and landscape. While Canadians seek "a colourful, contrasting world" and a "fresh experience", visitors from the USA tend to seek "a unique and spectacular experience".
- Tourists from the Netherlands and Germany tend to be environmental enthusiasts. While Dutch tourists are enthusiastic about nature they are not precious about it. Their emphasis is on "understanding and appreciating the nature as well as the people". Visitors from Germany, however, are very staunch with regard to their expectations of the scenery and landscape that has been promised to them. They perceive the environment in Germany to be "damaged" and feel that New Zealanders should respect and appreciate the environment they have. Nature and landscape is the primary motivation for travelling in this case.

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[31] TNZ and Colmar Brunton (1995), Product Development Opportunities for Asian Markets.

[32] TNZ and Colmar Brunton (1997), Product Development Opportunities for European and North American Markets.

- Visitors from the UK are motivated by a sense of cultural familiarity as well as the perception of New Zealand as a "Garden of Eden", with a relaxed lifestyle, lush and flourishing forests and fresh fruits and vegetables, which are often not available in the UK. Their expectations are that of an "untouched paradise…refreshing and abundant".

In 1999 and 2000, market perceptions were tracked by CM Research New Zealand.[33] Markets in North Asia, South East Asia, USA, UK and Central Europe were examined. One of the purposes of this research was to monitor New Zealand's image in the target markets and assess how perceptions change over time. The research showed that in all these markets, New Zealand was strongly associated with:

- beautiful scenery;
- refreshing and revitalising;
- outdoor lifestyle;
- adventure; and
- time away from it all.

One form of tourism, which is becoming increasingly popular, is "Eco-tourism".[34] This covers a wide range of interests, activities, products, age-groups and services – all based on the concept of the sustainable use of natural resources. International companies like Whale Watch Kaikoura are earning an international reputation for their approach. Research conducted by Ecotours New Zealand[35] suggests that eco-tourism appeals to "discerning visitors who want a first-hand experience of the natural environment and local communities". It caters for travellers with special interests who prefer to be part of the real environment of a place and who want to "forget the tinted windscreens, air-conditioning and diesel-belching buses" and get away from it all. The Tourism Industry Association of New Zealand (TIANZ) is currently developing a quality standard for eco-tourism within New Zealand.

Tourism is one sector in which New Zealand's clean green image is crucial. It is the cornerstone to marketing New Zealand internationally. Previous research tends to indicate that potential visitors in target markets all appear to have a perception of New Zealand as an unblemished paradise.

2.7 CONCLUSIONS

In the sectors examined in this scan, the perception of consumers in export markets of the quality of New Zealand's environment appears to have a bearing on the export value of all the products concerned.

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[33] TNZ and CM Research New Zealand Ltd., (1999), Market Tracking Research.

[34] Eco-tourism is sustainable tourism with a natural area focus, which benefits the environment and communities visited, and fosters environmental and cultural understanding, appreciation and awareness (source: Mohonk Agreement, New York, 2000).

[35] Ecotours New Zealand web-site, www.ecotours.co.nz

Certainly, in the case of the food and beverage sector (specifically the meat, dairy and organic food sectors) environmental image has a potentially crucial bearing on export value. One major reason for this is the rising concerns about food safety and personal health scares in New Zealand's major export markets. New Zealand products are favourably viewed in terms of food safety and "environmentally friendly" production and processing techniques. This is hardly surprising, given that New Zealand's marketing strategy, especially in the food and beverage sector, hinges on communicating a "clean green" image to its overseas consumers.

Interestingly, the research suggests that there are some subtle differences amongst the different export markets in the attributes of environmental quality considered to be important. For example, there is a suggestion that Dutch and German consumers tend to be conscious of the quality of environment management systems as well as the quality of the environment itself. With American and British consumers, the connection between environmental quality and personal health and food safety is a particularly important one. As noted earlier, Anchor butter took advantage of the perceived link between environment and food safety in their marketing efforts in the UK, by relating its "clean green" pastures to safer production methods. Other companies such as Zespri have also marketed using this strategy. Zespri's company policy was stated as:

> *"We want environmental integrity and food safety to become synonymous with the Zespri brand and system".*[36]

The tourism sector is also one in which the image of New Zealand's environment is important. The research commissioned by Tourism New Zealand suggests that for Asian, European and North American tourists, New Zealand is a "garden of Eden" type getaway. Their main motivations for undertaking a long haul journey to New Zealand are generally their perceptions of its clean environment and the sense of tranquillity, relaxation or even adventure it implies.

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36 NZ Kiwifruit Rejects GE (1999), Sustainable Agriculture Network web-site, www.sare.org/htdocs/hypermail/html-home/33-html/0274.htm.